

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

Report No.: AB4013

<b>Project Name</b>	Second Irrigation and Drainage Improvement Project
<b>Region</b>	EUROPE AND CENTRAL ASIA
<b>Sector</b>	Irrigation and drainage (60%);Agricultural extension and research (30%);Sub-national government administration (10%)
<b>Project ID</b>	P086592
<b>Borrower(s)</b>	
	Republic of Kazakhstan
<b>Implementing Agency</b>	
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<b>Environment Category</b>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	July 9, 2008
<b>Date of Appraisal Authorization</b>	July 24, 2008
<b>Date of Board Approval</b>	October 30, 2008

## 1. Country and Sector Background

*Agriculture Sector.* The Government considers the agricultural sector as very important to the country for its role in providing rural employment, contributing to food security and poverty reduction, and diversifying the country's economic base. Agriculture went through a severe depression in the 1990s and nowadays contributes only about eight percent to GDP, yet the sector is of critical importance as it employs a third of the active population and provides income to the majority of the rural population where about 60 percent of the poor live.

Cropping patterns and crop performances are worsening as a consequence not only of scarce water use efficiency but also due to inappropriate agricultural practices. For instance, average irrigated wheat and cotton yields are around 1.8-2.0 and 2.3-2.5 tons, respectively. A continued decline of soil fertility is being reported by all categories of farmers, which is an acknowledged result of inadequate crop rotations and land husbandry on top of poor irrigation water management at scheme level.

Farmer perceived priorities differ depending on the holding size. Larger farmers clearly spell out as the major priority the need to increase irrigation water availability. Smallholders' priorities on the other hand, are more complex and diverse and apart from the need to rehabilitate the irrigation system, their requirements also include: (i) access to farm machinery; (ii) quality and responsive advisory services; and (iii) improved organizational forms to access finance, inputs (of better quality), and facilities to process/market their produces. Unawareness and lack

of financial advisory services have taken the farmers de facto out of reach of the existing financial mechanisms and instruments, which are being promoted by the government, with the assistance of the World Bank (WB) funded Agricultural Post-Privatization Assistance Project (APPAP) and the Agricultural Competitiveness Project (ACP).

During the Soviet Union administration, almost all farm operations and maintenance were fully mechanized and the operation, maintenance, and repair of farm machinery as well as maintenance machinery was organized on a centralized basis with all services being provided from centrally run farm machinery centers. On the dissolution of the Sovkhozes and the Kolkhozes, the ownership, operation and maintenance of the farm machinery passed from the centralized machinery stations into private ownership on a share basis. In some cases the farmers organized the use of this machinery on a group basis but in many cases farms were small and fragmented with machine ownership passing to individual farmers. Issues that remain to be addressed include how best to finance and procure sufficient machines that are appropriate for the farmers' requirements, the ownership modalities, cost recovery, and development of private sector machinery input supply services.

*Irrigation Sub-sector.* Strategic crops like cotton, rice, sugar beet, and fodder are fully dependent on irrigation, particularly in the southern part of the country where agriculture is potentially highly profitable. About 2.4 million ha of land was equipped with irrigation and drainage infrastructure. Since 1991, the irrigated area in the country has reduced because of derelict irrigation and drainage (I&D) systems, and it is estimated that only about 55 percent of the total developed area is currently under full irrigation, although with increasing difficulty and low water use efficiency. About 70 percent of the irrigation area in the country is located in the four oblasts of southern Kazakhstan<sup>1</sup>. These southern oblasts also have among the highest population density. Surface irrigation is commonly practiced, with both basin and furrow methods being used, depending on the crops grown. System performance is poor and water use efficiency is low, as a result of which lands have an unreliable water supply and distribution. Drainage is inadequate as well, leading to increasing waterlogging and soil salinization. As a result of all this, the overall productivity of the irrigated lands that are still being cultivated is gradually declining.

