

**INTEGRATED SAFEGUARDS DATASHEET  
APPRAISAL STAGE**

**I. Basic Information**

Date prepared/updated: 07/27/2008

Report No.: AC2716

**1. Basic Project Data**

Country: Kazakhstan	Project ID: P086592	
Project Name: Second Irrigation and Drainage Improvement Project		
Task Team Leader: Joop Stoutjesdijk		
Estimated Appraisal Date: July 28, 2008	Estimated Board Date: October 30, 2008	
Managing Unit: ECSSD	Lending Instrument: Specific Investment Loan	
Sector: Irrigation and drainage (60%);Agricultural extension and research (30%);Sub-national government administration (10%)		
Theme: Water resource management (P);Rural services and infrastructure (P);Rural policies and institutions (S);Decentralization (S)		
IBRD Amount (US\$m.):	122.00	
IDA Amount (US\$m.):	0.00	
GEF Amount (US\$m.):	0.00	
PCF Amount (US\$m.):	0.00	
Other financing amounts by source:		
<u>Borrower</u>		<u>289.00</u>
		289.00
Environmental Category: B - Partial Assessment		
Simplified Processing	Simple <input type="checkbox"/>	Repeater <input type="checkbox"/>
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

**2. Project Objectives**

The proposed project development objective would be to improve irrigation and drainage (I&D) 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.

**3. Project Description**

The three main components of the Second Irrigation and Drainage Improvement Project (IDIP-2) 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 the first Irrigation and Drainage Improvement Project (IDIP-1) and the ADB-funded Water Resources Management and Land Improvement Project (WRMLIP). The proposed project is scheduled from 2009 to 2014, covering 113,000 ha in ten sub-project areas (SPAs), providing support to areas in

Almaty, Kyzylorda, South Kazakhstan, and Zhambyl Oblasts that have favorable agro-climatic conditions for increasing irrigated crop productivity. IDIP-2 is planned as the first phase of a two-phase development program to be followed by the second phase (IDIP-3) which is proposed to be implemented from 2011 to 2017, covering 107,000 ha in seven sub-project areas.

-- 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 sub-project areas (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 the Committee of Water Resources (CWR; implementing agency). There are four dams plus one large weir linked to one of the 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 such as replacement of gates and mechanical and electrical lifting equipment, cleaning of toe drainage systems, and repair to upstream and downstream slopes. In addition, IDIP-2 will finance detailed investigations to determine the additional interventions required for the safe operation of the dams, including installation of piezometers and settlement stations, and geotechnical investigations. The works required for these additional interventions would be undertaken during IDIP-3 and would include any major repairs or upgrading of the dams considered necessary as derived from the studies and investigations undertaken under IDIP-2.

-- 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, Rural Consumer Cooperatives (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 ; (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 of 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.

**Modernization and Strengthening of 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. Current on-farm practices relate to improper linkage of water requirements at field level to water supply in on-farm canals, and improper use of hydraulic structures, and at field level to long furrow or borderstrip length, and too high irrigation flows in furrows or borderstrips that are not properly adjusted for different soil types. 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.

## -- 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.

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.

### **4. Project Location and salient physical characteristics relevant to the safeguard analysis**

During the implementation of IDIP-1, it was found that the wide spread of the project area, covering the entire country, made management difficult and overhead costs in terms of consultants, staff, operations and logistics, much higher. IDIP-2 will concentrate in a smaller and more compact area that have favorable agro-climatic conditions for increasing crop productivity, namely the southern areas in South Kazakhstan, Kyzylorda, Zhambyl, and Almaty Oblasts. 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 with export potential, and generating higher employment locally through the processing of cotton and manufacturing of related products. Farm sizes in these areas are quite small and population density is higher so that any I&D rehabilitation would extend benefits to a large number of the rural people.

### **5. Environmental and Social Safeguards Specialists**

Ms Katelijn Van den Berg (ECSSD)

Ms Janna Ryssakova (ECSSD)

<b>6. Safeguard Policies Triggered</b>	<b>Yes</b>	<b>No</b>
<b>Environmental Assessment (OP/BP 4.01)</b>	<b>X</b>	
<b>Natural Habitats (OP/BP 4.04)</b>		<b>X</b>
<b>Forests (OP/BP 4.36)</b>		<b>X</b>
<b>Pest Management (OP 4.09)</b>	<b>X</b>	
<b>Physical Cultural Resources (OP/BP 4.11)</b>		<b>X</b>
<b>Indigenous Peoples (OP/BP 4.10)</b>		<b>X</b>
<b>Involuntary Resettlement (OP/BP 4.12)</b>		<b>X</b>
<b>Safety of Dams (OP/BP 4.37)</b>	<b>X</b>	
<b>Projects on International Waterways (OP/BP 7.50)</b>	<b>X</b>	
<b>Projects in Disputed Areas (OP/BP 7.60)</b>		<b>X</b>

## **II. Key Safeguard Policy Issues and Their Management**

### ***A. Summary of Key Safeguard Issues***

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:  
-- 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.

-- Safety of Dams

An assessment of the four dams and one large weir in the sub-project areas was conducted during project preparation, focusing on technical and dam safety issues. A dam safety report was prepared that describes priority interventions and proposals for investigations. This report is disclosed. During IDIP-2, the identified priority works will be implemented (replacement of gates and mechanical and electrical lifting equipment, cleaning of toe drainage systems, and repair to upstream and downstream slopes) and a detailed review and assessment of the relevant dams will be carried out to identify the needed remedial works to be undertaken under IDIP-3. Appropriate qualified engineering contractors that have experience with development or rehabilitation of dams will then be contracted to undertake the necessary remedial measures.

