



## 1. Project Data

<b>Project ID</b> P079027	<b>Project Name</b> MUNICIPAL INFRASTRUCTURE DEVELOPMENT		
<b>Country</b> Tajikistan	<b>Practice Area(Lead)</b> Social, Urban, Rural and Resilience Global Practice	<b>Additional Financing</b> P127130,P127130	
<b>L/C/TF Number(s)</b> IDA-H2000,IDA-H7690	<b>Closing Date (Original)</b> 31-Aug-2011	<b>Total Project Cost (USD)</b> 29,466,000.00	
<b>Bank Approval Date</b> 19-Jan-2006	<b>Closing Date (Actual)</b> 30-Apr-2016		
	<b>IBRD/IDA (USD)</b>	<b>Grants (USD)</b>	
Original Commitment	15,000,000.00	0.00	
Revised Commitment	26,319,719.02	0.00	
Actual	27,125,668.32	0.00	
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## 2. Project Objectives and Components

### a. Objectives

The original project development objective (PDO) was “to improve the availability, quality and efficiency of basic municipal services for the population of the Participating Towns through: (a) financing the rehabilitation and repair of infrastructure installations and equipment belonging to the State Unitary Enterprise Khojagiya Manziliyu Kommunalni’s (KMK’s) local subsidiary utility enterprises, and (b) assisting the KMK and its local subsidiary utility enterprises, and where appropriate, local government authorities in increasing the effectiveness of the management of basic municipal services” (Development Grant Agreement [DGA], February 21, 2006, page 14). Participating Towns included the eight towns of Dangara, Istaravshan,



Kanibadam, Kulyab, Kurgan-Tyube, Rasht, Vakhdat, and Vose (DGA, February 21, 2006, page 2).

The project was restructured on May 11, 2012. The PDO and PDO outcomes were modified.

The revised PDO was “to improve the availability, quality and efficiency of basic municipal services for the population of the towns that participate in the Project. An added objective, as an urgent response to the anticipated floods of the spring of 2012, is to contribute to their mitigation with the supply of emergency materials.” (Financing Agreement [FA], August 23, 2012, page 5). Participating Towns included the five towns of Dangara, Kulyab, Kurgan-Tyube and Vose, which were included in the original project, and Farkhor, which was a new addition (FA, August 23, 2012, page 18).

As a result of the above changes in the PDO and PDO outcomes, the ICR Review will be doing a split rating.

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

Yes

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

Yes

**Date of Board Approval**

23-Aug-2012

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

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**d. Components**

The following components summarize the original components and the revised components at the Additional Financing (AF) in 2012. The AF scaled-up activities of the original project and added new activities to enhance benefits of the Municipal Infrastructure Development Project (MIDP). The original and revised list of Participating Towns are indicated in Section 2(a) above.

Component A. Municipal Infrastructure Rehabilitation (Appraisal Estimate US\$12.5 million; Actual US\$22.03 million)

The original component included the restoration of infrastructure and the replacement of equipment for basic municipal services delivery by the KMK local subsidiary utility enterprises (water supply, solid waste collection, etc.) in the eight original Participating Towns of Danghara, Istaravshan, Kanibadam, Kulyab, Kurgan-Tyube, Rasht [Gharm], Vakhdat, and Vose. The additional financing included improvement of municipal services in an integrated manner in the towns of Farkhor and Vose. It financed rehabilitation and limited expansion of the water supply network; improvement of solid waste collection and disposal services; public toilets; introduction of a household connection subsidy; and emergency services equipment and materials.



Component B. Technical and Institutional Strengthening of the KMK and its local subsidiary utility enterprises (Appraisal Estimate US\$1.5 million; Actual US\$3.19 million)

The original component included engineering studies and other activities to define the investments under Component 1 of the MIDP after the first year of the project implementation; and institutional strengthening of the KMK and its local subsidiary utility enterprises. The additional financing included a pilot metering program; pilot modem billing and collection technologies in the water utilities; installation of a Monitoring Information System (MIS) in KMK; introduction of the International Benchmarking Network for Water and Sanitation Utilities (IBNET) to benchmark water utilities; installation of an automated accounting system; communication campaigns; development of a Municipal Sector Strategy and feasibility studies for investment projects identified in the strategy; and training and institutional strengthening.

Component C. Project Management (Appraisal Estimate US\$2.5 million; Actual US\$4.24 million)

Strengthening of the capacity of the KMK and project management unit (PMU) for project management, implementation, monitoring and evaluation (M&E), through provision of goods and technical assistance (TA) and financing of their incremental operating costs.

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

##### Project Cost

The appraised total project cost was US\$16.5 million. The actual total project cost was US\$29.46 million (ICR, October 25, 2016, Table (a) Project Cost by Component, Annex 1. Project Costs and Financing, page 23).

