



## 1. Project Data

**Project ID**  
P078342

**Project Name**  
UST-KAMENOGORSK ENV REMED

**Country**  
Kazakhstan

**Practice Area(Lead)**  
Environment & Natural Resources

**L/C/TF Number(s)**  
IBRD-48480,TF-58070

**Closing Date (Original)**  
30-Mar-2013

**Total Project Cost (USD)**  
40,090,000.00

**Bank Approval Date**  
01-Feb-2007

**Closing Date (Actual)**  
31-Dec-2016

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	24,290,000.00	3,430,000.00
Revised Commitment	17,290,000.00	2,202,392.48
Actual	5,454,699.54	3,470,473.18

**Prepared by**  
Asyl Undeland

**Reviewed by**  
John R. Eriksson

**ICR Review Coordinator**  
Christopher David Nelson

**Group**  
IEGSD (Unit 4)

## 2. Project Objectives and Components

### a. Objectives

The **Project Development Objectives** (PDOs) of the Ust-Kamenogorsk Environmental Remediation Project as stated in the Project Appraisal Document (p. 7) were to: "(i) prevent the groundwater contamination plume's further migration towards the residential areas, the city's sources of drinking water supply and eventually into Irtysh River; and (ii) strengthen institutional mechanisms for groundwater quality monitoring to enable control of ongoing groundwater pollution from local municipal and industrial sources.

The Project objectives as reflected in the Loan Agreement dated February 2, 2008 (p. 4) were the same with an insignificant difference of omitting word 'supply' (formulated as drinking water supply in the PAD) in a first



objective: (a) prevent the groundwater contamination plume's further migration towards the residential areas, the city's sources of drinking water and eventually into Irtysh River; and (b) strengthen institutional mechanisms for groundwater quality monitoring to enable control of ongoing groundwater pollution from local municipal and industrial sources.

The ICR Review is based on the assessment of the objectives as stated in the Financing Agreement as it is the legally binding document.

**b. Were the project objectives/key associated outcome targets revised during implementation?**

Yes

**Did the Board approve the revised objectives/key associated outcome targets?**

No

**c. Will a split evaluation be undertaken?**

No

**d. Components**

The Project had three components, activities of which were revised after restructurings in 2014.

**A. Containment of High-priority Sources of Groundwater Contamination** (*estimated cost at appraisal was US\$19.36 million, including US\$12.23 million of IBRD and US\$7.13 million contribution from the Government of Kazakhstan (GoK). The actual cost of the component was US\$11.25 million*). This component aimed to rehabilitate seven contaminated waste dump sites and slurry ponds in and near Ust-Kamenogorsk city, selected based on a level of risk posed to groundwater pollution. The financial resources were also to be used to neutralize pollution sources and to re-cultivate and cover the existing dumps and slurry ponds to prevent further infiltration of hazardous waste into the aquifer.

**B. Remediation of Current Contaminated Groundwater Sites** (*estimated cost at appraisal was US\$20.13 million, including US\$12.06 million of IBRD financing and US\$8.07 million of GoK financing. The actual cost was US\$6.47 million*). The component included investments to establish the pump and treatment groundwater remediation system. It also incorporated activities to establish a monitoring network to undertake groundwater sampling and contamination analysis, and to measure the effectiveness of the remediation system.

It was agreed after the restructuring in December 2014 to cancel the investment in a pump and treatment groundwater remediation system due to the groundwater pollution monitoring results, which were below those estimated at appraisal and in line with the international allowable level' standards, including the WHO limits.

**C. Project Management and Monitoring** (*estimated cost at appraisal was US\$0.60 million to be fully financed by the GoK. The actual cost of the component reached US\$1 million*). This component included activities to ensure proper Project management, to provide technical assistance on the supervision of



construction, monitoring and evaluation activities, and to implement the environmental management plan.

#### e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

**Project cost.** The estimated total cost of the Project at appraisal was about US\$40.09 million. The final Project cost was US\$35.43 million.

