



Completion Report

Project Number: 40007-013
Loan Number: 2466
Grant Number: 0131
July 2016

Uzbekistan: Surkhandarya Water Supply and Sanitation Project

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Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – sum (SUM)

		At Appraisal	At Project Completion
		10 August 2008	30 September 2014
SUM1.00	=	\$0.00076	\$0.000422
\$1.00	=	SUM1,320	SUM2,367.40

ABBREVIATIONS

ADB	–	Asian Development Bank
CMD	–	Decree of the Cabinet of Ministers
EIRR	–	economic internal rate of return
EMG	–	environmental monitoring group
EMMP	–	environmental monitoring and management plan
FIRR	–	financial internal rate of return
GAP	–	gender action plan
ICB	–	international competitive bidding
ICT	–	information and communications technology
km	–	kilometer
LARP	–	land acquisition and resettlement plan
m ³	–	cubic meter
MDTF-WFPF	–	Multi-Donor Trust Fund of the Water Financing Partnership Facility
O&M	–	operation and maintenance
PCR	–	project completion report
PIU	–	project implementation unit
PMU	–	project management unit
PPMS	–	project performance management system
PPP	–	public–private partnership
RCM	–	resolution of the Cabinet of Ministers
SDR	–	special drawing right
UCSA	–	Uzbekistan Communal Services Agency
WIS	–	welfare improvement strategy
WSS	–	water supply and sanitation

GLOSSARY

<i>oblast</i>	–	province or administrative first-level region
<i>rayon</i>	–	district
<i>vodokanal</i>	–	operating agency of water supply and sanitation agency
<i>makhalla</i>	–	neighborhood community

NOTES

- (i) The fiscal year (FY) of the government ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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BASIC DATA

A. Loan Identification

1. Country	Republic of Uzbekistan
2. Loan Number	2466
Grant Number	0131
3. Project Title	Surkhandarya Water Supply and Sanitation Project
4. Borrower	Republic of Uzbekistan
5. Executing Agency	Uzbekistan Communal Services Agency
6. Amount of Loan and Grant	Loan 2466–SDR19.357 million (\$30.0 million) Grant 0131–\$1.5 million
7. Project Completion Report No.	1577

B. Loan Data

1. Appraisal	
– Date Started	28 July 2008
– Date Completed	31 December 2008
2. Loan Negotiations	
– Date Started	18 September 2008
– Date Completed	22 September 2008
3. Date of Board Approval	3 November 2008
4. Date of Loan Agreement	20 April 2009
5. Date of Loan Effectiveness	
– In Loan Agreement	19 June 2009
– Actual	27 July 2009
– Number of Extensions	None
6. Closing Date	
– In Loan Agreement	30 September 2014
– Actual	10 March 2015
– Number of Extensions	None
7. Terms of Loan	
– Interest Rate	Grace period – 1.0 %, Remaining period – 1.5 %
– Maturity (number of years)	32
– Grace Period (number of years)	8
8. Terms of Relending (if any)	
– Interest Rate	Grace period – 1.2 %, Remaining period – 1.7 %
– Maturity (number of years)	32
– Grace Period (number of years)	8
– Second-Step Borrower	Surkhandarya Provincial Government

9. Disbursements

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
12 August 2009	28 January 2015	64.13 months
Effective Date	Original Closing Date	Time Interval
27 July 2009	10 March 2015	67.04 months

b1. Amount of Loan 2466 (\$ million)

Cat No. (1)	Category (2)	Original Allocation ^a (3)	Amount Cancelled ^b (4 = 3 – 5)	Last Revised Allocation ^c (5)	Amount Disbursed ^d (6)	Undisbursed Balance ^e (7 = 5 – 6)
1	Civil Works	20.100	0.228	19.872	19.872	0.0
2	Equipment	6.680	0.139	6.541	6.541	0.0
3	Consulting Services	2.000	0.188	1.812	1.812	0.0
4	Recurrent costs	0.530	(0.344)	0.874	0.873	0.0
5	IDC	0.690	0.126	0.564	0.564	0.0
Total		30.000	0.337	29.662	29.662	0.0

^a US\$ equivalent per report and recommendation of the President (exchange rate at appraisal: SDR 1.0 = \$1.54982).

^b US\$ equivalent as of cancellation of undisbursed balance at the time of financial closing on 10 March 2015.

^c Total of (d + e).

^d Actual US\$ equivalent.

b2. Amount of Grant 0131 (\$ million)

Cat No. (1)	Category (2)	Original Allocation (3)	Amount Cancelled (4 = 3 – 5)	Last Revised Allocation (5)	Amount Disbursed (6)	Undisbursed Balance (7 = 5 – 6)
3101	Civil Works	1.370	0.044	1.326	1.326	0.0
3601	Equipment	0.130	(0.044)	0.174	0.174	0.0
Total		1.500	0.000	1.500	1.500	0.0

10. Local Costs (Financed L+G)

– Amount (\$)	23,665,252.37
– Percent of Local Costs	74.00%
– Percent of Total Cost	59.95%

C. Project Data

1. Project Cost (\$ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	10.25	7.50
Local Currency Cost	29.75	31.98
Total	40.00	39.48

2. Financing Plan (\$ million)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower Financed	8.50	8.32
ADB Financed	29.31	29.10
Cofinancing from MDTF-WFPF	1.50	1.50
Total	39.31	38.92
IDC Costs		
Borrower Financed		
ADB Financed	0.69	0.56
Other External Financing		
Total	0.69	0.56

ADB = Asian Development Bank; IDC = interest during construction; MDTF = Multi-Donor Trust Fund; WFPF = Water Financing Partnership Facility.

3. Cost Breakdown by Project Component (\$ million)

Component	Appraisal Estimate	Actual
Investment Costs		
1. Civil Works	18.38	20.10
2. Mechanical and Equipment	5.25	6.81
3. Environment and Social Mitigation	0.17	0.00 ^a
4. Consultants		
a. Strengthening of Sector Strategy and Management and Capacity Development for Service Delivery	1.50	1.37
b. Detailed Design and Construction Supervision	1.20	1.01
c. Hygiene Program	0.20	0.20
d. Project Implementation Assistance	0.60	0.60
5. Taxes and Duties	5.74	8.50
Subtotal (A)	33.04	38.04
Recurrent Costs		
1. Salaries	0.35	0.53
2. Equipment Operation and Maintenance	0.18	0.19
Subtotal (B)	0.53	0.87
Total Base Cost	33.57	38.91
Contingencies		
Physical	2.58	0.00 ^b
Price	3.16	0.00 ^b
Subtotal (C)	5.74	0.00
Financing Charges during Implementation		
Interest during Implementation	0.69	0.69
Subtotal (D)	0.69	0.56
Total Project Costs (A+B+C+D)	40.00	40.00

^a Environment and Social Mitigation was included in the civil works.

^b In "Actual" column, contingencies were distributed in respective components where they were actually used.

4. Project Schedule

Item	Appraisal Estimate	Actual
Date of Contract with Consultants		
Detailed Design	February 2009	December 2009
Project Implementation Assistance	September 2009	January 2010
Strengthening of Sector Strategy and Management	June 2009	August 2010
Completion of Engineering Designs	December 2010	June 2011
Civil Works Contract		
Date of Award	May 2010	May 2010
Completion of Work	June 2012	September 2014
Equipment and Supplies		
Dates		
First Procurement	May 2010	October 2009
Last Procurement	December 2010	February 2012
Completion of Equipment Installation	December 2011	June 2012
Start of Operations		
Completion of Tests and Commissioning	September 2014	September 2015
Beginning of Start-Up	January 2015	January 2016
Other Milestones		
Hygiene Promotion Program	September 2009	August 2011
Construction Supervision (12 ICS)	Jan–May 2010	Oct 2010–March 2014
Capacity Development (3 ICS and 3 CQS)	Q1 2009–Q1 2011	Q4 2009–Q1 2013
Audit of Project Accounts		May 2010
LARP Verification		June 2014
Government's PCR preparation		September 2014

CQS = consultants qualification selection; ICS = individual consultant selection; LARP = land acquisition and resettlement plan; PCR = project completion report; Q = quarter.

5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 27 July to 31 December 2009	satisfactory	less than satisfactory
From 1 January to 31 December 2010	satisfactory	less than satisfactory
From 1 January to 31 December 2011	satisfactory	satisfactory
From 1 January to 31 December 2012	satisfactory	highly satisfactory
From 1 January to 31 December 2013	satisfactory	satisfactory
From 1 January to 30 September 2014	satisfactory	highly satisfactory

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members ^a
Fact-finding	18 July–3 August 2007	4	64	a, b, c, d
Fact-finding	18 June–1 July 2008	5	65	e, f, g, h, i
Appraisal	6–15 August 2008	7	72	j, w, c, h, g, i, f
Loan inception	15–21 April 2009	3	21	j, d, i
Review 1	10–17 November 2009	2	16	J, i
Review 2	14–19 July 2010	4	12	a, k, d
Review 3	2–9 December 2010	3	6	a, m, n
Review 4	24–25 March 2011	2	4	a, n
Disbursement	23–25 May 2012	1	2	o
Midterm review	13–18 October 2012	4	20	p, q, r, s
Review 5	22–30 October 2013	7	56	h, t, h, u, v, x, i
Review 6	9–16 April 2014	4	28	h, u, v, x
Review 7	29 Sept–7 October 2014	4	28	h, u, v, x
Project Completion Review	11 March–10 April 2015			

^a a = principal urban development specialist; b = project administration unit head; c = senior counsel; d = project officer; e = project economist; f = senior environment specialist; g = water supply and sanitation specialist; h = urban development specialist; i = associate project analyst; j = urban economist; k = director's advisor, board of directors; l = social safeguard specialist; m = senior portfolio management specialist; n = portfolio management officer; o = financial control specialist; p = director, urban development and water division; q = lead urban development specialist; r = senior project officer; s = senior social sector officer; t = principal economist; u = principal social safeguards specialist; v = senior social development officer; w = social development specialist; x = social sector officer; y = water supply specialist (staff consultant).

I. PROJECT DESCRIPTION

1. The Asian Development Bank (ADB) approved the Surkhandarya Water Supply and Sanitation Project on 3 November 2009.¹ ADB's assistance was provided to support the Government of Uzbekistan in strengthening the water supply and sanitation (WSS) sector planning and management at the national level and improving WSS services at the provincial level. The outdated sector strategy and planning, inappropriate standards, limited financial resources, and weak institutional capacity were key challenges for the government. Despite the WSS system's high network coverage, households are supplied with water for only 6–16 hours a day in urban areas and 2–10 hours a day in rural areas. The nationwide estimate on unaccounted-for water was over 50%. Nonperforming infrastructure, power outages, and lack of revenue hindered better service.

2. The project aimed to improve living standards, environment, and public health in the urban centers of Surkhandarya Province. The expected outcome was safe, reliable, inclusive, and sustainable WSS services and improved community hygiene for 340,000 people living in the seven districts of Kizirik, Angor, Muzrabad, Shurchi, Kumkurgan, Jarkurgan, Sariasia, and the city of Termez. The project comprised five components: (i) strengthening sector strategy and management, (ii) water supply development, (iii) sanitation and hygiene, (iv) capacity development for service delivery, and (v) project implementation assistance.

3. The loan agreement for SDR19.357 million (\$30.00 million equivalent) loan funds from ADB's Special Funds resources and the grant agreement for \$1.50 million grant funds from Multi-Donor Trust Fund of the Water Financing Partnership Facility (MDTF-WFPF) were signed on 20 April 2009 and became effective on 27 July 2009.²

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

4. The project's design and formulation were highly relevant. The project was formulated in line with Uzbekistan's WSS policy and regulatory framework set forth in: (i) the national 10-year water supply development plan, (ii) a resolution of the Cabinet of Ministers (RCM),³ and (iii) the water supply investment program for 2009–2012. The key objectives of the policy were to: (i) improve water sector services through a national water supply development plan; (ii) attain financial sustainability through an effective tariff system and cost recovery; (iii) achieve further decentralization of WSS services and strengthen the sector's institutional setup and capacity building; and (iv) implement hygiene and sanitation education programs in schools. The sector development targets were specifically provided in the National Water Supply Development Program developed in 1999. The project was also consistent with ADB's country partnership strategy and program.

5. The project was designed under an ADB project preparatory technical assistance. The quality of the technical assistance was generally satisfactory. The project design involved a high level of stakeholder participation and ownership by the beneficiary communities. It incorporated previous experiences and addressed the critical institutional and operational challenges and investment gaps. The project was relevant at appraisal and completion. It was in line with Uzbekistan's WSS reforms and ADB's strategies and investment programs, which prioritized sustainable WSS sector development and inclusive service delivery.

¹ ADB. 2008. Report and Recommendation of the President to the Board of Directors. *Proposed Loan to the Republic of Uzbekistan for the Surkhandarya Water Supply and Sanitation Project*. Manila.

² ADB. 2009. *Surkhandarya Water Supply and Sanitation Project*. Manila. Grant 0131 financed by the Water Financing Partnership Facility in an amount of \$1.5 million approved in November 2008.

³ The Cabinet of Ministers of the Republic of Uzbekistan, 17 September 2003: *RCM No. 405–Additional Measures for the Improvement of the Supply of Rural Settlement with Drinking Water and Natural Gas*.

B. Project Outputs

6. **Component 1. Strengthening of Sector Strategy and Management.** This component⁴ was to promote the economic use of water resources and improve water supply and wastewater sector planning and management. It included the development of: (i) an integrated water sector profile; (ii) a water supply and wastewater sector strategy, including a public–private partnership (PPP) framework; and (iii) a water supply and wastewater sector development road map and comprehensive investment plan.

7. This component targets were achieved as envisaged. An analysis was conducted to identify the sector development issues and challenges, such as restructuring for economic scale, cost recovery, and capacity development. A national water supply and sanitation sector strategy, road map, and investment program for the Republic of Uzbekistan until 2020 were prepared in February 2012 and approved by ADB on 31 March 2012. The strategy strengthened the sector reform agenda and created a platform for the government to establish its mid- and long-term vision and strategy for the WSS sector development in 13,235 rural settlements and towns and about 65 cities.