Most of the I&D systems were built 20-40 years ago. Although some routine maintenance works and emergency repairs have been carried out on the canal systems, other than the support provided under the WB-funded first Irrigation and Drainage Improvement Project (IDIP-1), covering 32,000 ha, and an Asian Development Bank (ADB) funded Water Resources Management and Land Improvement Project (WRMLIP) in Makhtaaral, covering 40,000 ha, very little assistance has been provided for rectifying the accumulated neglect to the main, inter-farm, and on-farm I&D systems. As a result of this inadequate maintenance over a number of years, the present condition of the irrigation canals and their structures, as well as access roads and bridges is extremely poor. Many canals and structures, important for water management, are partially or completely destroyed and it is difficult to convey and distribute water properly.

These problems also extend to the drainage systems and many do not function well as very limited maintenance is carried out for all levels of drains. Like the canals, most are blocked

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<sup>1</sup> Almaty, Kyzylorda, South Kazakhstan, and Zhambyl Oblasts.

with reeds, weeds, and grasses, and this has encouraged the silting up of certain sections. Many structures are also damaged. Vertical drainage wells (VDW), which are critical for proper land management in several schemes, are mostly out of order. As a result, water tables have risen close to ground level and soil salinity has increased. If the levels of water tables are not controlled through adequate drainage channels and pumping wells, this will result in more land gradually falling out of production.

The little maintenance on the irrigation and drainage systems and the associated infrastructure that has been carried out in the recent past can be divided into two types: (i) operation and maintenance (O&M) on the main irrigation and drainage infrastructure is normally the responsibility of the Committee of Water Resources (CWR), which has eight Basin Water Authorities (BWA), and carried out under allocations from the State budget; and (ii) O&M on the inter-farm and on-farm I&D systems is carried out by a variety of water management organizations (WMO)<sup>2</sup>, with funding coming from the State through subsidies and from water users. Whereas the main canal systems and some of the drains received at least some maintenance by the central and regional authorities, very few, if any, funds were available to meet the basic O&M needs of the lower-level systems.

Government Resolution No.71 dated January 21, 2002 advocates that the water sector should be economically viable and that charges should be levied for water service delivery. As part of its revitalization program of the irrigation sub-sector, promulgating of two major policy decisions took place in 2003: (i) the water code; and (ii) the law on Rural Consumer Cooperatives (RCC) of water users (amended in 2006).

*Land and Water Practices.* Over the years, inappropriate land and water use through unsustainable agricultural and irrigation practices has led to severe land and water degradation in the Syr Darya basin. A direct result of this is the growing threat of desertification in the region due to increasing water shortages, increased water and soil salinity, some soil alkalinity, soil erosion, low soil fertility with decreasing levels of humus, and dust and salt winds. Land degradation is causing land once under cultivation to be abandoned. As farmers struggle due to the deteriorating conditions, they are also hampered by their limited knowledge of sustainable practices. Analysis of the current practices and comparison with global experience indicate that there are considerable opportunities for promotion of sustainable on-farm land and water use management. This would reinforce their complementariness and natural synergy with respect to maximizing the efficiency of water use, rate of return from such investments, and sustainable land management.

*Conclusion.* From the above it can be concluded that the key development challenges are: (a) rehabilitation and modernization of I&D systems and reclamation of lands that were once highly productive; (b) improvement of water use efficiency and water resources management practices, and reduction of environmental degradation; and (c) development of sustainable I&D system management and increase in overall productivity of irrigated agriculture.

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<sup>2</sup> The main institution at the level of the former Kolkhoz and Sovkhoz is the Rural Consumer Cooperative (RCC) set up under the Law on RCCs for the purpose of managing irrigation and drainage infrastructure.

In view of the renewed importance of agriculture to the national economy and to the rural population, the government has commenced a program to improve efficiency of water use in agriculture and reduce demands on scarce surface water resources. The government's strategy is to accelerate the improvement of over a million hectares of irrigated land. A variety of mechanisms are envisaged, including rehabilitating and modernizing I&D infrastructure, water pricing, establishment of water control mechanisms, introduction of on-farm water management practices, improving agricultural practices, and improving institutional capacity, including users organizations and agricultural advisory services. Solving these challenges would ensure that irrigated agriculture can increasingly contribute to the country's economy and that living conditions of the people dependent on them can be improved.