##### Financing

The appraised total project cost of US\$16.5 million was to be financed by an original IDA grant of US\$15 million and a Government contribution of US\$1.5 million. At the project's closing date in April 2016, the actual total project cost was US\$29.46 million, which was financed by a Government contribution of US\$2.53 million and an IDA grant of US\$27.13 million, including both the original grant of US\$15 million and the Additional Financing grant of US\$12.13 million (ICR, October 25, 2016, Annex 1, page 24). At project closing, 98 percent of the IDA grant was disbursed and the remaining amount was cancelled.

##### Borrower Contribution

The appraised borrower contribution was estimated to be US\$1.5 million. The actual borrower contribution was US\$2.53 million, which included contributions by Central and Local Governments and Community.

##### Dates

The Municipal Infrastructure Development Project (MIDP) was approved by the Bank's Board on January 19, 2006. The original closing date of the MIDP was on August 31, 2011 but it was closed nearly five years later on April 30, 2016. The MIDP was restructured five times, which included one level I restructuring with the AF in 2012 and four level II restructurings, including four extensions of project closing date. These project restructurings and closing date extensions were due to more time needed for



importing materials, bureaucratic procedures, variations in the type and scope of the contracted work, and the transfer of tasks between contracts.

The original MIDP contributed to improving living conditions in the eight towns (Kurgan-Tube, Kulyab, Dangara, Istaravshan, Gharm, Vose, Kanibadam, and Vahdat). However, the original MIDP spread investments and lacked enough institutional strengthening. As a result, the potential benefits to populations were diluted. To ensure deeper benefits to targeted populations, AF focused on an integrated approach to water supply, solid waste management and sanitation in two towns, Farkhor and Vose and on institutional development. The following selection criteria of two cities appeared reasonable. Farkhor was chosen based on: (i) its sizable population; (ii) the share of the total population without services (water, waste and sanitation); (iii) being outside the scope of the original MIDP or financing by other donors; (iv) availability of AF preparation studies; and (v) likelihood of success due to the strong commitments by the local municipalities of activities of the AF. Vose has received the smallest investments under the original MIDP among the participating cities and as such less than one third of population had uninterrupted water supply and solid waste collection services. The AF financed utility services equipment, goods, materials and fuel for the Government of Republic of Tajikistan (GoRT) to respond to disruption in services due to weather and natural calamities. As requested by GoRT for emergency preparedness support, the AF provided retroactive financing for goods to prepare for anticipated spring flooding in 2012. The AF financed preparation of a Municipal Sector Strategy and institutional strengthening pilots for improved service delivery. The reasons for the project restructurings are summarized in the table below.

Restructuring dates/level	Key Changes
July 11, 2011 (Level II)	(1) IDA grant reallocation from the unallocated category to other categories to finance civil works and other activities which were inadequate in the original scope; (2) a new safeguard policy on Involuntary Resettlement (OP 4.12); and (3) extension of the closing date of the project from August 31, 2011 to February 28, 2012.
February 27, 2012 (Level II)	Extension of the project closing date from February 28, 2012 to August 31, 2012 to prepare the MIDP AF and to complete original project investments.
May 11, 2012 (Level I)	(1) AF; (2) revised PDO; (3) extension of the closing date to August 31, 2015; and (4) reduced geographic scope to focus on five urban centers with integrated approach and pilots programs.
June 24, 2014 (Level II)	Amended the Financing Agreement for IDA grant to finance taxes except value added and custom taxes.
April 13, 2015 (Level II)	Extension of project closing date and IDA grant reallocation between categories to allocate savings from the retroactive financing portion of the AF and civil work towards priority investment to increase rehabilitation of water network, sanitation zone and public toilets.



### 3. Relevance of Objectives & Design

#### a. Relevance of Objectives

Both the original and revised PDOs were relevant at project appraisal and remained so at the project closing date. Although the revised PDO referred to the spring flood of 2012, floods and landslides during the spring are almost annual events in this mountainous region. The revised PDO remains relevant to current development priorities as stated in the National Development Strategy (NDS) 2030 and in the World Bank Group Country Partnership Strategy for FY2015-2018 under the social inclusion pillar. According to the World Bank-Tajikistan Partnership Program Snapshot April 2016, underinvestment has significantly deteriorated the water supply and sanitation infrastructure over the past decades, requiring substantial rehabilitations. Annual spring floods continued to affect Tajikistan. For example, a rapid assessment of the United Nations reported continuous rains during May 16-18, 2016, which resulted in floods and mudflows countrywide, killing at least five persons, and leaving an estimated 17,800 people in need of assistance and 2,550 households potentially affected.

**Rating**  
High

**Revised Rating**  
High

#### b. Relevance of Design

Relevance of design was substantial for both the original and revised PDOs. At the time of the original project appraisal, Tajikistan had a limited institutional capacity at the local and national levels. Hence, the project original design (i) was simple, (ii) did not address technical and reform issues at the same time, (iii) was kept flexible so that investment activities beyond the initial ones were prepared during the implementation, and (iv) included institutional strengthening and support to the project management by the implementing agencies. The experiences of implementation of the original design allowed the AF design to be more comprehensive, yet focused on sector wide policy issues, i.e., (i) reduced geographic scope to focus on five urban centers with an integrated approach and priority on water supply, (ii) introduction of pilot programs, (iii) financial and information management systems, (iv) a communication and public awareness campaign, and (v) Municipal Sector and Communal Services Development Strategy to support the GoRT on the policy dialogue and in implementing the 2010 Decree #321 Concept for Housing and Communal Services (HCS) Reform 2010-2020.

