

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

Report No.: AB1975

Project Name	IRRIGATION & DRAINAGE II
Region	EUROPE AND CENTRAL ASIA
Sector	Irrigation and drainage (100%)
Project ID	P086592
Borrower(s)	REPUBLIC OF KAZAKHSTAN
Implementing Agency	
Environment Category	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	December 14, 2005,
Estimated Date of Appraisal Authorization	
Estimated Date of Board Approval	March 31, 2007

1. Key development issues and rationale for Bank involvement

With the development of natural resources and the mining industry, especially the oil sector, current focus of the Government is to diversify the economy by developing the non-oil sectors. Given that more than 44% of the country's population live in rural areas, and agriculture employs 32% of the work force, development of the agricultural sector, especially processing of agricultural products such as cotton is a high priority for the government. The importance of the agriculture sector was realized especially during the transition period, as it was able to absorb the excess work force in the country during those years. The Government is giving a high priority to the processing of agricultural products and proceeding with investments in cotton processing and development of the associated textile industry. Industrial crops like cotton are fully dependent on irrigation, and dilapidated irrigation and drainage systems are a major constraint in increasing agricultural productivity, particularly, in the southern part of the country where agriculture is highly profitable.

The agriculture sector has a potential to contribute more to the country's economic development by raising rural incomes, and boosting non-oil exports. Irrigation is vital for improving productivity in the sector, and it was practiced on some 2.4 million hectares before 1991. It is estimated that about two thirds of the land irrigated in the late 1980s is out of production because of derelict irrigation and drainage systems. More than 75% of the irrigated area is situated in the five Southern Oblasts with better agro-climatic and topographic conditions as well as adequate water resources. These oblasts also have higher population density. The South Kazakhstan and Kzyl Orda Oblasts in the Syr Darya Basin have the largest share of irrigated and most productive lands in the country.

Irrigation efficiencies are very low in Kazakhstan. Irrigation systems are in disrepair, and irrigated lands lack proper drainage because the drainage systems have been constructed on very small parts of the irrigated lands and most are not in proper working condition because of deficiencies in the original design and construction and lack of proper maintenance over the last two decades. As a result, water use efficiency is very low, drainage is poor leading to increasing waterlogging and soil salinization, thus the overall productivity of irrigated land has declined. Large tracts of irrigated lands have been abandoned. The key development challenges are: (a) rehabilitation of the irrigation and drainage (I&D) systems and reclamation of the lands that were once highly productive at an acceptable rate over the next decade to make a difference in the country's economy and living conditions of the people dependent on them; (b) improvements in the water use efficiency, water resources management practices, and reducing

environmental degradation due to waterlogging and salinity; and (c) development of sustainable I&D systems and increase in overall productivity of irrigated agriculture.

To improve the performance of the irrigation and drainage (I&D) systems, the Government has started a program of rehabilitation and modernization of I&D systems. The Government's strategy is to accelerate improvement in the irrigation and drainage system over a million hectares of irrigated land in the near future. The first Irrigation and Drainage Improvement Project (IDIP) to rehabilitate I&D systems over an area of about 32,000 ha was completed in December 2005. IDIP was supported by the World Bank and consisted of 15 subprojects all over the country. Based on the model developed under IDIP, Kazakhstan started the Water Resources Management and Land Improvement Project (WRMLIP) assisted by ADB covering some 40,000 ha in South Kazakhstan Oblast primarily in the Maktral district.

The Second Irrigation and Drainage Improvement Project (IDIP-II) is designed to take into account, the lessons learned from IDIP and WRMLIP, and aims at accelerating implementation of Government's I&D system rehabilitation program while maximizing the benefits and lowering the per hectare investment costs. The project is the largest of four investments included in the Bank's Country Partnership Strategy of August 10, 2004. The project objectives, design and scope have evolved after intensive discussions between the Bank and the Government including Ministries of Agriculture, Economy and Budget Planning, Finance, Committee of Water Resources and a few Oblast Administrations over a period of two years. The Bank and Government of Kazakhstan (GOK) have a shared understanding of the overall project objectives, scope and methodology for project preparation studies.

The World Bank is a key player in the water sector in the region. Since early 1990s, it has provided leadership in the Aral Sea Program as well as in programs for irrigation and drainage systems rehabilitation and environmental management. Particularly, the Bank has a very profound relationship with Kazakhstan in water resources management and irrigation and drainage sectors. IDIP was one of the largest investments in Kazakhstan after it became a World Bank member. GOK is very proud of the Syr Darya Control and Northern Aral Sea Phase-I (SYNAS-I) Project, a flagship project of the Aral Sea Basin Program developed with the assistance of the Bank. GOK recognizes that through these projects, the Bank is not just providing finances but also technical assistance, guidance and international experience in integrated water resources management, operation and management of reservoirs and Syr Darya, assistance in discussions with the riparian states, and technical designs and overall supervision in implementation. The Bank is recognized as adding value by providing technical excellence and thus GOK would like Bank involvement in project preparation and supervision of the project, recognizing that these interactions can transfer practical knowledge and skills in ways that pure analytical work cannot. Most importantly, the World Bank support for the proposed operation is essential for enhancing Kazakhstan's capacity in irrigation and drainage management, for strengthening the managerial and financial capabilities of its institutions to plan and implement large and complex infrastructure projects, and for coordinating overall investments and assistance from other donors such as ADB and JIBIC in water and irrigation and drainage sectors.