## **2. Objectives**

The proposed project development objective would be to improve irrigation and drainage service delivery and land and water management for the benefit of sustainable increases in productivity in irrigated agriculture. This would mainly be achieved through rehabilitation and modernization of I&D systems, better management, operation, and maintenance (MOM) of these systems, and more efficient use of associated irrigated lands, all with broad participation of users.

The key performance indicators include: (i) water distribution by main system service providers to RCCs in 80 percent of the irrigation area in the sub-project areas (SPA) matching the irrigation water demands; (ii) water distribution by RCCs to farmers in 80 percent of the rehabilitated systems closely matching the irrigation water demands; (iii) drainage water levels matching seasonal target levels in 80 percent of the drainage rehabilitation command area; (iv) collection rates by RCCs at least 80 percent of total assessed fees (based on agreed annual budgets for MOM) after establishment of RCCs; (v) evidence, in at least 80 percent of RCCs in the SPAs, of well-informed water users satisfied with the performance of the RCC management; (vi) number of farmers in SPAs more knowledgeable and applying recommended irrigated agricultural practices; and (vii) increase in average crop yields in SPAs after completion of rehabilitation works.

## **3. Rationale for Bank Involvement**

The WB and the ADB have been the principal financiers to assist the government of Kazakhstan with developments in the irrigation and drainage sub-sector during the past decade. IDIP-1 that was implemented from 1996 to 2004 started before government's strategy for the sub-sector was developed. It involved the rehabilitation of irrigation and drainage infrastructure on 32,000 ha, and related improvements in water management and O&M. The project was implemented in a number of oblasts around the country and produced encouraging results.

The government had formally requested WB assistance to prepare IDIP-2 so as to accelerate the implementation of the program of revitalizing the irrigation and drainage sub-sector. The WB's support will not only be important for the rehabilitation and modernization of critical irrigation infrastructure, but equally important will be to use the WB's considerable world-wide and regional experience with the development of irrigation institutions, including a focus on training and support programs and achieving technical and financial sustainability.

#### **4. Description**

The three main components of the project would be: (i) Rehabilitation and Modernization of I&D Systems; (ii) Sustainable Management, Operation and Maintenance; and (iii) Agricultural Development. In addition, there would be a Project Management Component. The proposed project takes into account many of the lessons learned from IDIP-1 and WRMLIP.

The proposed project would provide support to areas in Almaty, Kyzylorda, South Kazakhstan, and Zhambyl Oblasts that have favorable agro-climatic conditions for increasing irrigated crop productivity. These locations have warmer weather and comprise large plains with a comparative advantage in cropping activities. They offer good possibilities for growing higher value crops like cotton, fruits, and vegetables, with export potential, and generating higher employment locally through the processing of such products and manufacturing of related products. Farm sizes in these areas are quite small and population density is higher so that any I&D related intervention would extend benefits to a large number of the rural people.

The WB will support government in the implementation of the program through two specific investment projects. IDIP-2 is scheduled from 2009 to 2014, covering about 113,000 ha in ten SPAs. Long delay with the implementation of IDIP-3 would considerably worsen the condition of the systems and would increase the financial needs of the program. Therefore it is proposed that IDIP-3 is implemented from 2011 to 2017, covering 107,000 ha in seven SPAs.

The two projects will have similar components, with the main one being the rehabilitation and modernization of I&D infrastructure. As institutional development of the sub-sector institutions is a long-term activity both projects will provide support to this. IDIP-2 will develop and implement the institutional development activities, which will then continue to be supported under IDIP-3 with a gradual absorption of the activities in government agencies towards the end of that project. Similar arrangements will apply for the agricultural development activities.