For the original results framework (PAD, December 19, 2005, Annex 3, page 24), a statement of objectives, which was slightly different from that in the DGA, was clear and linked to intermediate and final outcomes (PAD, page 3). The causal chain between funding and outcomes was clear and convincing in general. The revised results framework improved specifications of indicators. Yet, the causal chain of the additional objective was missing because the additional objective indicator was added without the corresponding intermediate outcome indicator. The choice of a Specific Investment Loan (SIL) was an appropriate instrument given the urgent need for investment in urban infrastructure rehabilitation.



**Rating**  
Substantial

**Revised Rating**  
Substantial

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

##### **Objective 1**

###### **Objective**

To improve the availability of basic municipal services for the population of the Participating Towns. As originally appraised, the eight towns included Kurgan-Tube, Kulyab, Dangara, Istaravshan, Gharm, Vose, Kanibadam, and Vahdat.

###### **Rationale**

The project improved the availability of basic municipal services for household or communal use, with priority given to water. For the original objectives, the outputs and outcomes refer to achievements of the original eight participating towns when the project's investments were completed. In this section 4, the percentage share of population of multiple towns is a simple average of the towns because only the percentage of population of each town for a specific indicator is available, while the absolute number of each town's population is not available.

###### Outputs

18,358 households were newly connected to piped water from the baseline of zero (no target was set for 2012).

Public toilets were constructed in Kanibadam, Vose and Istaravshan (no baseline or targets were set)

The following outputs simultaneously support Objectives 1, 2 and 3.

Water supply rehabilitation benefited 38,225 households with piped water connections from the baseline of zero (no target was set for 2012).

1,623 improved community water points were constructed or rehabilitated from the baseline of zero (no target was set for 2012).

KMK institutional strengthening activities were completed, e.g., operational, technical and financial management and installation of an automated accounting software and enterprise-specific Management Improvement Programs (MIPs); occupational safety, business and environmental management, and operational planning; legal issues (no baseline or targets were set).

Management improvement plans for each water supply (WS) utility in the initial eight towns were prepared but were very general and not easily applied by the utilities (no baseline or targets were set).



### Outcomes

53 percent of population had the availability of water supply for at least 16 hours per day in both summer and winter, which exceeded the original target of 48 percent from the baseline of 32 percent.

57 percent of population were covered with solid waste collection services at least once a week, which achieved of the original target from the baseline of 39 percent.

186,981 people in urban areas had access to improved water sources from the baseline of zero (no target was set for 2012).

### **Rating**

Substantial

## **Objective 1 Revision 1**

### **Revised Objective**

To improve the availability of basic municipal services for the population of the Participating Towns. The AF supported five urban centers, which included cities previously covered (Dangara, Kulyab, Kurgan-Tube and Vose) and a new city, Farkhor.

### **Revised Rationale**

The project scaled up the availability of basic municipal services and focused on an integrated approach in Vose and Farkhor. The pilot use of septic tanks was proven as relatively low cost and effective. Pilot metering with a connection subsidy was found to be less successful partly due to technical design issues, mal-functioning of the system, and the poorly designed and implemented subsidy program. For all rationales of the revised objectives, the incremental achievements of the five towns under the AF beyond those achieved by 2012 under the original project were assessed.

### Outputs

1,610 households were newly connected to piped water in Vose and Farkhor, which exceeded the target of 1,150.

Sanitation zones (rather than simply public toilets) with solid waste collection points, including ventilated improved pits (VIP) latrines, and solid waste (SW) containers, were constructed in Vose (9) and Farkhor (6) to serve the residents of the barracks. (no baseline or targets were set).

90 solid waste containers were installed in Farkhor, and public toilets were constructed in Vose and Farkhor (no baseline or targets were set)

The following outputs simultaneously support Objectives 1, 2 and 3.

As a pilot, 1,230 households received metered-water supply connections, including 627 new consumers with a 60 percent connection cost subsidy and about 600 existing consumers previously without meters. This



metered-connection did not achieve the target of 3,400 (from the baseline of zero) partly due to the reduced scope of the pilot program. The number of apartments benefiting from rehabilitated internal piping to be covered under the project was reduced because of technical designs and non-working connections. According to beneficiary surveys, the subsidy procedure was criticized for the following reasons: (i) the household poverty status was not considered in the selection of subsidy beneficiaries; (ii) the lack of information and unclear procedures related to access to the subsidies; and (iii) the long time taken to collect community contributions, which delayed implementation (ICR, October 25, page 56).