8. Following strategy principles, the government has taken a phased approach in implementing sector reforms. It has developed an integrated midterm action plan for the WSS Program 2015 and enacted a number of RCMs.⁵ The reforms focused on the improvement of WSS sector performance by (i) reforming institutional structures and regulatory framework of the WSS sector, (ii) strengthening the management and operation of WSS utilities, (iii) improving the financial management and tariff structure, (iv) establishing information and communications technology (ICT) system and metering, and (v) rehabilitating and expanding infrastructure with introduction of energy-saving technologies and equipment. The institutional restructuring has provided a greater role and responsibility to “Uzkommunhizmat” (Uzbekistan Communal Services Agency, UCSA) at the central level and to the vodokanals at the local level. The provincial vodokanals are responsible for operation and maintenance (O&M) of WSS services throughout the province, while each vodokanal at the district level will serve as a branch of the provincial vodokanal. UCSA became responsible for monitoring the performance of each vodokanal and developing its capacity. The government has also developed detailed investment plan, which has been supported by the development partners, who include ADB, the World Bank, the Islamic Development Bank, and the governments of different countries. In October 2015, the government approved the Sector Strategy Action Plan 2015–2019, road map, and investment plan for the WSS sector until 2020 by RCM No. 306. The summary of the government’s resolutions is given in Supplementary Appendix A.

9. **Component 2. Water Supply Development.** This component was to improve water supply systems in the city of Termez and seven districts of Surkhandarya province: Angor, Djarkurgan, Kizirik, Kumkurgan, Muzrabad, Sariasiya, and Shurchi. Because of the geographical spread and different sources of water, the establishment of nine water supply systems was proposed to effectively cover Termez city and all seven districts. The systems were to include the rehabilitation and construction of boreholes, transmission and distribution pipelines, water reservoirs, pumping stations with chlorination facilities, metered house connections, and structural improvement of the vodokanal offices.

10. This component was achieved as envisaged. At project completion, the following interventions were completed: (i) rehabilitation of 40 existing boreholes and construction of 14 new boreholes;

⁴ Financed from MDTF-WFPF Grant 0131-UZB Surkhandarya Water Supply and Sanitation Project.

⁵ RCM No. 337, dated 30.11.2012, on measures for development and modernization of WSS system for 2013–2015; and RCM No. 300, dated 6.11.2013, on measures for financial rehabilitation of heating and water supply organizations. The other relevant resolutions include: RCM No. 194, dated 15.7.2014, on approval of rules for delivery of public services; RCM No. 188, dated 11.7.2014, on measures to implement the road map aimed at financial rehabilitation of unprofitable and economically insolvent water supply organizations; RCM No. 190, dated 11.7.2014, on measures to attract technical assistance funds of the donor countries to Uzbekistan in 2014–2016; and RCM No. 19, dated 3.2.2015, on measures to ensure effective implementation of WSS projects in settlements at the expense of the state capital investments.

(ii) rehabilitation of 53.3 kilometers (km) of existing trunk mains and construction of 24.9 km of new trunk mains; (iii) rehabilitation of 20 existing reservoirs and construction of 7 new reservoirs; (iv) rehabilitation of 10 existing water intake stations; (v) rehabilitation of 12 existing pumping stations and construction of 1 new pumping station; (vi) installation of chlorination facilities at all water distribution centers; (vii) rehabilitation of 148.9 km of existing distribution networks and construction of 156.3 km of new distribution networks; (viii) installation of 288.8 km of service networks; (ix) installation of 69,632 house connections (12,452 metered and 57,180 unmetered);⁶ (x) structural improvements in the vodokanal office buildings; and (xi) supply of O&M equipment. A profile of the completed project facilities is given in Supplementary Appendix B.

11. The minor changes in project scope were made to meet actual site conditions during implementation. These included: (i) increasing the length of new water mains; (ii) increasing the number of reservoirs for rehabilitation; (iii) decreasing the number of boreholes for rehabilitation and increasing the number of new boreholes; (iv) decreasing the number of pumping stations for rehabilitation and construction; and (v) procuring additional O&M equipment.

12. **Component 3. Sanitation and Hygiene.** This component was achieved as envisaged. Safe drinking water and ventilated pit latrines and septic tanks were provided in 17 public schools in the 7 districts as envisaged. The schools were selected based on the number of children and the condition of existing toilets. This component improved sanitation practice and positive hygiene behavior among the population in general and among schoolchildren in particular. All schools in the project areas were provided with a piped water supply.

13. The hygiene promotion activities were implemented through the *makhalla* (local self-governing community) and mass-media channels by disseminating hygiene information to the households and local communities. Based on a social baseline survey conducted for 41 schools and 45 households, training materials such as pamphlets, brochures, and posters were developed and distributed among schools and communities. The program developed a network of stakeholders to support the activities, including neighborhood makhalla activists, schoolteachers, and nongovernment organizations such as rural resident communities and women's committees. The improved sanitation and hygiene practices, along with improved water supply services, have been preventing water-borne diseases which ensure maximum health benefits to the population.

14. In 2012 and 2013, 41 trainings and 3 seminars were conducted for 1,145 persons, including 879 women. They included: (i) seven 1-day trainings to disseminate the sanitation and hygiene component of the project to 791 households; (ii) 1-day workshop for medical staff to address health problems related to school sanitation and hygiene; (iii) training of 102 teachers whereby a "health and sanitation club" was formed in the 17 pilot schools to promote awareness and importance of sanitation and hygiene among children; (iv) two 1-day workshops for 51 community leaders; (v) four trainings for 153 consumer representatives and project support groups; and (vi) one seminar for 16 journalists.

15. A provincial resource center was established in Termez to conduct sanitation and hygiene trainings and develop awareness materials. The teacher's tutorial textbook on "practice-based education on basic hygiene and sanitation" was developed for children, parents, and representatives of the makhalla. A network of stakeholders is being established at School No. 3 in Termez. The network will facilitate the circulation and distribution of booklets and brochures, including a teaching aid for schoolteachers. The knowledge product developed under the project has been widely used in the country.⁷ The initiated activities have been continued in the schools of other provinces covered by ADB's WSS multitranche financing facility program demonstrating the sustainability. Project

⁶ In addition, more than 58,000 households were connected with meters within the framework of the loan of the Export and Import Bank of China.

⁷ Includes the manuals, brochure, booklets, posters, methodical aids, program of trainings in local languages.

implementation involved a high level of local stakeholder participation and ownership by the beneficiary communities.

16. **Component 4. Capacity Development for Service Delivery.** This component was achieved as envisaged (footnote 3). It aimed to improve management capacity and efficiency, foster professionalism among the vodokanals, and develop better customer orientation to improve services. The capacity development training program was prepared based on the needs of the vodokanals in close consultation with all stakeholders. Vodokanal staff were given 13 training workshops in O&M of WSS systems, social gender and public awareness, information technologies, and computerization systems, and a 3-day seminar on financial management and tariff policies. Study tours were conducted to expose vodokanal staff and key government officials to national and international best practices in professional WSS delivery. Three national tours were conducted in Fergana, Tashkent, and Khorezm provinces, with the participation of 12 professionals per tour from the district and provincial vodokanals, and three international study tours to South Korea, France, and Spain, with the participation of 10 officials per tour from the Ministry of Finance, the Ministry of Economy, UCSA, and the Surkhandarya provincial government. The participants learned about water supply enterprises and met with private companies working within PPP projects in the countries visited. After each study tour, a workshop was organized to provide feedback to those concerned at the central and provincial levels.

17. A performance benchmarking system with technical, financial, and institutional indicators was established in the subproject vodokanals. The vodokanal representatives were trained in collecting, analyzing, and monitoring performance data. The vodokanals submitted their quarterly performance benchmarking reports to UCSA. The vodokanal offices were provided with furniture and office equipment to computerize their management. A list of vodokanal office equipment and furniture is in Supplementary Appendix C.

18. **Component 5. Project Implementation Assistance.** This component was achieved as envisaged. The project management consultant was engaged in April 2010. The consultant assisted the project management unit (PMU) and project implementation unit (PIU) in: (i) project management and monitoring; (ii) preparation of bidding documents and bid evaluation; (iii) financial management and accounting; (iv) construction supervision; and (v) social, environment, and resettlement management and monitoring. The services of the consultant were terminated on 1 April 2014 as originally contracted due to budgetary constraints, while the civil works for some of the subprojects, including Termez, were yet to be completed. Due to the PMU and PIU staff's effort, neither encountered any serious problems in project implementation.

19. Project financial statements were audited by two external auditing consultants, one for fiscal year (FY) 2009–2011 and the other for FY 2012–2014, and the government's project completion report (PCR) was prepared by an individual consultant engaged by the executing agency in September 2014.

C. Project Costs

20. At project appraisal, the total project cost, including interest charges and contingencies, was estimated at \$40.00 million, comprising \$10.25 million in foreign currency and \$29.75 million in local currency. The ADB loan was envisaged to finance \$30.00 million (75.0%) of the total project cost to cover the foreign exchange cost of \$9.90 million, including \$0.70 million for interest and other charges during construction, and \$20.10 million of the local currency cost of components 2, 3, and 5. The MDTF-WFPF grant was envisaged to finance \$1.5 million (3.7%) of the total project cost to cover the foreign exchange cost of \$0.60 million and \$0.90 million of the local currency cost of components 1 and 4. The government, including district governments, financed the remaining local currency costs of \$8.50 million equivalent (21.3%).

21. At project completion, the civil works contracts amounted to \$20.10 million, compared to \$18.38 million estimated at appraisal. Actual mechanical and equipment expenditures was \$6.81 million,

compared to \$5.25 million estimated at appraisal. The increased cost was due to changes indicated in para 11. Consulting services contracts totaled \$2.58 million, compared to \$2.9 million planned at appraisal. In order to cover the increased costs, loan funds were reallocated between the categories, including the use of loan savings, upon ADB approval on 19 March 2014. Grant funds were also reallocated to purchase two water measuring devices, using savings from the category of consulting services. The actual project cost at completion amounted to \$40.00 million. ADB financed \$29.70 million (75.1%)⁸ through the Asian Development Fund and \$1.50 million (3.8%) from MDTF-WFPF, while the government financed \$8.30 million (21.1%). The project cost estimated at appraisal and the actual costs are shown in the Basic Data and in Appendix 2.

22. In accordance with section 6.01 of the loan agreement, the government issued a resolution approving the project, which included an exemption from local taxes and duties for all goods, works, and services purchased under the project.⁹ The use of grant funds from MDTF-WFPF was a crucial factor in the successful implementation of the sector reforms and capacity development activities.

D. Disbursements

23. Total disbursements of the ADB loan amounted to \$29.66 million, compared with \$30.00 million envisaged at appraisal. The appraisal disbursement schedule was generally realistic. While loan disbursements were not significant in 2009, with the initial disbursement not taking place until the third quarter of the year, they gradually increased in 2010 and were maximal in 2011 and 2012. The disbursement rate decreased in 2013 and 2014 toward the completion of civil work contracts. Total disbursements of the grant amounted to \$1.50 million, as planned at appraisal. Funds were disbursed according to ADB standard payment procedures and there were no significant problems. The provisions for counterpart funds were sufficient and payments were generally made on time.

24. The first disbursement from the loan and grant imprest account, which took place on 12 August 2009, was \$100,000, the same amount as initially transferred into the imprest account. The ceiling amount for the loan imprest account was increased to \$300,000 on 25 November 2009. Use of the imprest account was effective and it guaranteed direct and timely payments to consultants and contactors. The average turnover ratio of the imprest accounts during project implementation was estimated at 1.9. The full impact of the above payment procedures was found to be positive. A breakdown of yearly disbursements is given in Appendix 3.

E. Project Schedule

25. At appraisal, it was envisaged that the project would be implemented over 5 years, from early 2009 to March 2014. ADB approved the loan on 3 November 2008. However, the loan agreement was not signed until 20 April 2009. The major reason for the late loan signing was the delay in completing the feasibility study for all nine subprojects and the government's approval thereof, which was not given until 20 March 2009. The loan became effective on 27 July 2009, 3 months after the loan signing.

26. The advance actions on recruiting consultants for detailed design, project implementation assistance, and sector strategy study were taken in early 2009. However, those consultants were mobilized only in December 2009, April 2010, and August 2010, respectively. Accordingly, detailed designs and land acquisition and resettlement plans (LARPs) for Group 1 (Angor, Kizirik, and Muzrabad) were completed in June 2010; Group 2 (Djarkurgan, Shurchi, Sukhan, and Kumkurgan) in December 2010; and Group 3 (Sariasia and Termez) in January 2011 rather than from late 2009 to mid-2010 as originally scheduled.

⁸ This included \$0.60 million for interest and other charges during construction.

⁹ CMD No.79, dated 20 March 2009, "On implementation of water supply and sanitation project in Surkhandarya Province with participation of ADB."

27. Despite project startup delays, six civil works contracts, including three international competitive bidding (ICB) contracts for the Muzrabad, Djarkhurgan, and Surkhan subprojects, were awarded between May and November 2010 as originally scheduled, while those for Shurchi, Sariasia, and Termez subprojects were awarded in April and December 2011. None of the contractors completed the works within 12 to 18 months as originally envisaged. It was only in June 2014 that the civil works for most of the subprojects were substantially completed, and those for Shurchi and Termez in September 2014. The delays in actual completion ranged from between 7 to 26 months. The completed water supply systems were put into operation after commissioning tests. The contract for the project implementation assistance consultant was completed on 31 March 2014 as originally scheduled, but the contract for the sector strategy consultants was extended for 6 months, until May 2012. The other consultants' contracts, including those for individual consultants, were completed by September 2014 as originally scheduled. The actual implementation schedule compared to appraisal is in Appendix 4.

F. Implementation Arrangements

28. The project implementation arrangements designed during project appraisal were basically adequate to deliver the project outputs. UCSA was the executing agency and had overall responsibility for project coordination, implementation, and liaison with the relevant government agencies and ADB. The existing PMU for the ADB-supported WSS projects¹⁰ was strengthened by hiring four additional staff members, including a project manager who was responsible for procurement of goods, civil works and services, and coordination with the provincial governments. An inter-ministerial project steering committee¹¹ was established under Cabinet Decree No. 79, dated 20 March 2009, and authorized to approve subproject feasibility and appraisal reports, a yearly financing plan, and implementation arrangements. The committee was chaired by the first deputy prime minister and convened meetings four times during project implementation. A bidding committee was established under the first deputy prime minister's Decision No. 05/1-1037, dated 25 May 2009, and was authorized to procure civil works, equipment, and consulting services.

29. At the provincial level, the Surkhandarya provincial government was the implementing agency. A PIU was established in Termez in May 2009 and adequately staffed. The PIU was responsible for day-to-day project implementation management at the local level. Its major responsibilities included: (i) participating in project planning, detailed design, and bid evaluation; (ii) coordinating activities of consultants and contractors; (iii) overseeing construction activities; (iv) coordinating resettlements; (v) monitoring social, gender, and environmental impacts of project activities; (vi) supervising local capacity-building activities; and (vii) preparing and consolidating subproject accounting, auditing, and monitoring reports for submission to the PMU.