**Financing.** The original allocated IBRD financing was US\$24.29 million, which was reduced to US\$17.29 million with US\$7 million canceled in the restructuring of December 14, 2014. Only US\$5.45 million of IBRD financing was disbursed by the Project's closing date and about US\$11.8 million were cancelled and returned.

**Co-financing.** The European Commission extended grant financing (TF 058708) of Euro 3.5 million to cover groundwater quality monitoring, institutional strengthening, and to identify and repair water pipes' leaks. TF funding was fully disbursed at the amount of US\$3.47 million.

**Borrower contribution.** It was agreed at the appraisal that the GoK's contribution would be US\$15.80 million. The actual contribution of the GoK was US\$8.8 million due to limited disbursement of the IBRD funds.

**Dates.** The concept review was conducted in June 2004; the appraisal took more than two years and was finalized in September 2006. The Project was approved in February 2007 and became effective only in December 2008.

The original closing date was March 30, 2013; the final closing date was December 31, 2016.

**Restructurings.** The Project was restructured four times without the revision of the PDOs. The outcome indicators were revised as a result of the restructuring in 2015.

- Restructuring on March 25, 2013 extended the Project closing date by nine months to December 31, 2014.
- Restructuring on December 15, 2014 canceled US\$7 million from loan funds, reallocated funds between components, and extended the closing date by 12 months to December 31, 2015.
- Restructuring on March 11, 2015 was conducted to revise Project key indicators and revise Results Framework.
- Restructuring on December 21, 2015 extended the closing date by 12 months from December 31, 2015 until December 31, 2016 to allow completion of the remediation of the high priority two waste dumps.

### 3. Relevance of Objectives & Design

#### a. Relevance of Objectives

Ust-Kamenogorsk is one of the biggest industrial cities in Kazakhstan, which has been its metallurgical, machine and instruments manufacturing, and energy producing center for over 50 years. During the Soviet period its industry grew extensively without proper environmental regulations and mechanisms to prevent and control pollution of hazardous materials. The uncontrolled pollution affected air, soil, surface and groundwater in and around the city. More than 28 million tons of solid and liquid waste has been stored along



the outskirts of Ust-Kamenogorsk's residential areas (PAD p. 2). The overarching goal of the Project was to reduce the impact of pollution on public health and the environment (PAD, p. 6). The contamination of surface and groundwater in and around Ust-Kamenogorsk with mixed contaminants most certainly negatively impacted human health. However, the PAD does not provide clear and solid evidence to the health effects and rise in mortality and morbidity rates from the groundwater pollution. PAD did indicate though, that pollution was among the reasons for outmigration. Testing conducted around the Project area at the design stage showed the contamination plume in the aquifer moving towards the city's main drinking water wells with high probability of it reaching the Irtysh and Ulba rivers.

The Ust-Kamenogorsk Environment Remediation Project (UK-ERP) objectives aiming to protect the drinking water system and enhance the capacity of public agencies to monitor groundwater were fully in line with the goals of the World Bank's 2004 Country Partnership Strategy (CPS). The CPS 2004 had four pillars and one of them focused on ensuring environmentally sustainable economic growth with mitigation of past liabilities (CPS, p. 5). The UK-ERP objectives remained substantially relevant at the Project's closing time, as the WB's broad areas of engagement as identified in the latest CPS (FY 2012-17) included environmentally sustainable development.

The Ust-Kamenogorsk city administration as well as the central Government of Kazakhstan were fully supportive of the Project objectives, which reflected their priorities. The GoK's Strategic Plan for Development 2020 and the national economic and environmental policies, including the National Environmental Action Plan (NEAP), aimed at mitigating industrial pollution, protecting drinking water sources, and improving environmental management (PAD, p. 5). The Indicative Social and Economic Development Plan of the GoK for 2004-2006 stipulated measures for enhancing state control over waste placement and utilization, and reducing negative impacts on the environment. This was to be achieved through unified approaches to waste production and use, and the establishment of waste monitoring systems. The Ust-Kamenogorsk city administration had its own Ecological Program for Public Health and Environmental Remediation for 2006-2015, aimed at improving the environment through the prevention of pollution and enhanced management of proper monitoring systems.