1,766 improved community water points were constructed or rehabilitated in Vose and Farkhor, which exceeded the target of 1,702 points from the baseline of 1,623 in 2012.

Sanitation improvements included: (i) pilot septic tanks combined with internal piping and toilet facility, in an apartment block, as a simple and low capital investment solution; and (ii) recovered water supply and sewerage services for three apartment buildings with 96 households. The Soviet-era buildings originally had all the amenities, but later lost internal water supply and sewerage services, forcing people to fetch water from outside of the building and use the external shared pit latrines. The project recovered internal plumbing, installed water taps, sinks for the kitchen and water closet (WC) in the bathroom. The sewage treatment was organized with a septic tank for each building. (no baseline or targets were set)

Municipal Sector and Communal Services Development Strategy and the Diagnostic Assessment of Housing and Communal Services in 26 Cities and Towns of the Republic of Tajikistan, to identify mid - to long-term reforms for the sector. Certain recommendations in the Strategy were reflected by the Government in its National Development Strategy for 2030.

The communication and public outreach campaign contributed to the operation and management of the sanitation investments through the Sanitary Zone Management Committees, which are comprised of community members who manage the operation of the zones, promote improved hygiene behavior, and collect user fees (no baseline or targets were set).

Pilot Management Information System (MIS) was installed in State Unitary Enterprise (SUE) Khojagii Manziliyu Kommunalni (KMK) and its subsidiary branch of the Kurgan-Tube vodokanal, for tracking of water utility performance through the set of International Benchmarking Network (IBNET) indicators in the system. (no baseline or targets were set).

### Outcomes

49 percent of the population had at least 16 hours of water in both summer and winter in Vose and Farkhor, which was less than the revised target of 59 percent from the baseline of 6 percent in 2012.

80 percent of the population had solid waste collection services at least once a week in Vose and Farkhor, which exceeded the original target of 70 percent from the baseline of 18 percent in 2012.

17,564 people in urban areas had access to improved water sources in Vose and Farkhor, which was less than the two towns' combined, incremental target of 23,320 people. Two third of Farkhor's own target was achieved while Vose surpassed its own target.





3,373 people in Vose and Farkhor benefited from improved sanitation from sanitation zones (no baseline or targets were set).

**Revised Rating**

Substantial

**Objective 2**

**Objective**

To improve the quality of basic municipal services for the population of the Participating Towns. These are the same eight towns as the ones listed under the original PDO 1 above.

**Rationale**

The quality of services improved as a result of capacity building of the KMK and its subsidiaries, including MIS, tracking water utility performance, communication and public outreach, etc.

Outcomes

21 percent of households reported poor water quality, a positive outcome which exceeded the original target of 24 percent from the baseline of 41 percent. The project financed water disinfection equipment in the eight towns to ensure that the water quality complied with the state water safety standards. Without MIDP, the water had high turbidity and was saline. As a result of the MIDP, water became clear and there was no salinity from the rehabilitated system. The improved quality of water was obvious to households based on taste and clarity.

55 percent of customers rated the water supply services as satisfactory, which exceeded the original target of 50 percent from the baseline of 32 percent.

Beneficiary survey showed improved households' satisfaction with waste collection services.

**Rating**

Substantial

**Objective 2 Revision 1**

**Revised Objective**

To improve the quality of basic municipal services for the population of the Participating Towns. These are the same five towns as the ones listed under the revised PDO 1 above.

**Revised Rationale**

In general, Vose was more successful than Farkhor in meeting each town's target.

Outcomes



34 percent of households in Vose and Farkhor reported poor water quality, compared to the target of 19 percent and the baseline of 58 percent in 2012. Vose met its target but Farkhor did not. To meet the state water safety standard, the project financed the construction of new deep ground water tubewells as well as a chlorination facility in Farkhor.

In all nine towns covered by the original MIDP and AF, the practice of fetching water from informal sources has ceased. During the project implementation, the PMU had been measuring some aspects of the water quality.

65 percent of customers rated the services Vose and Farkhor as satisfactory, which was slightly less than the target of 75 percent, but significantly higher than the baseline of 48 percent. Vose's target was met but Farkhor did not meet its target.

### **Revised Rating**

Substantial

## **Objective 3**

### **Objective**

To improve the efficiency of basic municipal services for the population of the Participating Towns. These are the same eight towns as the ones listed under the original PDO 1 above.

### **Rationale**

In addition to capacity-building for KMK and its subsidiaries and physical investments (new construction, improvement and rehabilitation) noted in the Objective 1 and 2 above, modern billing and collection systems also improved the efficiency of the services, thereby reducing technical and non-technical losses.

### Outcomes

The level of water that is unaccounted for was 29 percent, which exceeded the target of 53 percent from the baseline of 62 percent.

### **Rating**

Substantial

## **Objective 3 Revision 1**

### **Revised Objective**

To improve the efficiency of basic municipal services for the population of the Participating Towns. These are the same five towns as the ones listed under the revised PDO 1 above.