30. At the community level, a consumer representative and project support group was established for each of the nine subprojects, consisting of five persons representing local women's committees, the department of education, sanitation epidemiological surveillance services, local communities, the department of district healthcare, and schools. They assisted the PIU in (i) disseminating project benefits; (ii) implementing the project; (iii) conducting social surveys; and (iv) campaigning the need for increased awareness about water use, sanitation, and hygiene. The organizational structure for project implementation is in Appendix 5.

¹⁰ Loan No. 1842-UZB: *Urban Water Supply Project*, dated 29 April 2002; and Loan No. 2208 Kashkadarya and Navoi Rural Water Supply and Sanitation Sector Project, dated 9 February 2007.

¹¹ The committee comprised 15 ministries and offices, including the Ministry of Economy; the Ministry of Finance; the Ministry of Foreign Economic Relations, Investments, and Trade; the Ministry of Justice; the Customs Office; the Surkhandarya provincial government; UCSA; and other agencies.

G. Conditions and Covenants

31. In general, all covenants were relevant and applicable until project completion. The status of compliance with loan covenants is in Appendix 6. Both the central- and provincial government-financed counterpart funds were made available in a timely manner. The PMU submitted to ADB quarterly progress reports, audited financial statements, and other required documentation. Covenants that were partly complied with or complied with only after delays were the following:

(i) **Sector Strategy, Road Map, and Investment Plan (Loan Agreement, Schedule 5, para. 6).** The government had not approved the sector strategy for 2020 by 31 December 2011. The government has taken a phased approach in implementing sector reforms. Following ADB's approval of the strategy in March 2012, the government issued RCM No. 337, dated 30 November 2012, which outlined the midterm action plan for development and modernization of WSS systems for 2013–2015. A number of other government decisions were issued to implement various actions and programs based on the resolution.¹² As per Cabinet Order No. 05/38-17, dated 17.03.2014, RCM No. 306 was issued on 30 October 2015 to provide the long-term action plan for 2015–2019.

(ii) **Collection Efficiency and Water Tariffs (Loan Agreement, Schedule 5, para. 7).** As of September 2014, the average tariff collection rate in 8 subproject vodokanals was recorded at 80%. Water tariffs have been adjusted twice annually since 2009. Tariffs for non-metered consumers were increased by 1.5 times on 1 December 2013. Based on 2014 financial statements, however, some vodokanals did not fully recover O&M costs as required. With increased tariffs and energy-efficient pumps and equipment installed under the project, the financial standing of each vodokanal has improved. In 2015–2016, all vodokanals except Muzrabad reflected operating ratios below 0.76. After 2018, all vodokanals, except Muzrabad, will see cost recovery of O&M and depreciation expenses. The creation of the State Unitary Enterprise “Suvokova” in Surkhandarya province (provincial vodokanal) will contribute to the recovery of O&M and capital replacement costs by 2020.

(iii) **Hygiene Promotion Activities (Loan Agreement, Schedule 5, para. 16).** A hygiene promotion consultant was engaged in August 2011, 2 years behind schedule. The implementation of hygiene promotion activities in all 17 schools was therefore delayed. However, the activities were implemented successfully.

(iv) **Project Performance Monitoring System (Loan Agreement, Schedule 5, para. 17).** A project performance monitoring system (PPMS) had still not been established 6 months after the effective date of 29 January 2011. It was finally established in June 2011 and the first PPMS report was submitted to ADB in September 2011. The benchmarking report for 2014–2015 was submitted to ADB in May 2015.

H. Consultant Recruitment and Procurement

32. At appraisal, four packages of consulting services for a detailed design, project implementation assistance, developing a hygiene program, and construction supervision were envisaged under the loan, and four packages for strengthening sector strategy development, capacity development, and study tours under the grant. During project implementation, two packages of international consulting assignments were completed for: (i) project implementation assistance services, and (ii) strengthening sector strategy and management. Six packages of national consulting assignments for also completed for: (i) detailed design; (ii) hygiene promotion program; (iii) training programs on WSS management, public awareness, and the ICT system; (iv) study tours; and (vi) a training program on financial management, tariff policies, and PPP. In addition, six national assignments using individual consultants were completed for: (i) coordination of sector strategy study; (ii) preparation of capacity development

¹² These included the following decrees by the president of the Republic of Uzbekistan: No. PD-2069, dated 18.11.13; No. PD-2020, dated 6.08.13; and CMD No. 266, dated 30.09.13. As per the president's order No. 9480, dated 21.11.13, the investment projects in the WSS sector were proposed for ADB's country partnership strategy for 2012–2016.

training program; (iii) construction supervision (11 individuals in total); (vi) development of a performance monitoring and benchmarking system; (v) LARP verification; and (vi) preparation of the government's PCR. Overall, no substantial changes in the scope of consulting services were made although the capacity development component was split into more packages than originally envisaged. All the consultants were engaged according to the procurement plan as approved by ADB.

33. To implement the civil works, nine contractors were engaged between May 2010 and December 2011. Five of these contracts, for the Muzrabad, Jarkurgan, Surkhan, Sariasia, and Termez subprojects, were procured through ICB procedures, and the other four, for the Kizirik, Angor, Kumkurgan and Shurchi subprojects, were procured through national competitive bidding procedures in accordance with the procurement plan. Post-qualification was used to select the civil works contractors, upon ADB's approval of a minor change in the procurement method. All contracts were procured according to ADB's single-stage, one-envelope procedure and ADB's standard contract for small works was used.

34. O&M equipment and furniture for vodokanals were procured through 21 contracts, compared to 4 packages as originally envisaged. ICB procedures were used to procure backhoe-loaders and truck cranes whereas shopping procedures were used to procure minor equipment such as dump trucks, water tank trucks, mobile diesel compressors, service vans, office equipment, and furniture. The summary of contract awards for consulting services, civil works, and equipment is shown in Appendix 7.

I. Performance of Consultants, Contractors, and Suppliers

35. Overall, the performance of the project consultants and contractors was generally *satisfactory*. A project implementation consultant assisted the PMU and the PIU in project management and monitoring, procurement, financial management and accounting, construction supervision, and social safeguard monitoring and reporting. They prepared the necessary reports satisfactorily although there were some delays in submission of quarterly progress reports. The consultant for detailed design was engaged in November 2009 and completed seven of nine subprojects by August 2010. Due to some shortcomings of the feasibility study and local technical data, the detailed design of the remaining two subprojects was completed 5 months behind schedule. The sector strategy and management consultant was engaged in July 2010 and developed a new WSS sector strategy, including a road map and an investment program, in consultation with all stakeholders. The sector strategy was completed in February 2012 and approved by ADB in March 2012. The consultant for hygiene promotion program was engaged in August 2011 and carried out the related activities over 3 years, including all surveys, satisfactorily.

36. The performance of the individual consultants for the capacity development training and study tours, monitoring and benchmarking, audit, and PCR was generally satisfactory although there were some delays in preparing and submitting annual audit reports. As stated in para. 16, above, they conducted all the programs, including study tours, in a satisfactory manner. Altogether, 12 individual consultants were engaged to supervise the construction works of the subprojects. The delay in the completion of civil works in most of the subprojects was partly attributed to the limited capacity of the national construction supervision consultants. The engagement of many individual construction supervision consultants made it difficult for the team leader to provide each of them with adequate guidance.

37. Civil works were originally targeted to start in quarter (Q) 3 2010 and finish in Q2 2012. Construction works were significantly delayed. Almost all of the contractors failed to complete the works within the extended contract period or about 6 months behind the extended completion dates. All the contractors were fined liquidated damages for delays, according to the contract conditions. Major reasons for delayed completion of the works are: (i) contractors' poor management of works and cash-flow problems; (ii) nationwide interruptions of fuel and lubricant supply; (iii) the need for design

modifications due to inaccuracy or ambiguity in the contract documents or diversified hydrogeological field conditions; (iv) limited information on underground utilities; (v) unfavorable weather conditions; and (vi) lengthy procedures required by the authorities for customs clearance, tax audits, etc.

38. Out of 21 supply contracts, 18 contracts were awarded in 2009–2010 as per schedule, and the remaining 3 contracts (small O&M vehicle, water measuring device, and service vans) in 2011–2012. The delivery of imported goods was delayed about 6 months from the original schedule due to: (i) rebidding, as no responsive bid was initially received; and (ii) time spent to register and accept equipment by government authorities. All the equipment were delivered in May 2011 or within the extended contract period. The quality of goods delivered was *satisfactory* as they met the required quality standards and specifications.

39. The limited capacity of the national consultants and contractors and the lack of coordination between project stakeholders at the initial stage of the project implementation were the main reasons for the delays in the construction works. At a later stage of project implementation the executing agency, in coordination with ADB, developed and implemented effective project stakeholder coordination mechanisms that facilitated the implementation process and led to timely project completion.

J. Performance of the Borrower and the Executing Agency

40. The performance of the borrower, UCSA, as executing agency, and the PMU was in general *satisfactory*. The PMU maintained adequate coordination among ADB, contractors, and consultants. Reporting requirements were basically met. With assistance and guidance from the ADB project team, UCSA and the participating vodokanals obtained valuable experience and knowledge throughout project implementation.

41. The government has been taking a phased approach to implementing the sector reforms at the national and vodokanal levels, enacting a number of legislative documents.¹³ The government updated and approved the WSS program, which addresses institutional, financial, and operational issues at the provincial level, in 2015. The investment program that reflects the sector road map has been supported by development partners such as ADB, the World Bank, the Islamic Development Bank, and the other donor countries. The progress of institutional reform is slow at the vodokanal level, compared with that at the central government level. In order to ensure the financial sustainability of service delivery, it is imperative that the reforms at the vodokanal level be accelerated.

42. A high turnover of PMU and PIU staff, mainly because of the low salary, had a negative impact on the timely implementation of the project. The PMU project manager and PIU head changed three times. In order to remedy the situation, the salaries of PMU and PIU employees were increased, as stated in paragraph 21, while the number of PMU staff positions was decreased from 12 to 6 toward the completion of the project.

K. Performance of the Asian Development Bank

43. ADB's performance is considered *satisfactory*. ADB worked closely with UCSA, the PMU, and the PIU, and gave them timely assistance to solve various problems, including those related to procurement and payment issues. During project implementation from January 2007 to October 2014, ADB fielded seven review missions, in addition to the inception and midterm review missions. In 2014, ADB fielded two review missions to ensure that the project was completed by the end of September 2014, as scheduled. ADB review missions frequently visited the subproject sites and met with local government officials, consultants, and contractors. The missions also interacted with project beneficiaries and explained the likely positive and negative impacts that would affect them during

¹³ These included RCM Nos. 266, 300, 337, and 306.

project implementation and upon completion of the project. The missions responded to UCSA's requests regarding loan and grant reallocations in a timely manner. The review missions were effective and instrumental in addressing various issues to achieve the timely completion of the project. ADB's resident mission in Uzbekistan monitored project implementation and provided the PMU with valuable and timely advice and instructions.

III. EVALUATION OF PERFORMANCE

A. Relevance

44. The project is rated *highly relevant*. It was consistent with Uzbekistan's and ADB's strategies at project formulation and at completion. The project supported Uzbekistan's Welfare Improvement Strategy for 2013–2015 (WIS II), which aims to improve and sustain the welfare of the population on the basis of further development and support of the social sector and a significant increase in the quality of public services. As stated in paragraphs 8 and 9 above, the government is fully committed to the development and modernization of water and wastewater services throughout the county as set forth in the WSS sector strategy. It has issued a series of resolutions to phase in the strategy directions.¹⁴ The project also supported ADB's County Partnership Strategy: Uzbekistan 2012–2016, which is aligned with WIS II and guides Uzbekistan's efforts toward industrial modernization and infrastructure development, focusing on inclusive growth by narrowing rural-urban gaps. Overall, the project's design was considered appropriate as it covered the entire network of water supply facilities through boreholes, transmission mains, and distribution networks, including metered house connections.

B. Effectiveness in Achieving Outcome

45. The project is rated *effective* in achieving the outcome envisaged at appraisal. The main objective of providing a safe, reliable, and sustainable water supply and sanitation services in the targeted urban and rural centers of Surkhandarya Province was basically achieved as envisaged. The water supply facilities completed under the project supply safe, reliable water to more than 340,000 people around the clock in the eight subproject districts and the city of Termez in Surkhandarya Province. The limited water supply of less than 20 hours a day in some of the subproject districts is due to power outages or limited power allocation. The situation will improve as the electricity supply is being improved under the government power sector development plan for 2011–2015. The estimated unaccounted for water in all the vodokanals is less than 40% as originally targeted. Water quality is in compliance with national drinking water standards. The institutional capacity of the related agencies, including vodokanals and communities, was strengthened to ensure effective O&M of the water supply systems. The social and gender impediments to accessing WSS services were addressed and public awareness and practice of good hygiene were enhanced for schoolchildren and communities. The project made a good contribution to achieving results in ADB corporate results framework (Appendix 8).

C. Efficiency in Achieving Outcome and Outputs

46. The project is *efficient* in financial and economic terms. The financial internal rates of return (FIRR) of the subprojects were reevaluated using discounted cash flow analysis. The cost streams include capital investment and O&M costs. Revenues are generated mainly from water sales. The FIRRs at project completion range between 5.4% and 6.3%, averaging 5.6%. The average FIRR at project completion is slightly higher than that at appraisal of 5.5%. As actual subproject operating costs are higher partly due to cost inflation, while actual demand is lower than projected, corresponding tariff adjustments become necessary to ensure sustainable operations. Nonetheless, FIRR for each

¹⁴ See Supplementary Appendix A: Government WSS Strategy Directions.

subproject exceeds the reevaluated weighted average cost of capital estimated at 4.30%, thus reaffirming financial viability.

47. As of December 2015, full cost recovery has been achieved for all subprojects except in Muzrabad. Operating ratios range between 0.29 (Termez) and 0.73 (Djarkurgan), while debt coverage ratios are higher than the minimum acceptable at 1.5 (except in Muzrabad in the initial years). The vodokanals have been applying the new per-capita tariff for non-metered consumers since December 2013. With the tariff, all vodokanals (except Muzrabad) have been able to attain positive net cash flows since 2015. The financial and affordability analyses showed that all beneficiaries, including poor households, could afford the tariff increases.

48. The economic internal rate of return (EIRR) was likewise reevaluated for each subproject. Costs were adjusted to reflect the shadow rates of traded goods. Project benefits were based on willingness-to-pay tariffs for reticulated water supply, expected values of safe drinking water, time, labor, treatment, a cleaner environment, and storage cost savings. The estimated EIRRs for the subprojects at completion range between 20.0% and 28.7%, averaging 23.5%. The recalculated overall EIRR is lower than the 32.1% estimated at appraisal. Appraisal EIRRs range between 24.4% and 39.7%. The reevaluated EIRRs are lower mainly due to the higher overall project cost and the longer implementation period. Nonetheless, the recalculated EIRRs for all subprojects exceed the threshold economic opportunity cost of capital of 12%, rendering the project economically viable. Financial and economic analyses are given in Appendix 9.