##### ***Component 1: Rehabilitation and Modernization of I&D Systems***

*I&D Infrastructure.* The component would support rehabilitation and modernization of I&D infrastructure, with the details of the proposed interventions to be determined during the final design stage during project implementation. Each system would be examined in careful detail by design consultants, with full farmer involvement, to determine what rehabilitation and modernization is actually needed, considering the farming methods employed. The approaches would aim at utilizing much of the existing networks, with interventions aimed at reconstructing destroyed or damaged sections of the systems, including hydraulic structures, taking out bottlenecks, and introducing improved modern designs, thereby increasing the timely and adequate availability of water to the farmers, improving water management at all levels, and ensuring adequate evacuation of excess water and control of groundwater tables.

Assistance to I&D rehabilitation and modernization is based on the requirement to supply the selected farms with adequate quantities of irrigation water in a timely manner and to remove excess amounts to reduce water table build up and salinity. Support for rehabilitation will cover both off-farm and on-farm works. The inclusion of off-farm works would ensure that main

conveyance and drainage networks do not fail at a later date or provide constraints to the full operation of lower-order systems that have been rehabilitated.

*Irrigation Dams.* In addition to the proposals for the rehabilitation and upgrading of I&D systems, interventions are required to ensure that the dams from which water is derived for certain SPAs both function as planned and do not present any threat to the downstream areas. Conservation and exploitation of large dams and associated reservoirs in Kazakhstan also fall under the responsibility of CWR. There are five dams in the overall project area and each of these structures requires some rehabilitation and improvement works, which is envisaged in two stages. The first stage would be undertaken during IDIP-2 and includes implementation of already identified priority works, and detailed investigations to determine the additional interventions required for the safe operation of the dams. The works required for these additional interventions would be undertaken during IDIP-3.

### ***Component 2: Sustainable Management, Operation and Maintenance (MOM)***

The component would focus on addressing the institutional, technical, and financial issues facing the I&D sector by building institutional capacity to enable the main system service provider, RCCs, and water users to improve their efficiency and productivity of water use. It would support the development of RCCs; modernization and strengthening of I&D system management, operation and maintenance; and modernization and strengthening of on-farm water management. Sub-components would include: (i) institutional development; (ii) modernization and strengthening main system MOM; and (iii) modernization and strengthening on-farm water management.

*Institutional Development.* The purpose of this subcomponent is to: (i) form RCC Support Units in each SPA in order to support RCCs<sup>3</sup>; (ii) develop viable and sustainable RCCs in the SPAs so as to form a sound institutional, financial, and technical base leading to improved MOM of the on-farm I&D systems; (iii) carry out a comprehensive review of the current legislation related to water resources, and irrigation and drainage in order to identify areas where the legislation can be strengthened to further support the development of irrigated agriculture; and (iv) establish and support a RCC Regulatory Authority (RA) to oversee, regulate, and support the formation and development of RCCs in Kazakhstan.

*Modernization and Strengthening Main System MOM.* This sub-component seeks to: (i) modernize and strengthen the main system service providers such that they can provide a good level of service to the water users through reviewing current work activities, making recommendations for upgrading and modernization of the providers' activities, and then providing support to implement agreed changes; (ii) determine the minimum levels of operation and maintenance expenditure required to sustain irrigation and drainage systems over time; and (iii) adopt modern processes, e.g. remote sensing and GIS for monitoring land condition, water-logging, and salinity, and for determining crop types and crop areas, by building on and strengthening existing capabilities in Kazakhstan.

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<sup>3</sup> Though the intention is that RCC Support Units will work mostly with RCCs, allowance needs to be made for situations where WMOs have not been formed into RCCs.

*Modernization and Strengthening On-farm Water Management.* This sub-component would analyze the current on-farm practices in a representative sample of the SPAs, make recommendations for improvement, and implement these. Inefficiencies in distribution of irrigation water at the on-farm level are leading to over-abstraction of water from the source, low levels of productivity per unit of water diverted, and waterlogging and salinization. Measures aimed at developing effective and efficient operation and maintenance of the on-farm irrigation system by RCC staff can have a dramatic impact on the performance of individual farmers within the RCC command area. This sub-component would be supported by measures identified under Component 3 – Agricultural Development for improvements in water management practices by farmers at the in-field level.