### **Revised Rationale**

### Outputs



Modern Billing and Collection Software was installed in water utilities in Kurgan-Tyube, Danghara, Kulyab, Farkhor, and Vose (no baseline or targets were set).

Outcomes

Payment of water supply and waste water services in Danghara, Kurgan-Tube and Kulyab was made by 100 percent electronic payments due to the introduction of payments through mobile electronic kiosks, which exceeded the target of 50 percent from the baseline of zero.

Under the pilot institutional strengthening activities in Farkhor, billing of clients improved by 8.5 points compared to the baseline, with 52.8 percent of respondents having received a water bill and 98 percent of those receiving a water bill paying it (no target reported in the ICR).

The modernization of billing and collection increased revenues three fold (no baseline or targets were set).

**Revised Rating**

Substantial

**Objective 4**

**Objective**

There was no Objective 4 in the project as originally appraised.

**Rationale**

There was no Objective 4 in the project as originally appraised.

**Rating**

Not Rated/Not Applicable

**Objective 4 Revision 1**

**Revised Objective**

As an urgent response to the anticipated floods of the spring of 2012, to contribute to their mitigation with the supply of emergency materials.

**Revised Rationale**

The retroactive financing under the AF was able to finance the rehabilitation of the river embankment, which reportedly protected the neighboring households from the river inundations.

Outputs

4,500 meters of river embankment was rehabilitated to mitigate risks associated with 2012 Spring flooding, which achieved the target from the baseline of zero.

Outcomes



Widespread flooding occurred in Khatlon Region in spring 2012, some parts of which belonged to the project areas. The Bank team reported that the rehabilitated embankment protected the neighboring households against the river inundations.

**Revised Rating**  
Substantial

## 5. Efficiency

### Ex-ante economic analysis

Appraisal of the original project identified economic benefits, including: reduction in the cost of water supply services; increased willingness to pay for water services; reduction of coping costs related to poor water services; and improved health benefits. However, the identified costs and benefits were not assessed in numerical values except for an estimated 25 percent decrease in unit energy consumption by the replacement and optimization of pumping systems.

For the appraisal of the AF, ex-ante cost effectiveness analysis contributed to the AF design. Rehabilitation of the existing water intake in the extraction area was selected compared to the more expensive replacement of the surface water intake from the Panj River. An elevated water reservoir solution was selected rather than the more expensive city level reservoir option. For the solid waste component, combined house collection and collection points was selected due to lower number of collection points and thereby lower capital expenditures.

### Ex-post economic analysis

The ex-post analysis consisted of a benefit-cost analysis of the implemented investments. It was assumed that the same level of return on the invested capital can be obtained by the participating towns within each of the three types of water investments made: (a) basic rehabilitation of the water supply system; (b) basic rehabilitation of the water supply system with electronic billing and collection implemented; and (c) larger investments in the water supply system with electronic billing and collection implemented. By this approach that covered 48 percent of project costs, the analysis showed a Net Present Value of US\$ 23 million at 6 percent discount rate and an Economic Internal Rate of Return of 14 percent as an aggregate of the (a), (b) and (c) categories.

### Ex-ante financial analysis

At the appraisal of the original project, an ex-ante analysis concluded that full cost recovery of the water supply services would not be realistic. The analysis guided the identification of institutional and financial capacity-building activities included in the project. At the appraisal of the AF, the financial analysis estimated tariff levels to recover costs of only operation and maintenance (O&M).

### Ex-post financial analysis

The ex-post financial analysis included financial forecasts for the vodokanals (water supply and sewerage enterprises). The revenues of the vodokanals had doubled in real terms since 2010. Analysis of the



vodokanals, that benefited from investments in modernizing their billing and collection systems, showed that revenue collection had increased almost every month. The annual financial reporting of the vodokanals indicated that the companies were balancing their expenditures with the revenues, with a provision for depreciation. Given the expected improvement in fee collections, the analysis showed financial room for increases in expenditures in the future.

Administrative Efficiency

The project’s implementation was slow, having been extended two times for implementation delays (excluding the two extensions due to the AF). Inadequate attention to the institutional and technical capacity issues at appraisal caused high transaction costs during implementation. Weaknesses in procurement and monitoring and evaluation (M&E) also resulted in implementation delays.

**Efficiency Rating**

Substantial

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		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	14.00	48.00 <input type="checkbox"/> Not Applicable

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

**6. Outcome**

The relevance of the project’s objectives was high. The relevance of design was substantial. The efficacy of achieving the project’s objectives was substantial. Efficiency was substantial, although there were implementation delays. The weighted ratings against the original and revised objectives are shown in the table below. Overall project outcome is rated satisfactory.