Although the country's strategic program, Kazakhstan "2050 Strategy," defining the GoK's priorities at the Project's closing time, had no reference to remediation, mitigation and prevention of environmental damage, it does aim at establishing a "green" economy. Kazakhstan's Green Economy concept policy, adopted in 2013, is very ambitious and aims to ensure universal access to drinking water by 2020, and sufficient irrigation water for agriculture by 2040. It aims to finalize the remediation of water from historical pollutants and lower the level of pollution in line with international standards by 2030.

The ICR correctly noted that the formulation of the PDOs could be better formulated and less specific in regards to the technical aspects of groundwater contamination, but that did not affect implementation pace or results.

**Rating**  
Substantial

**Revised Rating**  
Not Rated/Not Applicable



## **b. Relevance of Design**

The UK ERP was designed based on international knowledge and expertise on groundwater treatment and remediation of waste sites. Project preparation took a significant time (more than two years) and resources. It was funded with a Policy and Human Resources Development Grant from the Government of Japan (PHRD) for about US\$700,000. The grant was used to undertake a social and environmental assessment and conduct a feasibility study with the involvement of international expertise. The feasibility study was built on the results of previous studies of groundwater contamination conducted in 1999-2001 and involved groundwater testing and complex hydrogeological modelling. The feasibility study showed that a highly polluted plume was moving towards residential areas and drinking water intake, and farther to the Irtysh river.

Project design in general seems to be in line with the theory of change logic, aiming to prevent the groundwater contamination plume's migration through preventing further infiltration of contamination from the waste dumps and slurry ponds into the subsurface (Component A), and by groundwater reclamation with the pump and treatment system (Component B). Establishment of a monitoring system would not only allow developing detailed design for a pump and treatment system, but also for strengthening the capacity of respective institutions to undertake such groundwater quality monitoring after the Project ends (Component B). These measures would prevent the contamination plume from moving towards drinking water supply systems and would mitigate risks to human health and reduce environmental damage. However, that logic was not accompanied with a meaningful Results Framework and measurable outcome indicators.

Almost five years after the Project had started, results from the established monitoring system didn't show a contaminated plume, but rather a very slow-moving broad distribution of heavy metals, with the overall groundwater pollution in the target area below the international standard for dangerous levels. It is unfortunate that the feasibility study conducted before Project design did not explore and review possible outcomes of detailed monitoring and did not have mitigation measures for effective use of allocated credit resources. The Project was effectively in two phases with the second phase conditional to the findings of the testing. The technical design should have included a clear decision path and activities if the planned investments were not needed, given the risks which were recognized at the outset which in turn justified the investments to carry out testing. When it became clear that the investments were not needed, which was a foreseeable outcome, considerable time was lost in restructuring the project.

The Project design team considered Bank experience and lessons learned in the region and in the country in regards to the remediation of environmental damages. At the time of design, the Bank was supporting several operations in the environment and water and sanitation sectors. The Nura River Clean-up Project had generated lessons relevant to the UK ERP and two lessons out of three listed in the PAD still posed challenges to the UK ERP implementation later, which probably means that the designed measures to avoid the risks were not fully sufficient. The institutional assessment was not conducted properly and it led to serious delays and problems in implementation. While risk of coordination between government agencies and industry representatives was recognized, there were no appropriate measures suggested. It took very long time to go through approvals of the remediation activities' designs by various state institutions. The Project faced long delays due to disagreements on remediation approaches with industry as well and a Project Supervisory Council was not able to facilitate coordination between stakeholders and prompt decision making. The design was probably overly ambitious, aiming to remediate seven large waste dump sites, and establish



and operate a complex groundwater pump and treatment system in five and a half years with limited relevant local technical expertise and experience.