### ***Component 3: Agricultural Development***

The Agricultural Development component would cover all SPAs, organized around two clusters: (i) capacity strengthening of farmers and farm managers through participatory training, improved agricultural and water management practices on demonstration sites, and provision of advisory services by establishing Farmers Service Centers (FSC); and (ii) support to system maintenance and farm mechanization, through demonstrations and advice on best mechanization options, including advisory services to enable farmers' access to existing credit and leasing schemes for machinery purchasing.

The component would contribute to improving agricultural production and productivity. Farmers' exposure to intensive on- and off-farm training related to good agricultural practices, sustainable land and water management, and introduction of adapted international technologies are all expected to gradually address prevailing low productivity and land degradation issues. Project activities would be aimed also at creating the best conditions for the farmers to express the comparative advantages of their production systems, in particular for the production of high-value crops. The promotion of a number of agricultural practices that would decrease crop production costs would also increase the competitiveness of high-value crops.

*Capacity strengthening of farmers.* The farmers' capacity strengthening activities would comprise participatory training, research and development activities, all conducted on demonstration sites, and the establishment of and support to Farmer Service Centers to provide advisory and extension services.

*Support to System Maintenance and Farm Mechanization.* Farmers will eventually require sufficient mechanical capacity to improve crop production through more timely tillage, planting, sowing, and harvesting as well as to ensure that the on- and inter-farm irrigation and drainage infrastructure is maintained. IDIP-2 will provide resources for the following activities: (i) procurement of a select number of packages of farm and irrigation maintenance equipment for demonstration and evaluation; and (ii) technical support at the SPA level, not only to enable farmers' access to existing credit and leasing schemes for machinery purchasing, but also to study the farm and maintenance machinery and equipment needs and preferred funding arrangement for a major component that could be implemented under IDIP-3.

#### ***Component 4: Project Management, Technical Assistance, and Training***

The Ministry of Agriculture would be the executing agency of the project, largely through its Committee of Water Resources, but with the support of other technical departments, especially for the component that deals with agricultural development. The component would include support for the operation of the Project Management Unit (PMU) to be established within CWR. The PMU would be responsible for the daily management, administration, and coordination of the project, including procurement, financial management, and monitoring and evaluation, all in accordance with the Project Implementation Plan (PIP), Loan Agreement, and other related project documents.

The project management team would be assisted by various teams of consultants (individuals and companies) for specific monitoring and evaluation (M&E) surveys, environmental audits, and independent financial audits.

#### **5. Financing**

Source:	(\$m.)
Borrower	289.00
International Bank for Reconstruction and Development	122.00
Total	411.00

#### **6. Implementation**

The Committee of Water Resources (CWR) of the Ministry of Agriculture will be the implementing agency for the project. It has considerable experience with IFI-funded project implementation.

The PMU would have offices in Astana and Shymkent. The team in Astana would work out of the CWR office in Astana, especially dealing with the fiduciary needs (procurement and financial management) of the project and liaison with government agencies, especially the Ministry of Finance. The PMU team in Shymkent would provide the necessary technical management support to the project. The core team would comprise a project manager, coordinators for each component, and environmental specialist, and a monitoring and evaluation specialist. A small team of two specialists, one focusing on engineering and the other focusing on institutional and agricultural aspects, would be appointed as part of the PMU in each of the four project oblasts. These teams would provide for day-to-day coordination of the project in a particular oblast and provide regular feedback to the PMU in Shymkent.

Shymkent would also be the base for the design and construction supervision consulting engineering team and other consultants. To cover the 10 SPAs that are widely separated, it is envisaged that the consultants would have sub-offices in each oblast. A wide range of disciplines is envisaged and part of the assignment would be knowledge transfer between the international and national design and supervision teams.