-- 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, and was approved by the Regional Vice President for Europe and Central Asia on April 7, 2008.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The overall environmental impact of the project is expected to be positive, and no significant, irreversible, cumulative or long-term adverse impacts are expected. The rehabilitation and modernization of selected I&D systems will realize definite environmental benefits by improving irrigation water management, decreasing water losses, and reducing soil alkalinity, salinity and waterlogging. Furthermore, the project's proposed support for strengthening environmental monitoring and analysis will improve CWR's overall ability to monitor the environmental impacts of project interventions and take appropriate actions where necessary. The potential adverse environmental impacts are increased agrochemical pollution and water contamination from increased use of fertilizers and pesticides, soil erosion associated with existing practices of irrigation and agricultural production, and environmental impacts resulting from construction activities,

including improper disposal of excavated sediments from canals. These adverse impacts are not significant and can be effectively prevented, minimized, or eliminated by appropriate preventive actions or mitigation measures and effective construction supervision. Overall, the environmental benefits of the project's interventions are expected to outweigh any potential adverse impacts.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

The possibility of limiting farmer training and advisory services to a few pilot areas was considered, but rejected in part based on the need to provide training and advice on appropriate pesticide use/handling and integrated pest management in all areas where improved irrigation service is likely to increase farmers' potential to intensify production and/or grow higher value crops

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described. The implementation of IDIP-1 has shown that Kazakhstan has adequate environmental legislation, institutional capacity, and mechanisms to deal with any environmental issues during project preparation or implementation. This includes an environmental assessment procedure for projects, including a State Environment Expertise Review. Under IDIP-1, most environmental issues were related to construction activities. CWR and its design engineers incorporated environmental clauses in the bidding documents and ensured that contractors adhered to these clauses to ensure that implementation of the works were carried out without causing environmental damage. Such activities were monitored by the construction supervision engineers and CWR. The same will be institutionalized under IDIP-2 and World Bank reviews will confirm that the EMP for IDIP-2 will be implemented satisfactorily.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people. During project preparation several consultations took place in the sub-project areas, with the participation of RCC management teams, farmers, local administration officials, and other interested parties. The meetings focused on explaining the project scope and components, the technical, financial, and environmental impacts to be expected, and the involvement of stakeholders in the project. The Committee of Water Resources held consultations in Astana with participation of staff of the Ministry of Ecology and Biological Resources, Ministry of Economy and Budget Planning, and Ministry of Agriculture. The key stakeholders are the water users in the project areas, most of whom are members of Rural Consumer Cooperatives. All project interventions will be determined through a participatory process with the involvement of the management and members of RCCs. Thus, further stakeholder meetings and consultations, including consultations on site-specific EAs/EMPs, will take place in each sub-project area during project implementation.

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**B. Disclosure Requirements Date**

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**Environmental Assessment/Audit/Management Plan/Other:**

Was the document disclosed <b>prior to appraisal?</b>	Yes
Date of receipt by the Bank	12/01/2007
Date of "in-country" disclosure	07/16/2008
Date of submission to InfoShop	07/24/2008
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	

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**Resettlement Action Plan/Framework/Policy Process:**

Was the document disclosed <b>prior to appraisal?</b>
Date of receipt by the Bank
Date of "in-country" disclosure
Date of submission to InfoShop

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**Indigenous Peoples Plan/Planning Framework:**

Was the document disclosed <b>prior to appraisal?</b>
Date of receipt by the Bank
Date of "in-country" disclosure
Date of submission to InfoShop

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**Pest Management Plan:**

Was the document disclosed <b>prior to appraisal?</b>	N/A	
Date of receipt by the Bank		N/A
Date of "in-country" disclosure		N/A
Date of submission to InfoShop		N/A

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**\* If the project triggers the Pest Management and/or Physical Cultural Resources, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.**

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**If in-country disclosure of any of the above documents is not expected, please explain why:**

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.

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**C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)**

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**OP/BP/GP 4.01 - Environment Assessment**

Does the project require a stand-alone EA (including EMP) report?	Yes
If yes, then did the Regional Environment Unit or Sector Manager (SM) review and approve the EA report?	Yes
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes

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**OP 4.09 - Pest Management**

Does the EA adequately address the pest management issues?	Yes
Is a separate PMP required?	No



If yes, has the PMP been reviewed and approved by a safeguards specialist or SM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist? N/A

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**OP/BP 4.37 - Safety of Dams**

Have dam safety plans been prepared? Yes

Have the TORs as well as composition for the independent Panel of Experts (POE) been reviewed and approved by the Bank? N/A

Has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training? No

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**OP 7.50 - Projects on International Waterways**

Have the other riparians been notified of the project? No

If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent? Yes

Has the RVP approved such an exception? Yes

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**The World Bank Policy on Disclosure of Information**

Have relevant safeguard policies documents been sent to the World Bank's Infoshop? Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs? Yes

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**All Safeguard Policies**

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies? Yes

Have costs related to safeguard policy measures been included in the project cost? Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies? Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents? Yes

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***D. Approvals***

<b><i>Signed and submitted by:</i></b>	<b><i>Name</i></b>	<b><i>Date</i></b>
Task Team Leader:	Mr Joop Stoutjesdijk	07/24/2008
Environmental Specialist:	Ms Katelijn Van den Berg	07/24/2008
Social Development Specialist	Ms Janna Ryssakova	07/24/2008
Additional Environmental and/or Social Development Specialist(s):		
<b><i>Approved by:</i></b>		
Regional Safeguards Coordinator:	Ms Agnes I. Kiss	07/24/2008
Comments:		
Sector Manager:	Mr Maninder S. Gill	07/27/2008
Comments:		