2. Proposed objective(s)

The Project's main objectives would be to: (a) improve water resources management and increase water use efficiency in irrigation and drainage sub-sector by improving irrigation and drainage systems, better operation and maintenance with broader participation of users through water users' associations (WUAs). This would lead to increased agriculture production, employment and incomes; (b) introduce improved agricultural, irrigation, drainage and water management practices and farmers' information services to increase agriculture productivity; and (c) strengthen water management, and irrigation and drainage institutions.

3. Preliminary description

Project Scope and Area. The project area is selected, based on the lessons learned from IDIP-I (outlined in the ICR) and as a result of intensive discussion with the Government, a shared understanding has been reached about the project scope, area as well as the selection criteria. The main criteria used in selection of the project area is: (i) to start with the southern parts of the country with excellent agro-climatic conditions for growing profitable crops such as cotton which also generate additional benefits through further processing and textile based industrial development. More than 130,000 ha of the project area would be in the cotton growing zone. Under IDIP-I, ERR for I&D rehabilitation in the cotton area (Maktaral Scheme) was estimated around 50%. The ERR for other similar areas proposed to be included in the project was more than 20%. So economic rates of return for the project are expected to be very high; (ii) low rehabilitation cost per hectare; (iii) assured source of water supply from existing dams; (iv) gravity system of irrigation where rehabilitation costs are lower and large area can be covered at one location; (v) higher population density and relatively smaller farms; and (vi) fewer locations unlike IDIP-I which was scattered over the whole country.

Based on the above, the project is proposed to cover more than 200,000 hectares, primarily in the southern oblasts of Kazakhstan at four major locations in Maktral region, Kzylkum canal command area, Ayers-Turkistan Canal command and Kzylorda oblast. In addition, some area in Dzhabul and Almaty Oblasts may also be covered. Tentatively, the IDIP-II would cover: (i) the remaining 75,000 hectares in Maktaral area that has about 125,000 ha of irrigated land (of which about 10,000 ha were rehabilitated under IDIP and some 40,000 ha are covered under an ongoing ADB WRMLIP); (ii) about 90,000 ha in Kzylkum Canal area which off-takes from the Shardara dam, thus has assured water supply; (iii) about 50,000 hectare may be included from other irrigation systems in the South Kazakhstan Oblast such as the Arys-Turkistan canal system that also has assured water supply from the Bugun dam; (iv) about 50,000 ha from Kzyl Orda Oblast; and (v) 30,000 ha may be included from other Oblasts possibly Dzhabul and Almaty Oblasts particularly the Shengeldi area close to Almaty with assured water supply from Kapchagai reservoir. The area that could be included in the project from each location would ultimately be determined based on the findings of the feasibility study, and discussions with the Government during feasibility studies and at the time of the project appraisal.

While the project feasibility study would focus on the areas listed above, the IDIP-II project investment may include funds for carrying out additional design studies for rehabilitation and improvement of additional irrigated areas in these or other oblasts in the northern and eastern parts of Kazakhstan. IDIP-II investment would also include funds for carrying out rehabilitation and improvement of the irrigation and the drainage systems on these additional lands.

Project Components. To achieve project objectives, the following components are foreseen under the project:

Component A: Rehabilitation of Irrigation and Drainage Systems. A systemic approach would be adopted in rehabilitation of I&D infrastructure to remove all bottlenecks in the system and to assure proper supply and/or drainage to and from the farmers' fields. Rehabilitation works would include reconstruction of off-farm and on-farm irrigation and drainage systems over the project area (more than 200,000 ha) as described above. The works would include: (a) rehabilitation of headworks, main canals, branch canals, secondary canals, pumping stations, water distribution pipelines, control structures and on-farm network; (b) rehabilitation of drainage systems covering main, secondary and tertiary drains, surface, vertical or horizontal drainage systems; (c) other works such as reconfiguration of the fields, furrow sizing, check structures, land leveling etc, for improved irrigation practices. In areas where I&D systems are to be rehabilitated, water users' associations (WUAs) would be developed before undertaking the rehabilitation works. The WUAs would help in identification and prioritization of the construction

works and would be responsible for operation and maintenance after rehabilitation. Rehabilitation of I&D systems would be carried out in hydrologic blocks of at least 20,000 ha wherever possible. However, separate contracts may be prepared for rehabilitation of major headworks, pumping stations, main canals or drains.