D. Preliminary Assessment of Sustainability

49. The project is rated *likely sustainable*. All the subproject facilities are functioning and operating as designed, supplying quality water to the targeted consumers. The capacity of the water supply facilities will be sufficient to meet the increasing demand for the next 5–10 years. However, water supply is not round-the-clock because of frequent power outages. This situation will improve through government investment programs in the power supply to be supported by various donors, including ADB.¹⁵ The institutional capacity of the vodokanals improved through systematic training of management and technical personnel, although their capacity on O&M needs further strengthening. The institutional reform to provide UCSA with a greater role and responsibility and to establish the State Unitary Enterprise “Suvokova” (provincial vodokanal) in Surkhandarya will ensure the sustainability of water supply services within the province.

50. The project is rated *financially sustainable*, provided the government supports the upward tariff adjustments as planned. In 2014–2015, tariffs were increased at an average of 26%. The typical monthly bill was between \$1.41 and \$1.82 per household, which is equivalent to 0.4% and 0.6% of the average household income and well within the level of willingness-to-pay and affordability.¹⁶ The tariff needs to be further adjusted based on actual O&M costs. The improved quality of the water supply through a system of pipes will increase the level of willingness-to-pay. According to the benchmarking report for 2014–2015, all the vodokanals achieved O&M cost recovery with an operating cost coverage ratio of 1.13–1.42. In order to cover full O&M and depreciation costs, tariffs need to be increased by between 20% (lowest in Termez) and 60% (highest in Kumkurgan) by 2020, and by between 30% (lowest in Khojaipak) and 60% (highest in Kumkurgan) by 2025. These are based on biennial increases, deemed more acceptable to consumers.

E. Impact

51. The project’s impact will likely be achieved. The rehabilitated water supply facilities and improved latrines, with handwashing facilities, in the selected schools are contributing to improved

¹⁵ See Supplementary Appendix D: ADB Power Sector Report (Summary).

¹⁶ As a generally accepted standard, affordability is at 4–5% of average household income.

living standards, environment, and public health in the subproject districts and the city of Termez. Nearly 90% of the population in the project areas in Surkhandarya Province now has a safe and reliable water supply, although continuous supply varies from 15 to 22 hours a day depending on the district and the season. The health benefits from the provision of safe water supply are maximized as people become more knowledgeable and better aware of health and hygiene issues. According to a survey conducted for 42 schools, waterborne infections in 2014 decreased by about 70% per 100,000 children under 14 years after the project. The vodokanals estimated that, after project completion, waterborne diseases in the subproject districts and Termez were likely to drop to 15,000 persons per year, compared with 40,000 persons per year before the project. Annual medical costs have decreased from \$15 per person before the project to \$5.90 per person after the project.

52. **Social and Poverty Issues.** All the project interventions had a positive impact on the poor directly or indirectly. A poverty and social analysis was undertaken to assess the demand, affordability, gender, community participation, and other issues of the targeted population. The project provided equitable access to a safe and reliable water supply to urban and rural communities and vulnerable groups. The rehabilitated and newly constructed infrastructure saves on cost and time for purchasing water.¹⁷ These savings are significant, amounting to about 30% of family monthly incomes in rural areas. The poor comprised 32% of the 340,000 project beneficiaries. The beneficiaries comprised 3,079 low-income families, including 47% of households headed by women. They benefit through reduced drudgery, improved health, and reduced expenditure on health care.

53. **Gender Issues.** Existing gender issues in the water supply sector were incorporated into the project design within the poverty and social analysis undertaken for all the subprojects. The project was categorized with a gender equity theme.¹⁸ A project-specific gender action plan was prepared to promote the equal participation of female and male stakeholders in project-related activities. The component to strengthen the sector strategy and management achieved the following gender-related results: 68% of 153 consumers and project support group representatives were women, more than 50% of the participants in public meetings were women, and 40% of the suggestions on the project were made by women. Gender-specific actions relating to sanitation and hygiene promotion developed a network of stakeholders to support the activities, including neighborhood makhalla activists, schoolteachers, rural communities, and women's committees. The capacity development component involved the participation of women: 30% of the persons trained on water supply management, 12% of the participants in the study tours, and 30% of the participants in community-level training activities were women. About 25% of the core positions at the vodokanal are held by women. Women are also hired to the position of customer care unit in each vodokanal to receive and address women's complaints. The comparison of the actual achievement against gender action plan targets shows that more than 75% of activities and gender-related targets were achieved and preliminary assessment of gender benefits could be rated successful. The project benefited about 340,000 people, of whom almost 50% were women. A summary of social, poverty, and gender issues is in Appendix 10.

54. **Environmental Issues.** An initial environmental examination was conducted in accordance with ADB's Environmental Policy (2002) and Environmental Assessment Guidelines (2003). The project was classified as environmental category B as no significant adverse environmental impact was envisaged. According to the government rules and regulations, the project was classified in the "low-risk environmental impact" category. The national legislation environment protection measures were incorporated into the project design and bidding documents.

55. An environmental management and monitoring plan (EMMP) was developed. Environmental mitigation and monitoring procedures were followed to avoid negative construction impacts. The

¹⁷ Upon the completion of the subproject, an average monthly expense for water is 2,000–3,000 sum for a metered household, compared to 30,000–50,000 sum before the project.

¹⁸ The project was approved before the introduction of ADB's gender classification system, however, it was categorized with the GEN theme as all gender requirements were met during the project's implementation.

activities included cleanup of construction sites, proper disposal of spoils, grading and revegetation of damaged lands, and protection of the public from excessive noise and dust during construction. An environmental monitoring group (EMG) was established in October 2013, after delays. The EMG was mandated to conduct regular monitoring, submit quarterly monitoring reports, participate in handover activities at commissioning, and carry out post-construction monitoring. The progress of the EMMP implementation was not reported to ADB semiannually during project implementation. Instead, it was described in the quarterly progress reports. The PMU submitted an environmental monitoring report covering the period from July 2010 to March 2014 to ADB in September 2014 for disclosure on its website. The EMG carried out post-construction environmental monitoring, and submitted its report to ADB in July 2015. This report covers the entire Surkhandarya Province and was disclosed on the ADB, UCSA, and Surkhandarya provincial websites. A summary of environment issues with action plan is in Appendix 11.

56. All the works were performed in accordance with provisions of the EMMP. Environmental concerns during construction were addressed through such measures as: (i) protection of water sources; (ii) proper collection and disposal of construction waste; (iii) provision of appropriate safe work conditions; (iv) improved sanitation and hygiene conditions; and (v) increased awareness of local authorities, people, and contractors about the importance of protecting the environment. Engaging local authorities and nongovernment organizations in environmental monitoring and hygiene awareness program helped address public concerns, including about minor dust and noise pollution. Scrapped metals were properly stored and sent to a designated processing company for recycling and old transformers were collected by a specialized electricity company to be disposed of in accordance with procedures for oil-containing power equipment. The ventilated pit latrines with septic tanks and provision of safe drinking water provide improved sanitary and hygienic conditions in 17 public schools, thereby preventing soil, ground, and surface water pollution from wastewater and protecting children from viral diseases.

57. **Land Acquisition and Resettlement Issues.** The project was prepared according to ADB's Involuntary Resettlement Policy (1995). It was categorized as B for involuntary resettlement. There was no impact on residences or structures throughout project implementation. Only a temporary impact on land was envisaged for implementation of the Surkhan subproject. A LARP for the Surkhan subproject was prepared, approved by local authorities and ADB, and disclosed on ADB's website on September 2010. During implementation of the Surkhan subproject, seven farms, with 2.6 hectares, and 12 family households, with 0.04 hectares, comprising 169 persons, lost their usual access to their lands for 3–4 weeks when pipes were laid out. The impact on farmland was minimal as the pipes were laid out between crop cycles. All the affected households and farming enterprises were paid due compensation on 10 April 2012. Vulnerable people, such as households headed by women, old people, disabled persons, or families with a disabled family member were compensated with three times the entitled compensation amount in accordance with the LARP's entitlement matrix. Independent monitoring was carried out and a LARP implementation report was prepared and disclosed on ADB's website in March 2014. A resettlement verification report was prepared and disclosed on ADB's website in September 2014. A summary of land acquisition and resettlement issues is in Appendix 12.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

58. Overall, the project is rated *successful*. The project achieved its outputs and outcome as envisaged at appraisal. A safe and reliable water supply will be available to the targeted population 24 hours a day by 2020, provided that an uninterrupted electricity supply becomes available. The completed project facilities are likely sustainable as the capacity of the vodokanals has been strengthened. Government institutional reforms and an effective financial management including tariff

and billing system for cost recovery have been pursued. The environmental impact was positive. Resettlement and the acquisition of land were only temporary, according to ADB's policy. The social impact was positive. The EIRRs and FIRRs are satisfactory, taking into account such factors as time savings and the economic benefits of improved water delivery, improved health, and increased revenue.

B. Lessons

59. Based on the assessment of the project, the following lessons were learned:

- (i) The project should take fully into account the condition of the power supply, which is critical for water supply services in the country. The availability of water supply relies exclusively on an uninterrupted power supply.
- (ii) Initial implementation delays were mainly attributed to delays in: (i) government approval of subproject feasibility studies, and (ii) the engagement of consultants, suppliers, and contractors. These delays could be minimized if government approval procedures involving various ministries are streamlined and approval authority, at least for smaller contracts, is further delegated to the executing agency.
- (iii) The project should not engage individual national consultants for construction supervision if there are many project sites due to limited capacity, as discussed in para. 36, unless mitigation measure are adopted. Significant inflation affected contracts. However, the contract amount was not adjusted due to the absence of price adjustment provisions in the contract documents, even in cases where the contract period was extended beyond 18 months. Price adjustments should be considered for contracts of less than 18 months when high inflation is likely to occur.
- (iv) The salaries of PMU and PIU staff should be comparable with prevailing market rates to prevent high turnover.
- (v) The capacity of national civil work contractors in technology and workmanship needs to be developed to ensure that the quality of civil works is on par with international standards. An EMG should be established in a timely manner with realistic mandates for monitoring environmental impact throughout project implementation, so that it can fulfill its responsibilities, including information sharing and coordination with the local authorities.

C. Recommendations

1. Project Related

60. **Future monitoring.** The following actions are required:

- (i) UCSA and local governments should review all the vodokanals to make sure that the completed water supply systems are in commercial operation, delivering safe and reliable chlorinated water to consumers.
- (ii) The ratio of metered connections is about 70% on average. Vodokanals should continue their effort to install water meters at all connections by 2018, so that water bills are charged based on consumption.
- (iii) The government and UCSA should regularly review and adjust tariffs to ensure financial sustainability based on affordability. The government should also review collection efficiency by involving makhalla committees and authorize them to take legal action against non-payers. The collection rate is currently estimated at 80%, and should reach 90% by 2025, and 100% by 2030 or earlier.
- (iv) The water supply is not available 24 hours a day because of power shortages. The power supply should be ensured for public utilities such as water supply facilities. As the government has instituted measures to improve the energy situation in the region, power and fuel costs should be monitored and corresponding action should be taken to ensure revenue generation keeps pace.

- (v) Financial management best practices, particularly in reporting of subaccounts for revenues and operating costs by district as cost centers, should be pursued to ensure that provincial vodokanals are aware of their strong and weak areas.
- (vi) The school management should ensure that toilets are kept clean and hygienic and that tap water is always available from faucets.

61. **Covenants.** (i) The Sector Strategy Action Plan 2015–2019 was approved by RCM No. 306 on 30 October 2015. The government should adopt the recommendations in the action plan in a timely manner, and water tariff and collection efficiency should be reviewed regularly. Tariffs should be adjusted according to the tariff plan so that full costs can be recovered by 2020 as envisaged. Collection efficiency, currently at 80%, should reach 90% by 2025, and 100% by 2030. Full cost recovery of O&M and depreciation expenses should be targeted, as planned, for 2018. The financial covenants on UCSA should be included in the legal agreements to monitor UCSA's performance, given its responsibility to repay the loan.

62. **Further action or follow-up.** (i) The government's continued initiatives for implementation of the institutional reforms and investment programs proposed under the sector strategy, road map, and investment plan through the issuance of relevant resolutions according to the schedule; (ii) continued rehabilitation of water supply facilities, in particular, of pipelines that are old and heavily deteriorated; and (iii) installation of water meters at all household connections and collection of water tariffs based on meter readings.

63. **Additional assistance.** Institutional reforms of the WSS sector have been progressing at the central level, but not much at the local level. In order to ensure the financial sustainability of the vodokanals, it is imperative that reforms are implemented at the district level, particularly in the key areas of financial integrity and sustainability, and performance-based systems.