Item	Against Original PDO	Against Revised PDO	Overall
Rating	Satisfactory	Satisfactory	
Rating value	5	5	
Weight (% disbursed before/after PDO change)	60%	40%	100%
Weighted value (line 2 x line 3)	3	2	5
Final rating (rounded)			Satisfactory



**a. Outcome Rating**

Satisfactory

**7. Rationale for Risk to Development Outcome Rating**

Although this project helped built technical capacity of the KMK and its subsidiary utilities, sustaining and updating their technical capacity remains a challenge. While the financial analysis showed that revenues increased overall in water supply and sewerage enterprises (vodokanals), the project-supported utilities lacked financial resources for O&M of rehabilitated or newly developed assets. Tariffs for municipal services remained below cost recovery levels. The municipal services sector is significantly underfunded. This situation could jeopardize the scaling-up of the several pilots under MIDP. While the government supported the project, it was not able to ensure its sustainability through an adequate tariff level; moreover, sector reform remains a pending agenda. Also, the project management unit (PMU) was an external body to the KMK. At project completion, KMK lost the capacity built in the PMU and the sustainability of operation is placed at high risk.

If the utilities cannot keep up the quality of infrastructure services, willingness to pay by the customers will be reduced and the consequent reduced revenue could further deteriorate the service performance. The appraisal of AF identified that the communities' willingness to participate in the metering program might be low in Farkhor. The mitigation strategy was implemented by improving service before billing and adding a citizen engagement effort, yet the participation rate was much less than the target and the connection subsidy was poorly designed and implemented. Efforts to sustain good services are necessary. The project experience shows that citizen engagement improved the relationship between the population and local authorities, garnered support for the investments and led better sanitation practices. Governance remained a challenge including corporate governance. The project is vulnerable to natural disasters as experienced in the 2012 spring floods. Resilient infrastructure, as well as disaster preparedness, mitigation and management are necessary.

**a. Risk to Development Outcome Rating**

High

**8. Assessment of Bank Performance**

**a. Quality-at-Entry**

The Bank's strategic approach was to focus on straightforward investments coupled with institutional support to KMK and its local subsidiary utility enterprises, in order to improve the sustainability of project results. To achieve simplicity, the original project design did not promote sector policy or institutional reforms. This initial approach was effective, which allowed the subsequent AF to scale up activities. The project design was informed by analytical evidence and took into consideration lessons of earlier



experience. The Bank mobilized a team with all necessary expertise in water supply and sanitation, waste management and social participation. Technical, financial and economic aspects gave priorities on the most urgent needs of the population. A social assessment in the project areas found high levels of the poor, with their low living conditions exacerbated by the unavailability and/or poor quality of basic municipal services. Their access to safe drinking water was their top priority.

Safeguards and fiduciary measures were appropriately designed. The risks were adequately identified but mitigations were inadequate in the capacity-related risks, such as local industry, the PMU and implementing agencies. Although ultimately outcomes were achieved, inadequate attention to the capacity issues at appraisal caused high transaction costs during implementation and required four closing date extensions. Monitoring and evaluation (M&E) arrangements had some shortcomings. Implementation arrangements could have been more sustainable because the PMU members were not the staff members of the KMK and its subsidiaries. The PMU members were temporally seconded government officials and consultants, who would leave after the project closed. Hence, the capacity built during the project would be lost, threatening its sustainability.

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

Moderately Satisfactory

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

The Bank team's focus on development impact was demonstrated by their proactive supervision. This allowed identifying design flaws early on and facilitating timely adjustments such as civil works. On several occasions, the Bank mobilized supplemental external technical expertise to advise the client. The Bank substantially supported the PMU and strengthened their capacity. The increased capacity building and the closer collaboration with the counterparts in the second half of the project facilitated the quick scale-up of project activities. These scaled-up activities were built upon the experiences in the original project, technically (e.g., from public toilets to sanitation zones) and socially (e.g., citizen engagement). Supervision inputs and processes, including fiduciary and safeguard aspects, were adequate. Candor and quality of performance reporting were also adequate. By completion of the project, all relevant assets were transferred to KMK and its subsidiaries for continuing operations and management of these assets, in coordination with local governments and communities. Under the project, physical investments were accompanied with appropriate institutional strengthening and technical assistance to ensure adequate transition arrangements for regular operation of supported activities after the IDA grant closing. There were, however, three assets delivered before 2012 that were not appropriately designed based on technical criteria, which should have been corrected during supervision.

### **Quality of Supervision Rating**

Moderately Satisfactory

### **Overall Bank Performance Rating**

Moderately Satisfactory



## 9. Assessment of Borrower Performance

### a. Government Performance

The Government of Tajikistan's (GOJ's) ownership and commitment to achieving development objectives remained strong throughout preparation and implementation. Counterpart funding from the Treasury was never delayed; the counterpart funding by local governments was also provided albeit with some delay. The financial statements for 2010 were delayed due to the late selection of the auditor by the State Committee on Investment and State Property that procures audit services for all World Bank financed projects in Tajikistan. All covenants were complied with. However, the lack of tariff rebalancing, improvement of corporate governance and sector reform places the sustainability of the project and the sector as a whole at high risk.