Component B: Community Participation and Support. To achieve the project objectives, a basic requirement would be effective community participation in all phases of project development and implementation process. The component would include development of effective WUAs for improving water management, including responsibility for operation and maintenance (O&M) of the rehabilitated system; and promotion of improved irrigation and agricultural practices. Necessary technical assistance would be provided for development of WUAs, including training, institutional development, and O&M of I&D systems they would be taking over after completion of rehabilitation.

Component C. Agricultural Development. The purpose of this component would be to enhance productivity of the irrigated lands. The activities under this component would include: (a) effective research, extension, and agricultural information services; (b) Farmers' participatory training, involving training of specific target groups in various agro-technical fields and farm management; (c) demonstration of improved and modern technologies and methods to increase agricultural production through better agronomic practices such as, crop rotation, crop diversification, and crop husbandry, improved irrigation and drainage practices and better water management to improve water use efficiencies and reduce environmental degradation, including optimal field size, land leveling, and furrow irrigation. For this purpose, demonstration plots, about 5-10 ha each, would be developed in various subprojects possibly one for each WUA or an area of 10,000 ha; (d) the establishment of a Farmers' Information Services Desk in the project area to provide relevant information to farmers through different means (pamphlets, video's, radio, T.V, weekly papers etc) to advise them on making their farms more productive and sensitive to the market demands; and most importantly (e) provision of farm machinery as machinery stock have deteriorated considerably over the last decade.

Component D. Monitoring and Evaluation of the Project Impact. The project would also include a program for monitoring and evaluation of project impacts. The objective of the monitoring and evaluation studies would be to evaluate the impact of project implementation in terms of meeting the project's goals through assessing its physical, environmental/ecological, social, agricultural, and economic impacts. The project impact evaluation studies would focus on: (i) agricultural growth and cropping patterns, yields, crop diversification, and changes in use of agricultural input; (ii) impact on income and employment, and secondary effects on regional economy; (iii) impact on surface and groundwater supplies and water quality; (iv) impact on water use and equity in distribution; (v) performance of the irrigation schemes, farmers activities, performance of water users' associations, effectiveness and approach to community mobilization for establishment of WUAs; (vi) environmental impact of construction activities; and (vii) estimation of project's overall benefits and economic rate of return.

Component E. Project Management, Technical Assistance and Training. This component would support the Government in implementing the project. It would include: (a) support for the operation of the Project Management Unit (PMU) established within the Committee of Water Resources (CWR), and financing of overall project management, as well as technical assistance in such areas as detailed design, contract administration and construction supervision, procurement, financial management, and agricultural development; (b) institutional strengthening program, including, introduction of modern tools for irrigation scheduling in the subprojects, at the Oblast and at the Raion level; (c) assistance in operation and maintenance of the I&D systems including budgeting, accounting and financing; and (d) training and study tours. The PMU in this case is not a separate entity but a team within the CWR. PMU is headed by the Deputy Chairman of CWR and it is generally staffed with CWR staff. Some incremental staff and

technical expertise required only for the duration of the project is recruited as individual consultants and the pay scales for such consultants are fixed by the Ministry of Finance.

4. Safeguard policies that might apply

Environmental Category: B - Partial Assessment

Environmental Assessment. An overall Environmental Assessment (EA) will be carried out to ensure that the rehabilitation and modernization works will be environmentally acceptable and cause no or minimum damage to the environment. The EA would also set out an overall framework for carrying out special EIAs for each construction contract expected to cover about 20,000 ha. The EA will include an Environmental Management Plan (EMP) aimed at enhancing the environmental benefits of the project. In accordance with the Bank guidelines the tasks under the EA will include: (i) analysis of policy, legal, and administrative framework relevant to the proposed project; (ii) collection and analysis of the baseline data on the environmental issues and their trends, including issues identified during the implementation; (iii) identification of possible negative and positive environmental impacts of the proposed project and propose mitigating measures as required; (iv) development of key criteria for environmental quality monitoring in the project implementation areas; and (v) review of the guidelines developed under IDIP for environmentally sound construction practices, and making improvements as needed.

The site specific Environmental Impact Assessments will be carried out as a part of preparation of the detailed design and bidding documents of various works contracts, which will be subject to State Expertise including the State Environment Expertise Review and approval. As the project will focus on rehabilitation of the existing irrigated areas, there are no resettlement issue involved.

Projects on International Waterways. The Project triggers OP 7.50 as project area lies in Syr Darya Basin which is international waterway and Kazakhstan is a downstream riparian. The project works are of rehabilitation nature. Also the riparian states have signed water sharing agreements. The project works would not result in changes in water quantity or quality affecting interests of any other riparian.

5. Tentative financing

	Source:	(\$m.)
BORROWER		150
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT		150
	Total	300

6. Contact point

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