2. General

64. General recommendations are as follows:

- (i) At project preparation and appraisal, project cost estimates should be carefully prepared, taking fully into account prevailing market prices, likely inflation, and implementation schedule, and a sufficient amount of price contingency should be built into the estimates.
- (ii) At project preparation and appraisal, a financial analysis should be conducted of UCSA to assess its financial sustainability and define appropriate covenants in the legal agreements.
- (iii) The project's implementation capacity, including staffing, should be also carefully assessed. Frequent changes of PMU and PIU staff not only cause a loss of momentum in implementation, but also affect the quality of work. The executing agency should ensure that qualified staff are retained from the beginning to the end of project implementation.
- (iv) The project should be appraised after the feasibility study is prepared through project preparatory technical assistance and fully approved by the borrower. The discrepancies between the feasibility study report and the report and recommendation of the President were a main cause of delays in project implementation.
- (v) The lengthy processing time for approval of contracts, registration, and the like, according to Uzbek rules and regulations, should be fully taken into account in preparing the project implementation schedule.
- (vi) As district vodokanals now form part of the provincial vodokanal, financial management best practices dictate adoption of separate reporting of financial accounts by district as cost centers. Where possible, social rates should be applied for areas with very low affordability.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
Impact Improved living standards, environment, and public health in urban centers of Surkhandarya	<p>90% of the population is provided with safe and reliable water supply at least 20 hours a day by 2020</p> <p>Waterborne infections per 100,000 children under 14 years in Surkhandarya decrease by 40% by 2020</p>	<p>Achieved. 90% of the population served with safe and reliable water over 20 hours a day is achievable by 2020, provided that an uninterrupted electricity supply is ensured. After project completion, vodokanals gained the capacity to provide safe and reliable 24/7 water supply in the subproject areas. As of March 2015, the continuity of water supply per day in subprojects varied from 15 to 22 hours compared to 2–6 hours before the project</p> <p>Achieved. As of March 2015, waterborne infections per 100,000 children under 14 years in project areas decreased by 70%, on average</p>	<p>24-hour-a-day water supply depends on an uninterrupted electricity supply to the vodokanals. Renovation of the region's power supply infrastructure should be facilitated</p> <p>Tap water is made available in the schools. Communities are involved for joint activities with schools for improving sanitation practices and positive hygiene behavior of children</p>
Outcome Safe, reliable, and sustainable water supply and sanitation services and improved community hygiene in participating urban centers of Surkhandarya	<p>Safe and reliable water is provided to 340,000 people by 2014, and to 367,000 by 2020</p>	<p>Achieved. As a result of implementation of the project, the vodokanals have the capacity to provide safe and reliable water to 340,000 people in Kizirik (12K), Angor (12.3K), Muzrabad (50.4K), Kumkurgan (16.5K), Surkhan (28.2K), Jarkurgan (27.2K), Shurchi (23.5K), Sariasia districts (31.5K), and the city of Termez (138.3K)</p>	<p>The vodokanals need to continue the expansion of areas served with installation of metered house connections to potential consumers.</p>

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
	<p>Water supply is available at least 20 hrs a day by 2014, and 24 hrs a day by 2020</p> <p>UFW is reduced to less than 40% by 2014</p> <p>Water quality complies with national drinking water standards from 2014 onward</p> <p>Customer complaints are recorded and responded to promptly from 2014 onward; the number of complaints is reduced over time; each customer care unit has a gender focal point to receive and address women's complaints</p>	<p>Achieved. The newly constructed water supply system has the capacity to provide a 24-hour uninterrupted supply of water. As of March 2015, the continuity of water supply per day varied from 15 to 22 hours, compared to 2–6 hours before the project. By 2020, all urban centers of Surkhandarya will get water 24 hrs a day.</p> <p>Achieved. According to the 2014–2015 benchmarking report, NRW in March 2015 was less than 40%, particularly in Kizirik (20%), Angor (19%), Muzrabad (15.6%), Kumkurgan (19.2%), Surkhan (21.4%), Jarkurgan (20%), Shurchi (18.6%), Sariasia (20.7%), and Termez (19.7%)</p> <p>Achieved. Water quality is tested at the laboratory of the provincial vodokanal on a weekly basis, and the tested water complies with national drinking water standards in all the vodokanals</p> <p>Achieved. A customer complaints recording and responding system has been established in Kizirik, Angor, Muzrabad, Kumkurgan, Surkhan, Jarkurgan Sariasia districts, and Termez. The customer complaints during the past year 2014–2015 ranged from 11 to 30/1,000 connections</p>	<p>Uninterrupted power supply is essential to ensure a 24-hour-a-day water supply. Timely completion of the reconstruction of the Hodjaipak trunk main is essential to supply sufficient water to Angor and Kizirik</p> <p>UFW is not measurable because of a lack of bulk water meters in pipelines. Installation of water meters is needed for efficient O&M and tariff collection. Replacement of old pipelines and installation of water meters at house connections are also needed</p> <p>To ensure safe drinking water, some parameters including residual chlorine in consumer taps, should be tested on a daily basis. A testing laboratory should be installed at the district level</p> <p>The capacity and motivation of vodokanal staff to manage, operate, and maintain the new system should be further developed</p>

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
	<p>Vodokanals cover O&M costs from 2010 onward, and O&M and depreciation costs from 2014 onward</p> <p>Collection rate of water supply and sanitation charges increases to 90% by 2014</p> <p>80% of schoolchildren wash their hands with soap by 2014</p>	<p>Partly Achieved. According to the 2014–2015 benchmarking report, the operating cost coverage ratio, excluding depreciation, ranges between 1.13 and 1.42. Tariffs are regularly adjusted twice a year. Starting 1 December 2013, the vodokanals increased the per capita-tariff by 1.5 times for non-metered consumers, according to the Resolution of the Cabinet of Ministers No. 300 of 2013.</p> <p>Achieved. The collection rates increased in Kizirik (85%), Angor (85%), Muzrabad (90%), Kumkurgan (91%), Surkhan (88%), Jarkurgan (92%), Shurchi (94%), Sariasia (90%), and Termez (92%). The average collection rate is 90%</p> <p>Achieved. Under the hygiene promotion program, all schoolchildren in all 9 subprojects were taught to wash their hands with soap. Approximately 20,000 booklets and posters on hygiene practices were distributed. Teaching aids for schoolteachers, such as the 175-page “practice-based learning the basics of hygiene, sanitation and healthy lifestyle” were developed. One thousand pieces (700 in Uzbek and 300 in Russian) were developed and distributed.</p>	<p>The government and UCSA should regularly review and adjust tariffs to achieve full O&M cost recovery, based on affordability. The government must cultivate public understanding to ensure that people will support tariff adjustments</p> <p>Vodokanals need to start a campaign to identify illegal consumers, install meters, and charge them. They should also associate with makhalla committees in tariff collection, which will improve collection efficiency</p> <p>The mechanism for awareness program implementation should be improved by using local mass media such as TV programs, radio, newspapers, leaflets, and visual methods to reach more project beneficiaries of all social strata and increase publicity</p>
<p>Outputs</p> <p>1.1 WSS sector strategy, including PPP framework</p>	<p>A sector strategy with a long-term and coherent vision and a holistic approach to sector development and PPP</p>	<p>Achieved. A WSS sector strategy was prepared in March 2012. The government has been taking a phased approach in implementing sector reforms.</p>	<p>The recommendations given in the Sector Strategy Action Plan 2015–2019, road</p>

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
	promotion is prepared and approved by December 2011	It has enacted a number of legislative documents, focusing on: (i) reforming institutional structures and regulatory environments; (ii) strengthening the management and operation of the WSS utilities, including benchmarking; (iii) improving financial management and tariff structure; (iv) establishing ICT system and metering; and (v) rehabilitating and expanding the infrastructure. The Sector Strategy Action Plan 2015–2019, road map, and investment plan for the WSS sector in Uzbekistan until 2020 was approved by RCM No. 306, dated 30 Oct. 2015.	map, and investment plan should be consecutively adopted by the government in a timely manner to ensure that all the measures for the development and modernization of WSS systems planned till 2020 under RCM Nos. 337, 306, and the other relevant resolutions are materialized as scheduled
	A profile of private operators in the sector is prepared by December 2011	Achieved. Only three private operators were observed in the country. Their experience and capacity were reviewed and analyzed. Private sector participation in the WSS sector will be introduced in a phased manner (Phase 1 – Transition, and Phase 2 – Mainstreaming) to ensure that an enabling environment is created and a sustainable PPP market established in the long run. At present, UCSA is adopting Phase 1	The management function of 2–3 pilot projects should be transferred to professional management companies on the basis of service contracts, as approved within the framework of the implementation of activities under RCM No. 337
1.2 WSS development road map and investment plan for 2020	Road map is prepared and adopted by the government by December 2012	Achieved. The road map was prepared in March 2012. The actions proposed in the road map are being adopted step by step. As a first step, RCM No. 337, dated 30.11.12, was issued for comprehensive development and modernization of WSS systems for 2013–2015. In addition, RCMs Nos. 300, 188, 194, and 197 were issued to materialize various strategy directions. The government approved RCM No. 306 on 30 Oct. 2015 to	RCM No. 306 for a period until 2020 was approved. The recommendations adopted should be implemented in a timely manner so that the strategic directions targeted under the road map and investment plan can be achieved within the time frame of the strategy

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
		enact the strategic directions until 2020.	
2.1 Rehabilitated water supply infrastructure in urban centers of seven districts and Termez	<p>19 reservoirs, 47 boreholes, 44 pumping stations, 53 km of trunk mains, and 148 km of distribution networks are rehabilitated</p> <p>8 reservoirs, 11 boreholes, 4 pumping stations, 24.4 km of trunk mains, and 108 km of distribution networks are constructed</p> <p>Water meters are installed in 70,000 households, connecting them to the water supply system</p>	<p>Achieved. 20 reservoirs, 40 boreholes, 12 pump stations, 53.3 km of trunk mains, and 148.9 km of distribution networks were rehabilitated¹⁹</p> <p>Achieved. 7 reservoirs, 14 boreholes, 1 pump station, 24.9 km of trunk mains, and 156.3 km of distribution networks were constructed¹⁹</p> <p>Achieved. A total of 69,632 households were connected with water meters through 288.8 km of service pipelines (D=20–50mm). Of all, 12,452 meters were installed under the project while the rest were installed within the framework of the other project</p>	<p>The completed project facilities should be operated and maintained using high professional standards</p> <p>Water meters shall be strictly controlled and protected by the vodokanal to avoid their disappearance and malfunctioning</p>
3.1 Improved latrines (with handwashing facilities) in selected schools in project areas	At least 17 schools are provided with improved latrine facilities by 2014	Achieved. 17 schools were provided with improved latrine facilities and water supply	The school management shall ensure that toilets are kept clean, and water faucets are in place and water is available from the taps
3.2 Innovative hygiene promotion activities in school communities in project areas	All schools in the project areas are provided with a piped water supply	Achieved. There are 65 schools in the project area: Termez – 20, Kizirik – 5, Angor – 2, Muzrabad – 16, Kumkurgan – 6, Jarkurgan – 7, Shurchi – 4, Sariasia – 4, and Surkhan WDC 1, All these schools are provided with a piped water supply from the water supply system constructed under this project	Vodokanals continue extension of pipelines to provide the remaining schools with a piped water supply

¹⁹ The minor changes in project scope were made to meet actual site conditions during implementation.

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
	Hygiene promotion activities are carried out in all schools in the project areas; at least 5 women are trained in each makhalla in the project areas	Achieved. Since the beginning of the project, 1,145 people were trained, of whom more than 77% are women (879)	Community participation for joint activities with schools is the most effective way to improve sanitation practices and positive hygiene behavior of the population
	One baseline and two follow-up surveys are carried out to gather gender-disaggregated information	Achieved. Hygiene baseline survey and formative research were completed in September 2011. Follow-up and final surveys were carried out in September 2013 and April 2014, respectively	Awareness campaign on hygiene, and economic use of water, involving more women at different levels of representation, shall be continued
4.1 Improved and well-maintained Vodokanal offices, equipment, and infrastructure	8 subproject vodokanals receive new furniture and equipment, and keep them well maintained Customer care units and customer representative groups are established in each vodokanal by 2010	Achieved. All vodokanals received new furniture and equipment by September 2009 Achieved. Customer care units were established in each subproject vodokanal	Specifications for O&M equipment should be prepared in consultation with the relevant agencies
4.2 Training program to improve operations, management, and customer relations skills developed, implemented, and evaluated	Consumer databases are developed and all consumers are registered by 2014 Computerized financial management systems are adopted An O&M manual is developed for each vodokanal and adopted	Achieved. Consumer databases were developed and consumers registered in all vodokanals Achieved. Computerized financial management systems were adopted in all vodokanals Achieved. An O&M manual has been developed for each vodokanal and adopted	The capacity of the vodokanal needs to be developed as the capacity development interventions were insufficient due to the limited number of staff available
4.3 Performance monitoring system for participating vodokanals	A simple performance benchmarking system is developed by 2012, all vodokanals attend performance	Achieved. The performance benchmarking system with technical, financial, and institutional indicators have been developed and	Issues related to a large turnover of required staff should be resolved to maintain the capacity

Design Summary	Appraisal Targets	Project Achievements	Key Issues and Recommendations
	benchmarking workshops, and the performance benchmarking system is adopted by 2013	established in the project vodokanals. The vodokanals' representatives have been trained in collection, analysis, and monitoring of the performance data. The vodokanals have been submitting their quarterly performance benchmarking reports to the EA	of the vodokanal to sustain the performance benchmarking system
4.4 Study tours to places with good-practice examples	<p>Study-tour participants actively discuss and participate in the preparation of frameworks and WSS strategy, and in running the vodokanal offices throughout the project implementation period</p> <p>At least 20% of participants in the training activities and study tours are women</p>	<p>Achieved. Three national study tours in Fergana, Tashkent, and Khorezm provinces, and three international study tours in South Korea, France, and Spain were conducted for vodokanal staff. After each study tour the participants shared the results and feedback of the study tours in the form of workshop</p> <p>Achieved. The participation of women in the training activities and study tours was 32%, on average. Namely,</p> <ul style="list-style-type: none"> • of 13 training modules with 191 participants, 98 were women (51%); • of 56 participants in a 3-day seminar, 12 were women (21%); • of 35 participants in 3 national study tours , 7 were women (20%); • of 31 participants in 3 international study tours , 1 was a women (3%), due to the distance and long stay abroad, in made women reluctant to participate; • of 159 participants in 6 seminars on the results of study tours , 34 were women (21%). <p>(see table in Appendix 10)</p>	<p>To increase women's representation in the sector, a gender action plan should be strictly implemented, and adequate staff resources provided to ensure its implementation</p>

Activities with Milestones	Appraisal Targets	Project Achievements	Key Issues
1. Strengthening of sector strategy and management	<p>Inception report prepared by month 8 – (March 2010)</p> <p>Draft national WSS strategy and PPP framework prepared by month 21 (April 2011)</p> <p>Strategy approved by government by month 33 (April 2012)</p> <p>Road map developed and approved by month 45 (April 2013)</p>	<p>Achieved. Inception report was prepared and submitted to ADB by month 23 (June 2011)</p> <p>Achieved. Draft national WSS strategy and PPP framework were prepared and approved by ADB by month 31 (February 2012)</p> <p>Achieved. The government takes a phased approach to implement the sector reforms under the strategy and road map. The WSS strategy, road map, and action plan for 2013–2015 were approved by RCM No. 337 on 30 November 2012, while those for 2015–2019 were approved by RCM No. 306 on 30 October 2015</p>	<p>Delayed due to delay in recruitment of consultants</p> <p>Government procedures for approving new interventions, including application of PPP framework in WSS sector, were time-consuming</p>
2. Water supply development	<p>Detailed design completed by month 21 (April 2011)</p> <p>Rehabilitation and new facilities constructed, commissioned, and made operational between month 21 and month 45 (April 2011 and April 2013)</p> <p>Machinery and equipment procured and delivered by month 22 (May 2011)</p>	<p>Achieved. Detailed design was completed by month 25 (August 2011)</p> <p>Achieved. Rehabilitation and new facilities were constructed, commissioned, and made operational between month 30 (January 2012) and month 63 (September 2014)</p> <p>Achieved. Machinery and equipment were procured and delivered by month 32 (March 2012)</p>	<p>Delayed due to delay in recruitment of consultants</p> <p>Delayed due to delays in detailed design and procurement, and the weak capability of the civil works contractors</p> <p>Delays of service van, small O&M vehicles, and water measuring devices due to delay in procurement contract (MFERIT registration)</p>
3. Sanitation and hygiene	<p>Schools identified for participation by month 6 (January 2010)</p> <p>School latrines and handwashing facilities constructed, commissioned, and</p>	<p>Achieved. Schools were identified for participation by month 50 (September 2011)</p> <p>Achieved. School latrines and handwashing facilities were commissioned, constructed, and made operational between</p>	<p>Delayed due to delay in recruitment of consultants</p> <p>Delayed due to delays in detailed design and procurement, and the</p>