**Rating**

Modest

**Revised Rating**

Not Rated/Not Applicable

#### 4. Achievement of Objectives (Efficacy)

##### **Objective 1**

###### **Objective**

Objective 1: to prevent the groundwater contamination plume's further migration towards the residential areas, the city's sources of drinking water supply and eventually into Irtysh River

###### **Rationale**

There were long delays in Project implementation from the onset, and disbursement started only in September 2013, i.e. almost five years after the Project's effectiveness date. The delays were related to a slow approval process by the Government of Kazakhstan and disagreement with industry over the final remediation design. Six out of seven designs had been approved by the time of the Project Implementation Support and Mid-term Review Mission (Aide memoire, March, 2012). The delay of the approval of the seventh site – remediation of the Waste Pile No. 6 Ulba Metallurgical Plant (UMP) – related to disagreement with the plant management on the remediation approach, and resulted in failure.

The procurement of civil works to remediate target sites was also significantly delayed. The first tendering process failed due to bid prices significantly above estimates and available financing. Although the second tender had lower bid prices, they were still above approved estimates. Kazakhstan legislation has a procurement provision that a contract can be awarded only if the bid price is not higher than the approved estimated cost. It took a long time to resolve that problem and for the GoK to agree with the results of the tender. Work didn't start until April 2013.

###### **Outputs:**

- The Project fully completed the remediation of five out of seven identified high-risk industrial waste dumps: Capacitor sludge pond remediation (6.4 ha) was completed in December 2015. The remediation of the historic industrial waste dumps of the Ust-Kamenogorsk Heat and Power Plant waste dump No. 1, the historic waste dump of the experimental lead-zinc production, and the historic waste dump of the lead-zinc plant Terricone No 6 (19.5 ha), were fully completed and handed over to the client in September 2015. The remediation of the Historic Ash Dump 2a/2b of the Ust Kamenogorsk Heat and Power Plant was remediated during the detailed design phase of the Project (ICR, December 24, 2016).
- Two waste dump sites have not been remediated fully or partially. The remediation of the sixth site –





Titanium-Magnesium Plant's historic dump – started late due to disagreement with the Plant's management over the remediation approach and the size of the area to be remediated. By the Project closing date, 80 percent of the remediation work on this site was completed (5.6 ha out of 7 ha). The seventh site – the UMP radioactive waste dump – was not remediated (12 ha). That was the highest priority waste dump site and the biggest source of radioactive contamination of the groundwater. The extremely long delays with various approval requirements by the GoK led to delays with procurement, which was finalized only in July 2016, i.e. five months before closing date. Due to the limited Project time remaining, this site was not remediated.

- Installation of a groundwater pump and treatment system for remediation of the groundwater contamination plume was cancelled as detailed testing demonstrated that it would not be needed since pollution was below international interventional limits.

**Outcomes:** The outcome of "Reduction of heavy metals and other hazardous pollutants in the groundwater and thereby reducing risk of contamination of the city's soil and groundwater system, drinking water wells and eventually surface water in the Irtysh River" was met only partially. The outcome "Contaminated land managed or dump sites closed under the project" (45.5 ha) was met only partially, with 31.5 ha remediated. Although UK ERP managed to remediate five waste dump sites and partially remediate one waste dump site, the contamination of groundwater is continuing from the Titanic and Magnesium Plant (TMP) waste dump not completed and from the UMP radioactive site not remediated with an even higher level of radioactivity in groundwater with the protective cover of the dump compromised. Therefore the efficacy of this objective is assessed as modest.

**Rating**  
Modest

## Objective 2

### Objective

Objective 2: to strengthen institutional mechanisms for groundwater quality monitoring to enable control of ongoing groundwater pollution from local municipal and industrial sources

### Rationale

This Component was funded by the grant extended by the European Commission (EC) to the Government of Kazakhstan and administered by the WB to procure equipment for local laboratories and strengthen capacity of their staff to undertake groundwater quality monitoring. The EC grant also funded implementation of detection and repairing of leakages in the drinking water system to prevent pollution of groundwater water.

**Outputs:** A complex groundwater quality monitoring system was established with a network consisting of 100 monitoring points with 25 new wells — three to a depth of 100 meters and 22 new multi-level monitoring wells to a depth of 40 meters in the aquifer.