## **7. Sustainability**

Adequate funding of management, operation and maintenance of project investments is still a substantial risk in Kazakhstan, because of the limited governmental budgetary allocations and the low ISF. In order for the irrigation sub-sector to be sustainable, sufficient budget should be available for the MOM of the infrastructure. The project will work towards the setting of ISF based on the actual system needs on a scheme-by-scheme basis. Once the real costs of MOM are known on a system-by-system basis, a methodology can be devised for the water users to gradually start paying more for the irrigation service. There is a lot of misconception within government about the ability and willingness to pay. Generally ISF is a small percentage of the variable costs of agricultural production, so a gradual increase in ISF is doable, certainly as agriculture becomes more profitable. The social assessment carried out revealed that generally farmers are willing to pay for a satisfactory service. The key is to have the end user involved and empowered to make financial decisions and to have transparency and accountability in the collection and use of funds by the service provider.

A key factor in ensuring adequate fee recovery is the formation of effective RCCs, financial autonomy for the RCCs, farmer involvement in decision-making, and employment by RCCs of skilled technical personnel leading to high standards of service delivery. Better service delivery leads to better crop production, greater farmer income, and greater ability and willingness to pay. In any case, once decided, the cost recovery requirements should be very clearly explained to all water users proposed to participate in the project, including a repayment table so as to ensure the maximum transparency in contractual agreement between water users and the project.

## **8. Lessons Learned from Past Operations in the Country/Sector**

*Agriculture.* A major lesson learned from IDIP-1 and WRMLIP is that system rehabilitation should not be seen in isolation from the rest of the agricultural production process and wider support for agricultural development should also be considered as integral element of the project. Another recommendation was the need to prioritize the focus on smaller farm sizes with higher population densities so that project activities would extend benefits to a large number of farmers. A coherent integrated approach should be adopted, which should include, inter alia, facilitation of improved cropping practices, farmers' extension/information services, training, business development, and marketing. The project design intends to address such issues with special emphasis on smallholders.

*Mechanization.* The issue of access to farm machinery by the farmers of the rehabilitated schemes was also identified as a priority. However, in the absence of reliable information of actual farmers needs which would certainly be different after I&D improvement, increased farmer organizational capacity, and modified cropping patterns, the only meaningful investment is to first create the required capacity for the farmers to choose on types and quality of machinery to be purchased that are responsive to the new production systems. At the same time, farmers' capacity needs to be upgraded for them to be able to access the several existing financial instruments and through these, to already start improving their scheme and farm machinery stocks. IDIP-2 would thus concentrate on studying the actual need for machinery and equipment

and on creating the best conditions for farmers to make informed choices for dedicated funds for machinery and equipment investments to be made available under IDIP-3.

*I&D Rehabilitation.* Activities under the rehabilitation and modernization component have been developed considering the experiences gained from the implementation of IDIP-1 and WRMLIP. Some important principles that have formed the design of the component include:

- It is essential that in addition to the inter-farm and on-farm systems, the main off-farm conveyance and drainage systems on which they are dependent are also improved;
- The participatory approach, in which farmers, through RCCs, identify their needs and are involved in resource allocation, decision-making, implementation, and monitoring, will need to be a key element in the rehabilitation agenda. The decisions concerning the priorities, works required, and scale of investments must be discussed with farmers at all stages. Close collaboration will thus need to be maintained with RCCs for all stages of the rehabilitation process from surveys and design, procurement, construction, through to final transfer of completed works;
- In addition to the actual rehabilitation of infrastructure, sustainable interventions should be included to address the root causes of infrastructure deterioration, and to maintain the gains that the infrastructure restoration has produced. Arrangements should be established to avoid future neglect, which is the main cause of the infrastructure's degradation in the first place. O&M needs to be adequately provided for in RCC budgets. Restoring sustainable I&D systems not only requires working infrastructure but also interventions to strengthen institutions involved in water management, capacity building, and financial activities; and
- Cost recovery procedures should be adopted to ensure that beneficiaries are fully aware of repayment details before agreeing to preferred rehabilitation measures. A repayment agreement will need to be developed related to farmer capacity to pay with a realistic grace and repayment period. The RCC cost share in on-farm investments should prove effective in guaranteeing farmer adoption of rehabilitation works and ensuring effective participation. Farmers should be encouraged to take this repayment obligation seriously to ensure high cost recovery rates.