Activities with Milestones	Appraisal Targets	Project Achievements	Key Issues
	made operational between month 21 and month 45 (April 2011 and April 2013)	month 21 (April 2011) and month 56 (April 2014)	weak capability of the civil works contractors
	Hygiene promotion implementation plan prepared by month 8 (March 2010)	Achieved. Hygiene promotion implementation plan was prepared by month 29 (December 2011)	Delayed due to delay in recruitment of consultants
	Hygiene promotion activities carried out regularly in all schools between month 18 and month 48 (January 2011 and July 2013)	Achieved. Hygiene promotion activities were carried out in all schools between month 30 (January 2012) and month 58 (March 2014)	Delayed due to delay in recruitment of consultants
	Baseline survey conducted by June 2010, and follow-up surveys in 2012 and 2014	Achieved. Hygiene baseline survey and formative research were completed in September 2011. Follow-up and final surveys were carried out in September 2013 and April 2014, respectively	Delayed due to delay in recruitment of consultants
4. Capacity development for service delivery	Equipment tender documents prepared by month 12 (July 2010) and procured by month 24 (July 2011)	Achieved. Equipment tender documents were prepared by September 2009 and procured by month 24 (July 2011)	Delayed due to delay in recruitment of consultants
	Training plan, performance monitoring system plan, and draft study tour plan developed by month 12 (July 2010)	Achieved. Training plan, performance monitoring system plan, and draft study tour plan were developed by month 32 (March 2012)	Delayed due to delay in preparation of training programs
	Training providers identified and contracted and training implemented between month 18 (January 2011) and month 55 (February 2014)	Achieved. Training providers were identified and contracted and training was implemented between month 37 (August 2012) and month 45 (April 2013)	
	Performance benchmarking systems developed and implemented between month 36 (July 2012) and month 55	Achieved. Performance benchmarking systems were developed and implemented between month 42 (January 2013) and month 61 (August 2014)	Delayed due to termination of the contract without result, and another consultant recruited thereafter

Activities with Milestones	Appraisal Targets	Project Achievements	Key Issues
	(February 2014)		
	Study tours and feedback workshops carried out between month 18 (January 2011) and month 55 (February 2014)	Achieved. Study tours and feedback workshops were carried out between month 31 (August 2012) and month 51 (October 2013)	Delayed due to delay in preparation of training program
	PMU and PIU established by January 2009	Achieved. PMU and PIU were established by May 2009	Delayed due to delay in signing of the loan agreement
5. Project implementation assistance	Consultants recruited by month 6 (January 2010) Project implementation assistance provided between month 9 (April 2010) and month 60 (July 2014)	Achieved. Consultants were recruited by month 9 (April 2010) Achieved. Project implementation assistance provided between month 9 (April 2010) and month 52 (July 2014)	Delayed due to delay in selection of consultants and in registration of the contract in MFERIT

Inputs	At Appraisal	Actual	Difference
<u>ADB ADF loan:</u>	<u>\$30.00 million</u>	<u>\$30.00 million</u>	<u>\$0.25 million</u>
2. Water Supply Development	\$27.98 million	\$27.38 million	\$0.60 million
3. Sanitation and Hygiene	\$0.20 million	\$0.20 million	–
5. Project Implementation Assistance	\$1.13 million	\$1.48 million	- \$0.35 million
<u>Government:</u>			
2. Water Supply Development	<u>\$8.50 million</u>	<u>\$8.32 million</u>	<u>\$0.18 million</u>
<u>WFPF grant: \$1.5 million</u>			
1. Strengthening of Sector Strategy and Management	<u>\$1.50 million</u>	<u>\$1.50 million</u>	–
4. Capacity Development for Service Delivery	\$1.00 million	\$0.88 million	\$0.12 million
	\$0.50 million	\$0.62 million	- \$0.12 million

ADF = Asian Development Fund, EA = executing agency, ICT = information and communications technology, km = kilometer, MFERIT = Ministry of Foreign Economic Relations, Investments, and Trade, mm = millimeter, NRW = nonrevenue water, O&M = operation and maintenance, PIU = project implementation unit, PMU = project management unit, PPP = public-private partnership, RCM = Resolution of the Cabinet of Ministers, UCSA = Uzbekistan Communal Services Agency, UFW = unaccounted for water, WFPF = Water Financing Partnership Facility, WSS = water supply and sanitation.

PROJECT COSTS AND FINANCING PLAN (APPRAISED AND ACTUAL)

Table A2.1: Project Cost (\$ million)

Items	Appraisal Estimate			Actual		
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost
Investment Costs						
1 Civil Works	2.67	15.71	18.38	0.00	22.58	22.58
2 Mechanical and Equipment	4.2	1.05	5.25	6.17	0.38	6.54
3 Environment and Social Mitigation ^a	0.05	0.12	0.17	0.00	0.00	0.00
4 Consultants						
a. Strengthening of Sector Strategy and Management and Capacity Development for Service Delivery	0.57	0.93	1.50	0.57	0.93	1.50
b. Detailed Design and Construction Supervision	0.00	1.20	1.20	0.00	1.01	1.01
c. Hygiene Program	0.08	0.12	0.20	0.00	0.20	0.20
d. Project Implementation Assistance	0.44	0.16	0.60	0.20	0.41	0.60
5 Taxes and Duties		5.74	5.74	0.00	5.61	5.61
Subtotal (A)	8.01	25.03	33.04	6.93	31.11	38.04
Recurrent Costs						
1 Salaries	0.00	0.35	0.35	0.00	0.52	0.52
2 Equipment Operation and Maintenance	0.00	0.18	0.18	0.00	0.35	0.35
Subtotal (B)	0.00	0.53	0.53	0.00	0.87	0.87
Total Base Cost	8.01	25.56	33.57	6.93	31.98	38.91
Contingencies^b						
1 Physical	0.79	1.79	2.58	0.00	0.00	0.00
2 Price	0.76	2.4	3.16	0.00	0.00	0.00
Subtotal (C)	1.55	4.19	5.74	0.00	0.00	0.00
Financing Charges during Implementation^e						
1 Interest during Implementation	0.69	0.00	0.69	0.56	0.00	0.56
Subtotal (D)	0.69	0.00	0.69	0.56	0.00	0.56
Total Project Costs (A+B+C+D)	10.25	29.75	40.00	7.50	31.98	39.48

a. Environment and social mitigation was included in the civil works.

b. In "Actual" column, contingencies were distributed in respective components where they were actually used.

Table A6.2: Financing Plan
(\$ million)

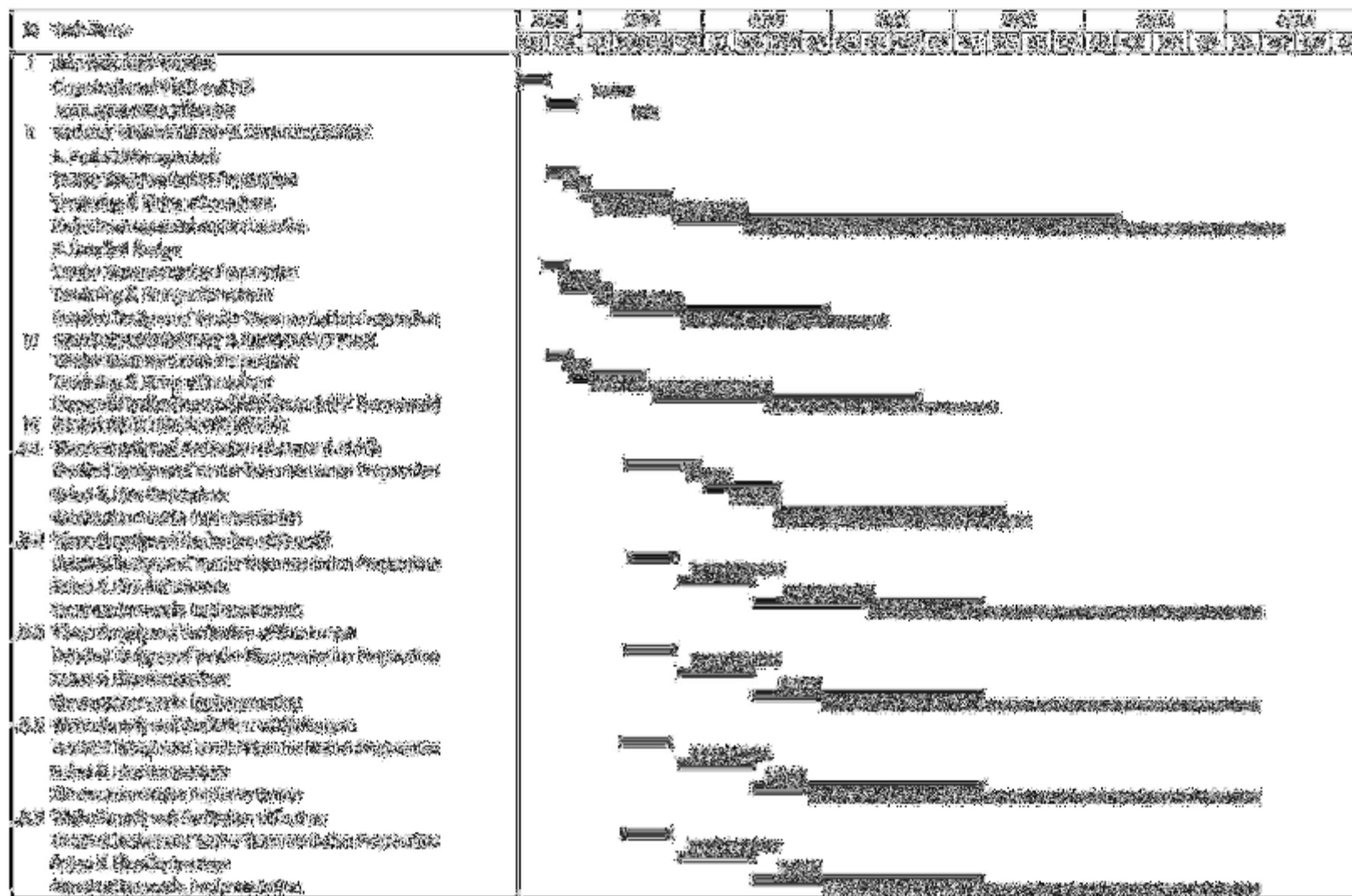
Source	Appraisal Estimate			Actual		
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost
1 Asian Development Bank	9.68	20.32	30.00	6.93	22.73	29.66
2 MDTF-WFPF	0.57	0.93	1.50	0.57	0.93	1.50
3 Government	0.00	8.50	8.50	0.00	8.32	8.32
Total	10.25	29.75	40.00	7.50	31.98	39.48

MDTF-WFPF = Multi-Donor Trust Fund of the Water Financing Partnership Facility.

BREAKDOWN OF YEARLY DISBURSEMENTS, 2009–2015
(\$ million)

Period	Loan 2466-UZB			Grant 0131-UZB		
	Disbursements	Cumulative	%	Disbursements	Cumulative	%
2009						
Q1	0.000	0.000	0.0%	0.000	0.000	0.0%
Q2	0.000	0.000	0.0%	0.000	0.000	0.0%
Q3	0.100	0.100	0.3%	0.100	0.100	6.7%
Q4	0.539	0.639	2.2%	0.040	0.140	9.3%
Subtotal	0.639			0.140		
2010						
Q1	0.778	1.417	4.8%	0.012	0.152	10.1%
Q2	0.691	2.108	7.1%	0.030	0.182	12.2%
Q3	0.648	2.756	9.3%	0.256	0.439	29.3%
Q4	2.036	4.792	16.2%	0.000	0.439	29.3%
Subtotal	4.153			0.299		
2011						
Q1	0.493	5.285	17.8%	0.000	0.439	29.3%
Q2	2.503	7.788	26.2%	0.020	0.459	30.6%
Q3	3.217	11.005	37.1%	0.050	0.509	33.9%
Q4	1.848	12.853	43.3%	0.218	0.727	48.4%
Subtotal	8.061			0.288		
2012						
Q1	1.050	13.903	46.9%	0.200	0.927	61.8%
Q2	1.981	15.884	53.5%	0.000	0.927	61.8%
Q3	1.724	17.608	59.3%	0.179	1.106	73.7%
Q4	3.070	20.678	69.7%	0.058	1.164	77.6%
Subtotal	7.825			0.437		
2013						
Q1	2.526	23.204	78.2%	0.109	1.274	84.9%
Q2	0.656	23.860	80.4%	0.091	1.365	91.0%
Q3	0.249	24.110	81.3%	0.078	1.443	96.2%
Q4	1.655	25.765	86.8%	0.000	1.443	96.2%
Subtotal	5.087			0.278		
2014						
Q1	0.135	25.900	87.3%	0.057	1.500	100.0%
Q2	0.660	26.561	89.5%	0.000	1.500	100.0%
Q3	0.711	27.272	91.9%	0.000	1.500	100.0%
Q4	1.291	28.564	96.3%	0.000	1.500	100.0%
Subtotal	2.799			0.057		
2015						
Q1	1.098	29.670	100.0%	0.000	1.500	100.0%
Subtotal	1.098			0.000		
TOTAL	29.662	100.0%		1.500	100.0%	