#### **Government Performance Rating**

Moderately Satisfactory

### b. Implementing Agency Performance

The State Unitary Enterprise Khojagiyi Manziliyu Kommunalni (KMK) was responsible for the overall management, coordination and implementation of the MIDP. The KMK entered into the Project Implementation Agreement with the PMU and assigned to the PMU day-to-day responsibilities for procurement, financial, disbursement and reporting aspects of the implementation (Project Agreement, February 21, 2006). This external PMU implementation arrangement risked the sustainability of the project. The staff at management levels of the PMU was external to the KMK and were government officials appointed by the President office; thus, after the project closed, they moved on to other government appointments. The other PMU staff were external consultants who also left after the project closed.

The PMU staff demonstrated resilience and commitment to achieving development objectives and was indispensable for the project's success. Throughout the implementation of the project, the PMU was adequately staffed (with the exception of the M&E unit) and remained unchanged during the duration of the project except for the M&E specialist. The PMU provided adequate fiduciary controls, ensured safeguards compliance and led a dialogue with sector stakeholders, the central and municipal governments and the Bank. The PMU was active in reaching out to the communities and working with the Community Management Committees (CMCs). However, the readiness for implementation had some shortcomings. The PMU had a suboptimal mix of technical skills; it had general civil engineers rather than water supply engineers with experience from water utilities. The international project management consultants (PMC) were recruited to compensate for this lack of expertise. As a result, with the PMC and close support from the Bank team, the project managed to introduce innovative designs such as the septic tanks in Farkhor. The procurement, technical and M&E capacity of the PMU was low but their capacity was improved during implementation.

#### **Implementing Agency Performance Rating**

Moderately Satisfactory





## Overall Borrower Performance Rating

Moderately Satisfactory

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

### a. M&E Design

The objectives were straightforward and most of the indicators reflected those objectives. However, there were some shortcomings and some of the proposed data collection methods and analysis were inappropriate. One of the PDO indicators, i.e., “Improved efficiency of participating utilities as measured by a reduction in energy consumption costs (as a percentage of total operating costs)” (PAD, page 27) would not measure the efficiency because, for example, a lower energy tariff per unit (e.g., US\$ per kilowatt-hour), even if the energy consumption remains the same, could reduce energy consumption costs. Another example is that even if the energy consumption and energy tariff remain the same, if the other operations costs increase (denominator increase), the percentage share of the energy cost would be reduced. Otherwise, the indicators were measurable. Data would be collected by surveys and from progress reports. Baselines were all reported in the PAD. The M&E design was mostly project-specific but most of the PDO indicators could be embedded institutionally. However, the external PMU was responsible for M&E and thus the M&E capacity may not be sustainable.

Indicators were improved to be more result- or outcome-oriented during the AF but the revised M&E still had some shortcomings. Sanitation and waste management had the PDO-level outcome indicators, but had no intermediate outcome indicators, which was the missing link in the causal chain. Another missing link was the PDO outcome indicator of “length of river embankment rehabilitated”, which did not have intermediate outcome indicators. The length of river embankment rehabilitated is an output and thus could be the intermediate outcome indicator. The outcome indicator could be, for example, number of neighboring households or areas that were protected by the rehabilitated embankment. Also, some PDO outcome indicators may not be fully attributable to the project, such as the financial efficiency at utility level. Other revised PDO outcome indicators, similar to the ones discussed in section 10(a) above, would not be appropriate, such as efficiency of water utilities measured as reduction of energy costs per unit of water produced, because the energy price per unit may change. For example, electricity consumption (in kilowatt-hours) per unit of water produced could have been used.

### b. M&E Implementation

The M&E system implementation by the PMU was never entirely successful, although capacity improved drastically under the guidance and support of the World Bank technical specialist. The capacity of M&E specialist within the PMU was low, and a change of staff was required three times. The Bank team was mostly responsible to check and keep track of deliverables. However, with the hiring of a new M&E consultant in July 2015, the PMU began to record project results following a defined methodology for each indicator, which helped correct past inconsistencies in reporting. It developed regular and detailed reports. Overall, M&E for KMK as an institution has benefited from the installation of the Management Information System (MIS) and the provision of training. The Bank team consistently checked the data reliability and quality and methodology, independence of analysts, and quality control.



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

The PMU utilized an MIS that linked financial management, procurement, and disbursements. Shifts in the project's direction could not be fully attributed to M&E activities due to difficulties with identifying the right indicators, target-setting, as well as collecting and verifying information.

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

Substantial

## **11. Other Issues**

### **a. Safeguards**

#### Environmental safeguards

At appraisal of both the original project and AF, the safeguards related to Environmental Assessment (OP/BP 4.01) and Projects on International Waterways (OP/BP 7.50) were triggered. The project was classified as category B. Both the original project and AF included some investments to take place on trans-boundary waterways but were exempted from the obligation to notify the riparian Governments considering the nature of the investments. The project complied with the requirements of the Project Environmental Management Plan (EMP). The Bank found no significant environmental issues during the implementation. The overall project environmental performance is satisfactory and the safeguards requirements were complied with.