- New equipment in state laboratories was installed to analyze heavy metals and organic compounds in groundwater samples (under the EU TF). □
- A control program focused on detection and repair of leakages in the drinking water lines was developed (under EU TF). □
- Staff of the laboratories and *Vodokanal* (drinking water supply state institution) were trained by international specialists according to international standards.

**Outcome:** The ICR reported that the outcome "Groundwater quality monitoring system is established and functioning and local institutions are capable of sampling and sample analysis" was substantially met by the Project. Local institutions were equipped and trained to monitor industrial wastewater discharges and now conduct regular monitoring and produce relevant reports. These results were achieved by 2015, i.e. two years before the final Project closing date.

**Rating**  
Substantial

## 5. Efficiency

### At Appraisal

The PAD provides brief information on the Project cost effectiveness and cost benefit analysis. The cost effectiveness analysis was based only on reviewing three alternative technical remediation approaches: relocating the well-field to another location, establishing a pump and treatment system, and treating the contaminated drinking water at the well-field. The costs were calculated in monetary terms with a discount rate of 10%. The proposed groundwater remediation was considered as the most cost-effective approach. The cost benefit analysis was conducted with consideration of the negative effects if no remediation measures were taken. The listed negative effects were the following: i) discontinuation of the drinking water wells due to high levels of contamination; ii) decrease of real estate prices in the center of the city; iii) no access to drinking water for informal users due to high levels of contamination; and iv) negative consequences for downstream communities, agriculture, and international relations between Kazakhstan and Russia. The cost benefit analysis presented in the PAD was based only on depreciation of houses in the city center due to pollution. The economic analysis did not review positive effects, such as the health of the population, increased agricultural production, or biodiversity benefits for the Irtysh River. The economic rate of return (ERR) was estimated at 17% and the net present value (NPV) at US\$13.7 million against a discount factor of 12%.

### At Project's closing

The ICR does not present any economic analysis justifying it by the fact that cost effectiveness and cost benefit analysis undertaken at the appraisal stage focused only on pump and treatment system installation.





Since this system was cancelled, the ICR's economic analysis focused only on comparing the cost of the remediation of the waste dump sites under UK ERP with the cost of similar work under a relevant project Montenegro Industrial Waste Management and Clean-up Project (IWMCP, P122139). While cost of a remediation per hectare as reflected in the ICR is 1.5 times less in the UK ERP Project, than in the IWMCP, it is can not be used for comparison, since mentioned Gradac waste dump remediation has not yet started and tender process for works has not been finalized at the time of the ICR completion (Aide Memoire, IWMCP, July 2017). Even then, the analysis considered the UK ERP remediated area larger than it actually was (32.9 ha instead of 31.5 ha). However, considering the disbursement of US\$5.45 million — just 24.4% of the original IBRD commitment or 31.5% of the revised commitment in the period of eight years — the conclusion, based on lack of ex post economic analysis and an implementation record of long delays and cancellations (see details in Sections 8 and 9), is that the Project performed with only modest efficiency.

## Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	17.00	100.00 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The Project has generated significantly less than intended outcomes over eight years of implementation and thus is rated overall as Moderately Unsatisfactory. Although the relevance of the objectives was substantial, design was weak, leading to delays in the implementation, and cancellation of one-third of the IBRD-committed financing. The efficacy and efficiency of the project were also modest with major radioactive waste not remediated and significant delays in implementation, and with the disbursement of only one-third of the revised financing allocation.

### a. Outcome Rating

Moderately Unsatisfactory



## 7. Rationale for Risk to Development Outcome Rating

There is a significant risk that groundwater contamination would continue with one waste dump not fully remediated and another highly radioactive site not remediated and vulnerable to increased pollution due to damage of its protective cover. At the time of the Project's closing, the GoK promised but had not yet allocated funding to complete remediation of the partially completed TMP waste dump. The TTL of the completed Project informed that the Committee of Water Resources will need to apply to the Ministry of Finance for budget allocation to complete remediation of these two sites for 2018. There is no evidence provided that sufficient budget will be allocated and remediation completed.