## **9. Safeguard Policies (including public consultation)**

<b>Safeguard Policies Triggered by the Project</b>	Yes	No
<a href="#">Environmental Assessment (OP/BP 4.01)</a>	[X]	[ ]
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	[ ]	[X]
Pest Management ( <a href="#">OP 4.09</a> )	[X]	[ ]
Physical Cultural Resources ( <a href="#">OP/BP 4.11</a> )	[ ]	[X]
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	[ ]	[X]
Indigenous Peoples ( <a href="#">OP/BP 4.10</a> )	[ ]	[X]
Forests ( <a href="#">OP/BP 4.36</a> )	[ ]	[X]
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	[X]	[ ]
Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*	[ ]	[X]
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )	[X]	[ ]

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

### ***Environmental Assessment***

IDIP-2 has been classified as Category “B” for purposes of OP 4.01 on Environmental Assessment because it is not expected to involve any significant or irreversible adverse environmental impacts. The project will involve neither the construction of new irrigation systems nor the resettlement of people and land acquisition is not expected. Any potential adverse environmental impacts are expected to be effectively prevented or minimized by application of the appropriate preventive actions or mitigation measures identified in the Environmental Management Plan (EMP) that was prepared for the project and that will be implemented by CWR during the project. The framework EMP includes guidelines for regular monitoring and measurements. For each sub-project area, a site-specific environmental assessment will be carried out, which will comprise the development of an Environmental Impact Assessment and Environmental Management Plans.

As indicated above, land acquisition or displacement of people or property is not expected. Thus, OP 4.12 is not triggered. This will be confirmed through the site-specific EAs. Should any site-specific EA indicate that the assumption is incorrect (i.e., infrastructure works would displace people and/or property, whether legal or illegal) the PIU will consult with the Bank prior to contracting or proceeding with those works.

### ***Pest Management***

Farmers use agro-chemical pesticides in the project areas, particularly in the cotton-growing areas, but the current use of pesticides (and fertilizer) is relatively low due to economic conditions. However, it is likely that as a result of improved water availability at field level, farmers may become more confident, and start using more fertilizer and agro-chemical pesticides. As the EMP provides appropriate mitigation measures for addressing any impacts linked to improper pest management, e.g. pest management and IPM promotion in the farmer capacity training program, a separate pest management plan was not required.

### ***Projects on International Waterways***

Most SPAs involve irrigation systems that draw water from rivers that are international waterways shared by Kazakhstan with neighboring Kyrgyzstan (upper riparian) and Uzbekistan (both upper and lower riparian). As there will not be any enlargement of existing irrigation systems or development of any new irrigation areas, project interventions are not expected to adversely affect the quality or quantity of water flows to the downstream riparian state (Uzbekistan is a riparian country as it shares the Aral Sea with Kazakhstan). Also, any potential changes in water flow or deterioration in water quality during the construction works will be mitigated through implementation of the EMP. The rehabilitation and modernization of infrastructure and improvements in water management should result in an increase in system efficiency, thereby generating water savings and providing reliable water supply to the users. Considering the above, the project falls under the exception to the notification requirement contained in this safeguard policy.

## **10. List of Factual Technical Documents**

### **A. Technical Reports**

- Final Report and associated Working Papers of the ADB-funded Water Resources Management and Land Improvement Project (April 2006);
- Mid-term Report for Irrigation and Drainage Improvement Project Phase 2 (June 2006);
- Feasibility Study for Irrigation and Drainage Improvement Project Second Phase (February 2008).

### **B. Bank Staff Assessments**

- Various aide memoires for the (first) Irrigation and Drainage Improvement Project (1996-2004);
- Implementation Completion Report for the (first) Irrigation and Drainage Improvement Project (May 2005);
- Project Concept Note and Minutes of Review Meeting of the proposed Second Irrigation and Drainage Improvement Project (December 2005);
- Various aide memoires for the preparation of IDIP-2 (2007-2008);
- Financial Management Assessment Report (March 2008);
- Procurement Capacity Assessment Report (July 2008);

## **11. Contact point**

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