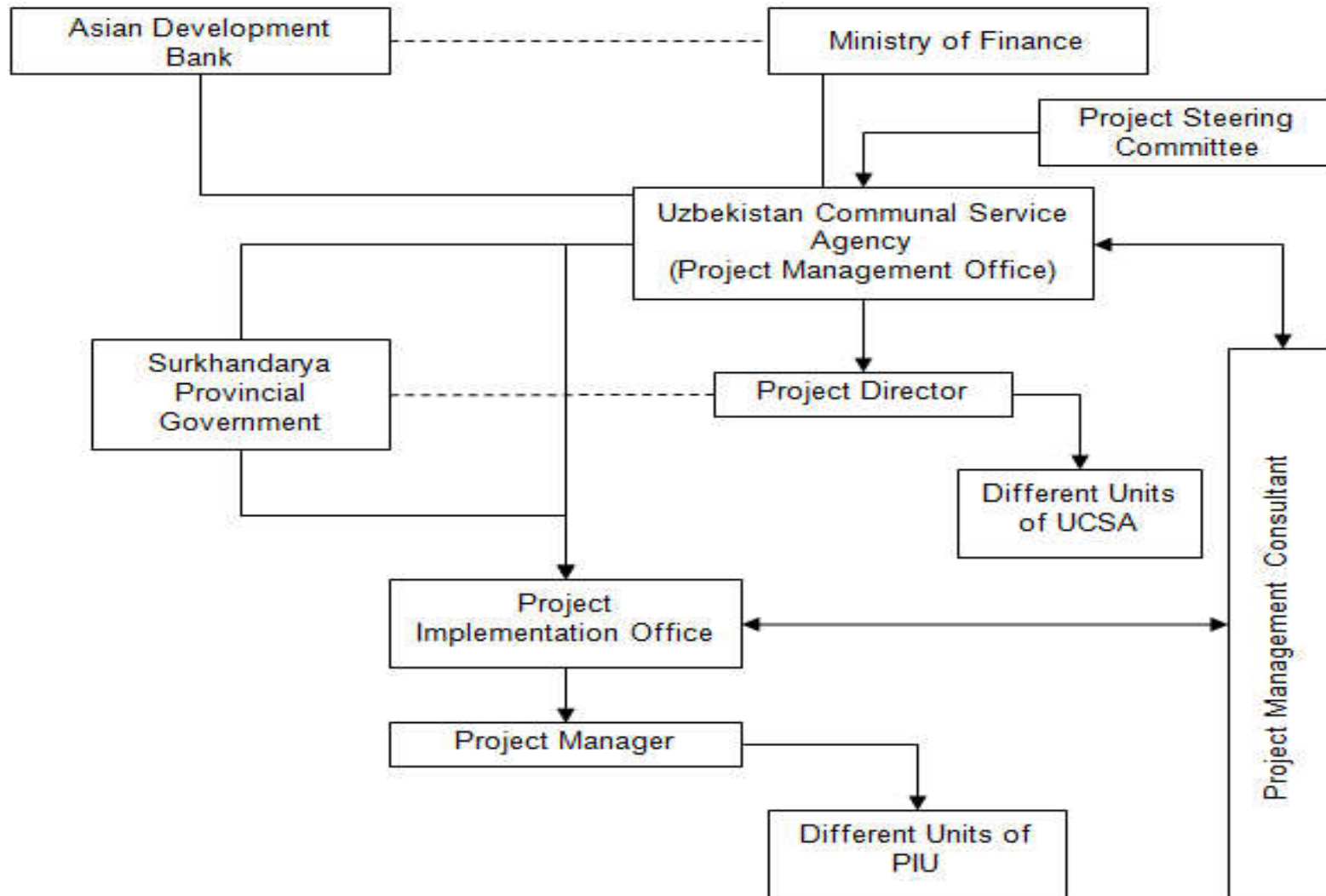
PROJECT IMPLEMENTATION SCHEDULE
(PROJECT IMPLEMENTATION SCHEDULE AT APPRAISAL [15 AUGUST 2008] AND AT COMPLETION (30 SEPTEMBER 2014))



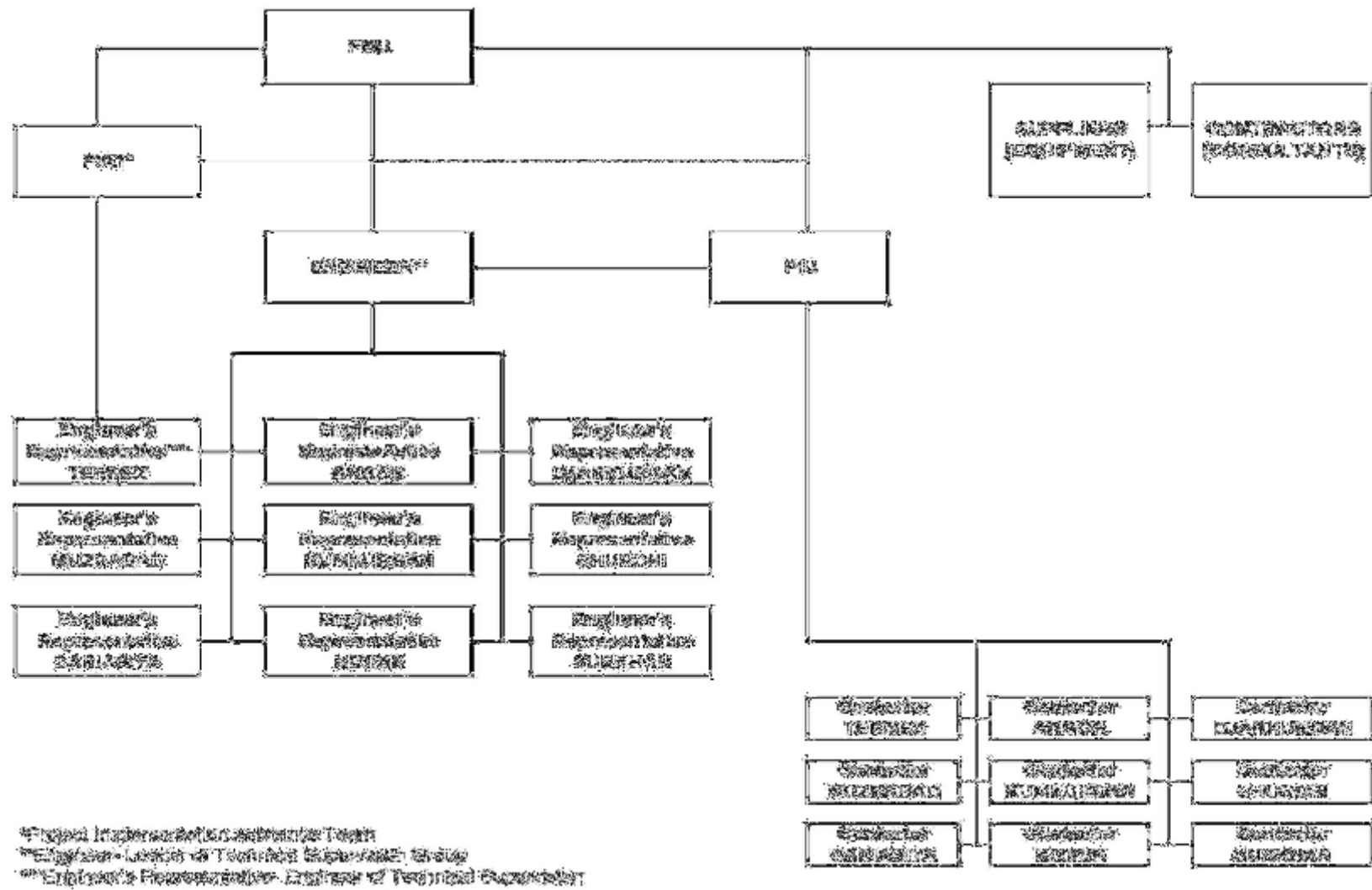
Date	Time
<p>1. The first part of the report is a description of the project and its objectives. It includes a brief history of the project and a statement of the project's purpose. The second part of the report is a description of the project's methodology. It includes a description of the data collection methods and the analysis methods. The third part of the report is a description of the project's results. It includes a description of the findings and a discussion of the implications of the findings. The fourth part of the report is a conclusion. It includes a summary of the project and a statement of the project's significance.</p>	<p>1. The first part of the report is a description of the project and its objectives. It includes a brief history of the project and a statement of the project's purpose. The second part of the report is a description of the project's methodology. It includes a description of the data collection methods and the analysis methods. The third part of the report is a description of the project's results. It includes a description of the findings and a discussion of the implications of the findings. The fourth part of the report is a conclusion. It includes a summary of the project and a statement of the project's significance.</p>
Date	Time

ORGANIZATIONAL STRUCTURE

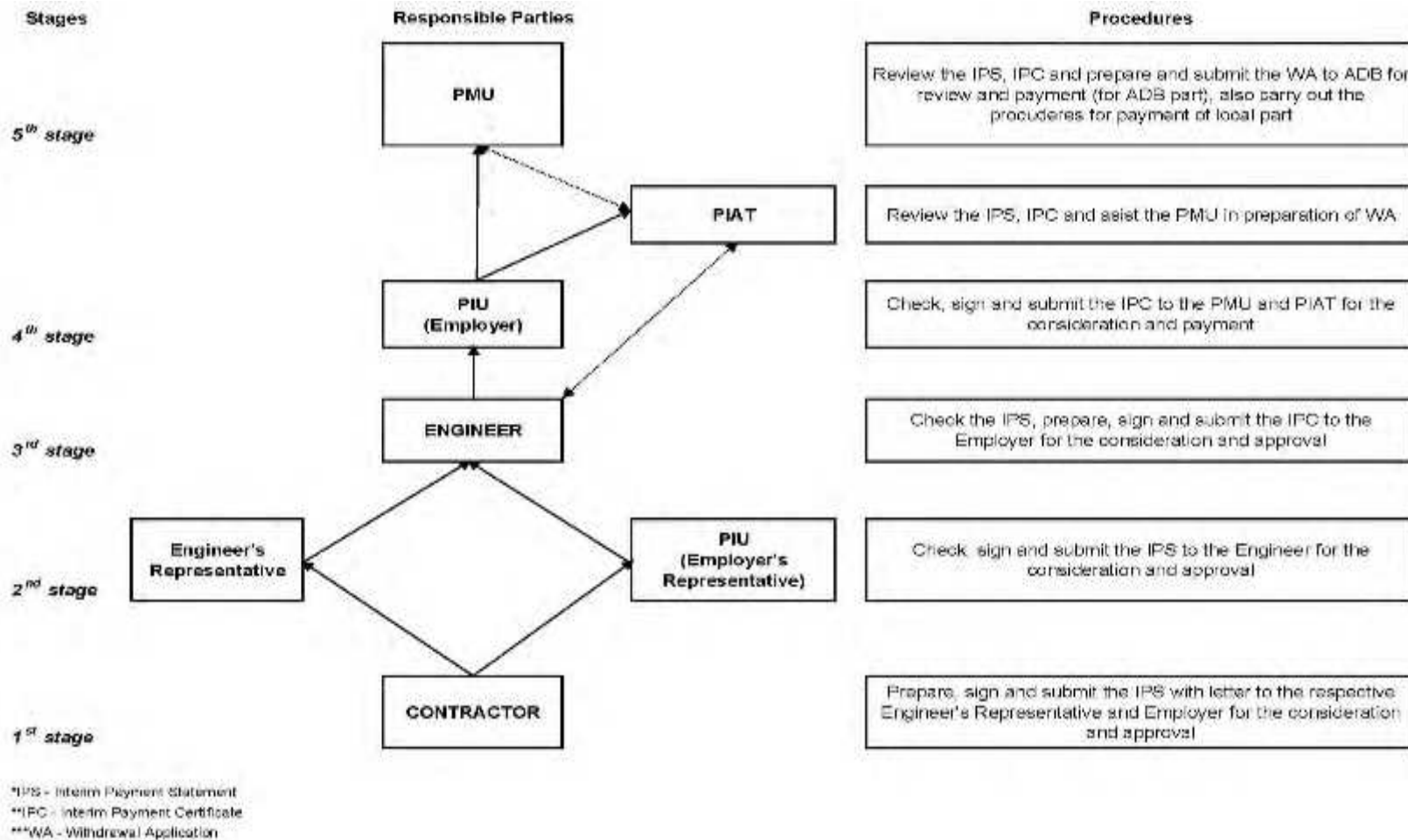
Organizational Structure of Project Implementation – 1



32 Appendix 5



Organizational Structure of Project Implementation – 3 Civil work contracts payment procedures and stages



STATUS OF COMPLIANCE WITH LOAN COVENANTS

	COVENANT	STATUS OF COMPLIANCE
	Sector Covenants	
1.	<p><u>Project Executing Agency and Project Implementing Agency</u></p> <p>The Borrower shall designate UCSA as the Project Executing Agency with responsibility for the overall Project coordination and implementation, and liaison with ADB and government agencies concerned. UCSA shall be directly responsible for the planning, design, and development and rehabilitation of water supply systems under the Project. The SPG shall be the Project Implementing Agency responsible for the day-to-day implementation of the Project. (Schedule 5, para. 1 of the LA)</p>	<p>Complied with.</p> <p>UCSA was the Executing Agency and fulfilled its responsibility in a generally satisfactory manner. The SPG was the Project Implementing Agency responsible for the day-to-day implementation of the Project.</p>
2.	<p><u>Project Management Unit</u></p> <p>The Borrower shall ensure that the PMU is established within UCSA. The PMU shall be responsible for (a) supervising project implementation, budgeting, financial planning, and accounting; (b) carrying out procurement activities; (c) providing administrative and technical support to the PIU; (d) preparing consolidated Project progress reports and completion report; and (e) consolidating Project accounting, auditing and monitoring, and reporting to ADB, the Borrower, and other stakeholders. The Borrower shall ensure that throughout the Project implementation period the PMU remains headed by Project Director and comprised of (a) one deputy project director, who will also serve as the sector strategy study manager; (b) a financial specialist/accountant; (c) a water supply and sanitation specialist, (d) a procurement specialist, (e) a monitoring and environment specialist, (f) a driver, and (g) an office manager/translator. (Schedule 5, para. 2 of the LA)</p>	<p>Complied with.</p> <p>The existing PMU was strengthened with additional staff, including various specialists, to assume the expanded responsibility. It coordinated project implementation matters with the other agencies concerned. Frequent turnover of staff, however, affected its achievement of responsibility in a timely manner.</p>
3.	<p><u>Project Implementation Unit</u></p> <p>The Borrower shall ensure that the PIU shall be established by SPG in Termez to be responsible for the day-to-day implementation of the Project at the local level. The major responsibilities of the PIU shall include (a) participating in Project planning, detailed design, and bid evaluation; (b) coordinating the activities of consultants and contractors; (c) overseeing construction activities; (d) coordinating resettlement activities; (e) monitoring the environment and social impacts of the Project activities; (f) supervising capacity building activities; and (g) preparing and consolidating subproject accounting, auditing and monitoring reports for submission to the PMU. The</p>	<p>Complied with.</p> <p>A PIU was established in May 2009 in Termez City in Surkhandarya Province based on the CMD No.79, dated 20.03.2009. The PIU was staffed with experts as required. The PIU for Termez comprised a total of 5 key and 2 supporting staff members consisting of the (i) PIU head; (ii) water supply design and construction engineer; (iii) social and resettlement specialist; (iv) monitoring expert; (v) financial/accounting specialist; (vi) driver; and (vii) an office manager/translator. By the time the EA's PCR was prepared, due to completion of the project's resettlement and</p>