Capacity building on managing and treating leakages in the water supply system focused on the state water supply institution *Vodokanal* in Ust Kamenogorsk city. Its staff now able to evaluate level of industrial waste discharges, as well as conduct measuring of heavy metals and organic chemicals, including Polychlorinated biphenyl (PCBs). However, the Project did not take any measures to ensure continuation of such analysis in future through legal provisions and there is no formal commitment of the city management to allocate annual budget funds for running such analysis.

### a. Risk to Development Outcome Rating

Substantial

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

Although Project objectives and design were relevant and in line with the country's needs, it took more than four years to initiate the project. The Bank team was instrumental in securing significant PHRD funding to conduct a detailed feasibility study with complex modelling of the technical approaches to remediating groundwater contamination. It also was able to mobilize the EU Trust Fund to co finance the Project. However, the approach was proven to be flawed when, after installing and operating the monitoring system four years after the start, it was found that there were no contaminated groundwater plumes but rather dispersed pollution that was below international interventional levels. The project was thus at large effectively in two phases with the second phase conditional to the findings of the testing. The technical design should have included a clear decision path and activities if the planned investments were not needed, given the risks which were recognized at the outset which in turn justified the investments to carry out testing. When it became clear that the investments were not needed, which was a foreseeable outcome, considerable time was lost in restructuring the project.

That faulty assumption that there was a contaminated groundwater plume was reflected in the PDOs, as well as in the building design, and in the technical, economic and financial analysis. The results framework also was constructed based on that assumption with the monitoring and evaluation (M&E) system inadequately capturing outputs and intermediate outcomes. M&E system was very weak and had no measurable indicators



with associated values.

In addition, there was not sufficient attention given to the legal framework for remediation of historical waste dumps on private property and that caused significant delays in negotiations with the management of the plants. The design considered lessons learned in previous and ongoing Bank operations, but the measures were still not sufficient to avoid long delays in decision making by the various state institutions and industries. Two industry participants for several years were not able to agree on the remedy adopted by the Project. The project lacked an institutional framework to address what occurred if the plants did not adhere to their earlier commitment. The team at entry should have had a clear framework within the project for resolving disputes among stakeholders. If the project is essentially two stages, then ensuring how cooperation would be secured for implementation of the second stage should be spelled out, even if at the first stage there was cooperation.

Institutional assessment was not adequate and did not support installment of measures to improve coordination between various agencies. The ICR informs that the Inter-Ministerial Project Supervisory Council (PSC) was established at the national level and was to be chaired by the Mayor of Ust-Kamenogorsk, with participation of the East-Kazakhstan regional authorities, local environmental institutions and the industries that hold the historic waste dumps for remediation within their premises. The feasibility and effectiveness of an arrangement where regional representatives meet to discuss and coordinate activities in capital city probably was challenging. The ICR does not provide information if this institutional arrangement functioned and how it was used to resolve disputes, if it was.

The Project's design was too ambitious, given its targeting of seven waste dump sites and ponds, and the pump and treatment system, in view of the complex technical approval and lengthy procurement process experienced generally by other projects in Kazakhstan.

### **Quality-at-Entry Rating**

Moderately Unsatisfactory

#### **b. Quality of supervision**

The Bank team was proactive in supporting Project implementation: Missions visited the country more than twice a year, combining supervision of the UK ERP with supervision of another project, and provided technical expertise and procurement support to the Kazakhstan government, raising issues of the delay of documents' approval with the highest level of the government. However, the mid-term review (March 2012) was conducted only 3.5 years after the Project's start (March 2012). At the mid-term review time, no disbursements yet had been made. A recommendation was made by the MTR mission, reflected in the following Management Letter, to restructure the Project to exclude the problematic site – the UMP waste dump. That recommendation was not followed in expectation of prompt resolution of disagreement with the industry management and GoK making a decision on procurement bottleneck. But four and a half years later the Project was closed with the UMP waste dump not being remediated and more than US\$11.8 million not utilized.