#### Social safeguards

During the course of implementation of the original project, OP/BP 4.12 on Involuntary Resettlement was triggered since the project necessitated land acquisition, which was not originally envisaged during the appraisal of the project. A Resettlement Action Plan (RAP) was developed for each relevant city. There were 21 project-affected persons and in each case they received compensation in accordance with the action plans. At the appraisal of AF, A Resettlement Policy Framework was prepared appropriately. The project completed the planned mitigation activities and the social safeguards were complied with.

### **b. Fiduciary Compliance**

#### Financial Management (FM)

The FM arrangements for the project were adequate. Despite occasional delays, any difficulties were resolved once feedback was received. The KMK used the cash basis for project accounting and utilized the automated accounting software for project accounting, which was updated and automatically generated statement of expenditures, Interim Unaudited Financial Reports (IFRs) and audit reports, and tracked contract payments. All audits of the project were unqualified during 2007-2015. The audit report for 2016 was



qualified because the auditor was not able to check the correctness, but since the issues were insignificant, the Bank accepted the audit report. The audit of the KMK was also required because KMK was a beneficiary of the IDA grant through a subsidiary agreement. The auditor issued qualified opinion on KMK's financial statements of 2008 since no professional independent valuer was involved and in 2009 due to non-compliance with International Financial Reporting Standards and contradictory data. The auditor did not express an opinion on KMK's financial statements of 2006, 2007, 2010, and 2013-2015 mainly due to inappropriate audit evidence and documentations. The auditor issued a disclaimer of opinion on the nonconsolidated financial statements of 2011 due to the severe failure in meeting the accounting standards methods. The Bank team noted that the FM issues of the KMK were beyond the scope of the project. In 2016, the KMK, using their own funding, contracted qualified financial management consultants to help address FM issues and train staff. IDA regularly monitored its portfolio through follow-up fiduciary reviews, and procurement and financial management training were provided. Counterpart funding was adequate and all covenants were complied with. No corruption or misuse of funds associated with the project was found.

#### Procurement

Overall procurement performance was satisfactory. Procurement issues related to recruiting international consultants caused delays in the selection and hiring of the Project Management Consultant (PMC) and the Municipal and Communal Services Development Strategy consultancy. Due to the low procurement capacity of the PMU, certain procurement opportunities were not taken advantage of such as the packaging of contracts to attract higher participation of foreign and local bidders, which was planned at the appraisal (PAD, December 19, 2005, page 10). Due to low capacity of the design and construction industry, three assets delivered in 2012 were sub-optimally designed and constructed. In September 2014, although most contracts and activities were progressing well, two key contracts (construction of borehole and the household subsidy program) delayed due to weak contractor capacity and under-estimated needs. Despite these procurement delays, all goods, works and services were delivered in full amount with timely payments.

#### Disbursement

IDA funds were disbursed for ineligible expenditures related to tax during the AF. The Financing Agreement was amended to include the payment of taxes during the 2014 project restructuring (Project Paper, June 20, 2014, page 6).

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

Not applicable.

#### **d. Other**

Not applicable.

## **12. Ratings**



Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	---
Risk to Development Outcome	High	High	---
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	---
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Substantial	---

**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 following lessons were derived from the ICR’s section on lessons learned:

- 1. Matching the client’s capacity, cost effectiveness and technical solutions could help ensure success.** The sector had financial and capacity constraints. Thus, the MIDP introduced simple techniques and focused on the cost effectiveness because a more complex solution might not have worked. Taking into account the level of technical expertise and funds for maintenance was important in choosing design solutions. An example of a simple solution was the septic tanks.
- 2. Institutional development could start with the direct counterpart implementing agencies, a good understanding of local conditions, and citizen engagement.** The project's support to the institutional development initially focused on implementing agencies. Later on, the AF was able to provide institutional support on a broader scale, by financing development of Municipal Sector and Communal Services Development Strategy. Certain recommendations in the Strategy were reflected in the National Development Strategy for 2030. The Household Connection Subsidy pilot under the AF started with a slow uptake due to distrust by the local population but this improved with increased community engagement and public awareness.
- 3. Strengthening the local capacity of the private engineering and construction industry could be part of the project.** Structured training could be offered to the local industry in the early stages of project implementation. The focus should be on the principles and procedures for planning, design, implementation and supervision of water supply and sanitation investments.

**14. Assessment Recommended?**



No

## 15. Comments on Quality of ICR

This ICR is candid; it provided a detailed and in-depth self-assessment. The ICR's performance ratings were based on logical analysis and good evidence, and its lessons reflected the project's own implementation experience. There were some unclear areas, such as: transmission lines expressed in watt instead of volt (page 26); inconsistent compensation rates (3,936 hectare ([ha] for TJS 4,980, yet another consisting of only 0.92 ha for TJS 4,581, as shown in Table 4, page 62); and internal inconsistencies (e.g., baseline value of 65.33 percent in page xi and 52 percent in page 13).

### a. Quality of ICR Rating Substantial