The Bank restructured the Project four times, three times extending the closing date by 12 months. Instead it would have made more sense to extend the Project for 24 months in a first restructuring as requested by the Kazakhstan government. Frequent supervision missions, continuous technical support extended to the PMU in regards to obtaining the state approvals for the detailed designs, and negotiations with the GoK on resolution



of the procurement delays reveal commitment of the Bank team to facilitate Project implementation.

### **Quality of Supervision Rating**

Moderately Satisfactory

### **Overall Bank Performance Rating**

Moderately Unsatisfactory

## **9. Assessment of Borrower Performance**

### **a. Government Performance**

The performance of the GoK was unsatisfactory and reflected limited commitment and ownership despite the initial support. The counterpart funding was allocated with delays affecting implementation pace. Various state institutions delayed decision making on the Project from the beginning, when it took more than 1.5 years from its approval to the effective date. There were numerous delays with the procurement process, and with various technical approvals. For instance, mobilizing the ecological and construction expertise to prepare technical documents for one remediation site took more than five years and was finalized in September 2016, three months before the Project's closing. The Kazakhstan Ministry of Finance sent the last request to extend the Project closing date just a few days before it was closed (ICR, pp.9-10).

### **Government Performance Rating**

Unsatisfactory

### **b. Implementing Agency Performance**

The Committee of Water Resources (CWR) under the Ministry of Agriculture was an implementing agency for the UK ERP. It established two Project Management Units (PMU), one in the capital city of Astana mostly to manage disbursement, procurement and financial management, and the other one with assigned technical tasks on the ground in Ust Kamenogorsk city. The ICR reports that the PMUs demonstrated professionalism and dedication, with the CWR management having performed moderately satisfactory. There were delays with procurement in the tendering civil works, but that was beyond the power of PMU and CWR. Financial management difficulties related to failure of the GoK to provide timely counterpart funding.

### **Implementing Agency Performance Rating**

Moderately Satisfactory

### **Overall Borrower Performance Rating**

Moderately Unsatisfactory

## **10. M&E Design, Implementation, & Utilization**



### **a. M&E Design**

The M&E framework as presented in PAD was not adequate to monitor and measure Project progress, performance and results. The Project outcome indicators were just rephrased objectives, which were not measurable, and had no baseline or target values. The intermediate indicators mostly repeated outcome indicators and also had no associated values. The Project had to undergo restructuring in February-March 2015 to drop indicators related to the cancelled pump and treatment system, adjust existing indicators, and introduce new indicators and baseline and target values. That adjustment helped to establish the Project monitoring system.

The Project Management Unit was to be responsible for monitoring the progress and prepare quarterly and annual reports on project implementation. However, overall M&E framework was not designed and spelled out.

### **b. M&E Implementation**

Project monitoring and evaluation started only in 2013, when monitoring of groundwater contamination produced some results and generated data for a baseline. Waste dumps areas to be remediated were measured and target values added only in April 2014. The Project restructuring in 2015 focused on a Results Framework. Indicators related to the cancelled pump and treatment system were dropped, as well as some overlapping indicators

### **c. M&E Utilization**

Contamination results obtained after equipping a drinking water management laboratory and installing a groundwater monitoring system provided details on the level and nature of pollution. As a result of this monitoring program, the decision was made to cancel the installation of a pump and treatment system.

### **M&E Quality Rating**

Modest

## **11. Other Issues**

### **a. Safeguards**

**Environmental.** The Project was classified as Category A, triggering OP 4.01 at the appraisal because of its objectives to remediate hazardous materials in the waste dumps, slurry ponds and in the groundwater. An Environmental Impact Assessment (EIA) was prepared and disclosed before the Project's start, with the Environmental Management Plan (EMP), which included an institutional assessment of roles and responsibilities of various involved stakeholders, and mitigating measures for possible environmental impacts. The results of the EIA were discussed at open consultation meetings with various engaged actors and stakeholders. However, the ICR does not provide information on environmental safeguards compliance.



## **b. Fiduciary Compliance**

### **Financial Management**

The financial management arrangements and capacity at the CWR for the UK ERP Project were assessed at the appraisal stage and considered to be adequate and the financial management risk was assessed as moderate. The Project experienced difficulties in the beginning with the accounting and reporting system, and disbursements (ICR, para. 60). Another problem related to the delays in the release of counterpart funds in 2015. Subsequently that problem was resolved. The ICR states that overall financial management system was compliant, but does not provide information on results of the audits of Project funds.

### **Procurement**

The assessment of procurement risk for the UK ERP at the appraisal stage concluded that it was high due to the country's overall procurement rules and governance issues, such as their inconsistency with international standards, and ineffectiveness in avoiding influence and corruption on procurement decisions (ICR, para 99). However, the CWR and PMU had extensive experience and a positive record with the WB procurement procedures.

While there were significant delays with procurement under the UK ERP due to provisions of Kazakhstan's procurement legislation, the Project had no issues with compliance to procurement rules. The delays with procurement decisions were due to the tender resulting in bid prices higher than estimated, which was against Kazakh legislation. The Project had to retender and when bid prices were again higher than cost estimates, it took about a year to resolve the issue and award the contracts.

## **c. Unintended impacts (Positive or Negative)**

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## **d. Other**

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## **12. Ratings**

<b>Ratings</b>	<b>ICR</b>	<b>IEG</b>	<b>Reason for Disagreements/Comment</b>
Outcome	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Risk to Development Outcome	Substantial	Substantial	---





Bank Performance	Moderately Satisfactory	Moderately Unsatisfactory	Quality at entry had significant shortcomings in regard to assessment of legal and institutional issues
Borrower Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Quality of ICR		Modest	---

#### Note

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.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

### 13. Lessons

The ICR presents four lessons, which mostly relate to general project preparation requirements, such as allowing sufficient time for construction work, developing proper M&E framework, choosing adequate indicators and implementing monitoring itself, and reviewing the legal framework for remediation on private lands.

However, the key lesson learned – important and relevant to similar Bank operations globally – relates to designing and implementing complex groundwater remediation investments. Pollution management projects aimed at clean-up and reclamation especially of groundwater contamination require thorough and extended investigations to define specifics of the remediation. The ICR suggests in such cases two-phase projects, first focusing on investigating and developing a detailed technical approach, with a follow up or additional financing project to implement the remediation itself. In regard to the UK ERP, the ICR argues that if a first phase had focused on upgrading the laboratory and establishing a groundwater monitoring system, then it would have been clear that there was no need to remediate the groundwater at that stage, which would have saved the Government resources and not tied up Bank financing.

### 14. Assessment Recommended?

No

### 15. Comments on Quality of ICR

The ICR provides information on the Project implementation, highlights issues the Project faced in implementation and candidly explains reasons for delays in implementation. However, the ICR could benefit from more analysis on the technical issues of implementation, which caused delays and what benefits the Project generated. The report could have provided more detailed information on the implementation of Component B, on activities and outcomes of the institutional strengthening in monitoring groundwater pollution. The economic and financial analysis are almost absent and while it's difficult to conduct such analysis at the



completion if they were not sufficient at the appraisal, it would help to understand what specific benefits were produced by the Project. In general, it is required that if ERR was calculated at the appraisal it is also used for completion reporting. While it is understood that ERR at the appraisal was calculated based on investment which was cancelled, the ICR could provide new analysis of the NPV or ERR with an updated projection of benefits, reflecting changes made during implementation. The cost estimate for remediation in an upcoming tender in Montenegro used for demonstration of cost effectiveness of the Project is not a valid comparator since the actual cost for the Montenegro would only be known after completion of the works. Therefore, the ICR did not contain a solidly reasoned assessment about the cost benefit of the project.

There is no clear and specific information on compliance of environmental safeguards, on findings of impact assessment in section devoted to *Safeguards*. The ICR also is repetitive and has some minor mistakes, which makes the overall picture unclear and in some parts even confusing. For instance, there are five restructuring dates listed instead of four, which can mislead the reader.

**a. Quality of ICR Rating**

Modest