	COVENANT	STATUS OF COMPLIANCE
	Borrower shall ensure that throughout the Project implementation period the PIU remains headed by a Project coordinator acceptable to ADB, and comprised of (i) a financial specials/accountant, (ii) a water supply and design specialist, (iii) a monitoring and social and resettlement specialist, (iv) a driver, and (v) and an office manager/translator. (Schedule 5, para. 3 of the LA)	social works, the position of social and resettlement specialist had been terminated. The PIU was supported by project management consultants. The PIU fulfilled all its responsibilities, including community participation activities, as required.
4.	<p><u>Project Steering Committee</u></p> <p>The Borrower shall establish an inter-ministerial PSC to provide overall policy direction and guidance, including overseeing Project implementation, facilitating cooperation and coordination among concerned agencies, and ensuring timely implementation of the policy and institutional reform agenda of the Project. The PSC shall be chaired by a Deputy Prime Minister, and comprised of senior officials from UCSA, the Borrower's Ministry of Finance, Ministry of Economy, Ministry of Foreign Economic Relations, Investment and Trade, State Committee of Natural Protection, Ministry of Health, Ministry of Public Education, SPG, and other agencies concerned. The PSC will meet at least every 6 months to review and discuss the Project implementation. (Schedule 5, para. 4 of the LA)</p>	<p>Complied with.</p> <p>An inter-ministerial Project Steering Committee (PSC) was established under Cabinet Decree No. 79, dated 20 March 2009. The decree authorized the PSC to approve subproject feasibility and appraisal reports, the yearly financing plan, and implementation arrangements. The PSC was chaired by the First Deputy Prime Minister and convened meetings four times during project implementation (2009–2010). Government Resolution No. 229 (12 August 2009) "On measures to improve the system of attraction and effective use of international financial institutions, foreign governmental financial organizations and donor countries" established an Interagency Council on cooperation with international financial institutions, organizations and donor countries, to implement large and strategically important investment projects under the Cabinet of Ministers of the Republic of Uzbekistan. This council meets twice a year and performs similar function as the PSC. During project implementation this council has met 12 times (2011–2015).</p>
5.	<p><u>Project Executing Agency and Project Implementing Agency</u></p> <p>The Recipient shall designate UCSA as the Project Executing Agency with overall responsibility for Project coordination and implementation, and liaison with ADB and government agencies concerned. UCSA shall be directly responsible for the planning, design, and development and rehabilitation of water supply systems under the Project. (Schedule 2, para. 1 of the GA)</p>	<p>Complied with.</p> <p>UCSA was designated as the Project Executing Agency with overall responsibility. UCSA was directly responsible for the planning, design, and development and rehabilitation of water supply systems under the Project.</p>
6.	<p><u>Study Tours</u></p> <p>The Borrower shall ensure that candidates for study tours are selected through a transparent and competitive process following the criteria agreed with ADB. The Recipient shall also ensure that those who completed the training through the study tours will be required to share the knowledge gained in a reporting-back workshop with wider stakeholders. (Schedule 2, para. 2 of the GA)</p>	<p>Complied with.</p> <p>Candidates for study tours were selected through a transparent and competitive process following the criteria agreed with ADB. After each study tour the participants shared the results and feedback of the study tours in the form of workshops.</p>

	COVENANT	STATUS OF COMPLIANCE
7.	<p><u>Sector Strategy, Roadmap and Investment Plan</u> The Borrower shall ensure that development of a new water supply and wastewater sector strategy (the "Sector Strategy"), a roadmap, and an investment program is carried out in accordance with the agreed process in consultation with stakeholders in the sector so that the agreed Sector Strategy is approved by the Government by 31 December 2011. The Borrower shall keep ADB informed of any major changes in the sector programs and plans that may impact the Project and any future projects to be financed by ADB. (Schedule 5, para. 6 of the LA)</p>	<p>Delayed compliance. The WSS Sector Strategy, including the roadmap and an investment plan for 2013–2015, was approved by RCM No. 337, dated 30.11.12. The Sector Strategy and action plan up to 2019 was approved by RCM No. 306, dated 30.10.15.</p>
8.	<p><u>Collection Efficiency and Water Tariffs</u> The Borrower shall ensure that the SPG (a) takes necessary measures to improve the collection efficiency to achieve a collection rate of 90% by 2013; (b) reviews semi-annually and adjusts as necessary the level and structure of water tariffs so that (i) from 2010, each vodokanal will be able to fully recover O&M and capital replacement costs; and (ii) from 2014, each vodokanal will be able to fully recover O&M and capital replacement costs of the water supply scheme under the subproject, serve debt-servicing obligations under the subproject, and maintain a debt service coverage ratio of 1.2:1. (Schedule 5, para. 7 of the LA)</p>	<p>Partly complied with. By the end of September 2014 the average collection for all subprojects was 80%, and from the beginning of the project, water tariffs were adjusted twice annually (in April and October). According to the 2014–2015 benchmarking report, each vodokanal has recovered O&M costs, with an operating cost coverage ratio ranging between 1.19:1 and 1.42:1. However, the full cost recovery, including capital replacement costs, has yet to be achieved. The debt service coverage ratio ranges between 1.9 and 3.0. Muzrabad will attain debt coverage target by 2021.</p>
9.	<p><u>Tariff</u> The Borrower shall ensure that the SPG (a) takes necessary measures to improve the collection efficiency to achieve a collection rate of 90% by 2013; (b) reviews semi-annually and adjusts as necessary the level and structure of water tariffs so that (i) from 2010, each vodokanal will be able to fully recover O&M and capital replacement costs; and (ii) from 2014, each vodokanal will be able to fully recover O&M and capital replacement costs of the water supply scheme under the subproject, serve debt-servicing obligations under the subproject, and maintain a debt service coverage ratio of 1.2:1.</p> <p>The Borrower shall ensure that results of the reviews and adjustments, if any, are reported by UCSA to ADB within three (3) months of each review. (Schedule 5, para. 7 and 8 of the LA)</p>	<p>Partly complied with. A tariff plan was prepared and tariffs have been adjusted twice annually, in April and October, since 2009, however, the full cost recovery has not been achieved yet. The results of the review and adjustments were reported to UCSA and ADB in a timely manner.</p>
10.	<p><u>Water Bills</u> The Borrower shall ensure that the SPG (a) takes appropriate measures, including financial</p>	<p>Complied with. As prescribed in RCM No. 300, dated</p>

	COVENANT	STATUS OF COMPLIANCE
	incentives and/or penalties, to reduce the level of water bill arrearages, and (b) protects their water resources and facilities through vigorous prosecution for violations, such as water meter tampering and water theft in accordance with applicable laws of the Borrower. (Schedule 5, para. 9 of the LA)	6.11.2013, in accordance with instruction of the SPG each vodokanal started applying a new tariff setting on 1 December 2013, increasing the per capita tariff by 1.5 times for non-metered consumers. In cooperation with makhalla communities, vodokanals started campaigning for installation of meters, identification of illegal consumers, and penalties for consumers with arrears.
	Financial Covenants	
11.	Counterpart Funds Without limiting the generality of Section 6.06 of the Loan Regulations, the Borrower shall make adequate annual budget allocations and release in a timely manner the counterpart funds and other resources, as shall be necessary or required, in addition to the proceeds of the Loan, for the successful implementation of the Project. (Schedule 5, para. 5 of the LA)	Complied with. The counterpart funds were \$8.3 million equivalent, including \$5.6 million in the form of exemption from taxes and duties by the Republic of Uzbekistan.
	Environmental Covenants	
12.	The Borrower shall, and cause UCSA to ensure that (a) the Project facilities are constructed, operated, maintained and monitored in conformity with all applicable laws and regulations of the Borrower, including regulations and standards for environmental protection, health, labor and occupational safety, ADB's <i>Environment Policy</i> (2002), the IEE, and the SIEE for the Project; (b) any adverse environmental impacts during construction and operation are minimized by implementing mitigation measures and monitoring program detailed in the EMMP set forth in the IEE; (c) the progress on the EMMP implementation and any violations of environmental standards are reported to ADB semi-annually in accordance with the specifications set forth in the IEE; and (d) the EMMP is incorporated in the bidding documents. (Schedule 5, para. 10 of the LA)	Delayed compliance. All the Project facilities were designed, constructed, operated, maintained and monitored in conformity with all applicable laws and regulations of the Borrower and ADB. The environmental risk was low, safeguard performance was reflected in project progress reports, appropriate post-construction reinstatement was carried out, and overall environmental impacts were positive. The EMMP was incorporated in the bidding documents and adverse environmental impacts during construction were mitigated. The progress of the EMMP implementation was, however, not reported to ADB semi-annually. Instead, an environmental monitoring report, covering the period of July 2010–March 2014, was submitted and disclosed on the ADB website, and later on the UCSA website. Thereafter, a post-construction environment monitoring report, covering the period of April 2014–June 2015, was prepared and disclosed in ADB, and also in UCSA and its provincial government websites in the local language. An environmental audit was conducted and the proposed actions were implemented.
	Social Covenants	
13.	Involuntary Resettlement The Borrower shall ensure and shall cause UCSA	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	to ensure that (a) the Project is carried out in accordance with applicable laws and regulations of the Borrower, ADB's <i>Involuntary Resettlement Policy</i> (1995), and the RP; (b) the RP and due diligence reports are updated based on detailed design of the subprojects, disclosed to all affected persons, and resubmitted to ADB for approval; (c) no civil works contract is awarded for the Djarkurgan subproject until the updated RP has been approved by ADB, and (d) the contractors are not given a notice to proceed under the Djarkurgan subproject until the RP has been implemented in accordance with its terms. (Schedule 5, para. 11 of the LA)	ADB approved the RP. Construction began on the Surkhan subproject in the Djarkurgan district after the 7 farm enterprises and 12 households were compensated in cash in April 2012. The LARP implementation report, which included compensation arrangements, was submitted and disclosed on the ADB website in February 2014.
14.	<p>Gender and Labor</p> <p>The Borrower shall cause UCSA to ensure that (a) the GAP is implemented in a timely manner during the Project implementation period, (b) adequate resources are allocated for this purpose, and (c) the implementation of the GAP is closely monitored and reported to ADB through quarterly progress reports.</p> <p>The Borrower shall cause UCSA to ensure that all civil works contractors (a) employ women and local people, including disadvantaged people, living in the vicinity of the relevant subproject; (b) provide safe working conditions and equal pay to male and female workers for work of equal type; (c) abstain from child labor; and (d) conduct an information and education campaign on sexually transmitted diseases and HIV/AIDS for construction workers as part of the health and safety program at camp sites during the construction period. All civil works contracts shall include specific clauses on these undertakings, and compliance shall be strictly monitored during Project implementation. (Schedule 5, para. 12 and 13 of the LA)</p>	<p>Complied with.</p> <p>A gender action plan was prepared to incorporate gender findings into the project design and promote women's participation in project-related activities and their direct access to project benefits, including the planning of WSS facilities, involvement in the HSE program, and membership of CRPSGs. All the proposed gender actions were carried out during project implementation. Subprojects were selected and designed with the participation of both men and women, and more than 50% of the CRPSG management positions were held by women. Under the hygiene promotion program more than 70% of GAP activities were completed and 75% of gender-related targets in the GAP achieved. 68% of 153 representatives of consumer and project support groups in all subprojects were women; more than 50% of participants in public meetings were women; 40% of suggestions on the project were made by women; 30% of those trained in management and water supply and 10% of participants of study tours were women; 30% of participants in community-level training activities were women; and 25% of staff at vodokanals were qualified women</p>
	Other Covenants	
15.	During Project implementation, the Borrower shall: (a) apply, and cause UCSA and the SPG to apply, ADB's <i>Anticorruption Policy</i> , it being understood that ADB reserves the right to investigate directly, or through its agents, any possible corrupt, fraudulent, collusive or coercive practices relating	<p>Complied with.</p> <p>In the bidding documents for the Project, and in all contracts financed by ADB in connection with the Project provisions were included specifying the right of ADB to audit and</p>

	COVENANT	STATUS OF COMPLIANCE
	<p>to the Project. To support these efforts, the Borrower shall ensure that (i) UCSA includes in the bidding documents for the Project, and in all contracts financed by ADB in connection with the Project the provisions specifying the right of ADB to audit and examine the records and accounts of PMU, PIU and vodokanals, and all contractors, suppliers, consultants and other service providers as they relate to the Project; (ii) periodic inspections of the contractors' activities related to fund withdrawals and settlements under the Project are carried out; and (iii) the Project auditors have the right to conduct random or spot audits for contract implementation activities under the Project. The cost of this auditing will be borne by the Project; and</p> <p>(b) cause UCSA to maintain and update its website to present information on externally-funded projects, including this Project. With regard to this Project, the website shall provide information on, among other things, water tariff review procedures, results of annual reviews and adjustments, collection efficiency, financial statements of this Project procurement activities and details on the adopted bidding procedures, amounts of the contracts awarded, the list of goods and/or services purchased, and their intended and actual utilization.</p> <p>(Schedule 5, para. 14 of the LA)</p>	<p>examine the records and accounts of PMU, PIU, and vodokanals, and all contractors, suppliers, consultants, and other service providers as they relate to the Project</p> <p>The UCSA website has been updated: www.uzkommunhizmat.uz</p>
16.	<p><u>Maintenance Plan</u></p> <p>The Borrower shall cause UCSA to ensure that (a) a set of major repair equipment (such as cranes and excavators) provided under the Project is managed and maintained by the Surkhandarya provincial vodokanal; (b) the Surkhandarya provincial vodokanal prepare, in consultation with vodokanals, a maintenance plan covering the proposed station to place such major repair equipment to be shared by the district vodokanals, standards, procedures, other arrangements for the maintenance and use of such equipment. UCSA shall, by 30 September 2009, submit the draft plan to ADB for review.</p> <p>(Schedule 5, para. 15 of the LA)</p>	<p>Delayed compliance.</p> <p>Maintenance plan was prepared in November 2009 and approved by ADB in December 2009. Major repair and maintenance equipment were procured and placed in the Surkhandarya provincial vodokanal station to be shared by the district vodokanals.</p>
17.	<p><u>Hygiene Promotion Activities</u></p> <p>The Borrower shall cause UCSA to ensure that (a) by 31 December 2009, the implementation arrangements and implementation plan for the hygiene promotion activities are prepared to be carried out in all schools in the Project Area; (b) by 30 June 2010, the hygiene baseline survey is completed; and (c) the follow up surveys are</p>	<p>Delayed compliance.</p> <p>A hygiene promotion consultant was only engaged in August 2011. An implementation plan and arrangements were prepared and a hygiene baseline survey completed in September 2011. A follow-up and final survey were carried out in September 2013 and April</p>

	COVENANT	STATUS OF COMPLIANCE
	carried out in 2012 and 2014. (Schedule 5, para. 16 of the LA)	2014, respectively.
18.	<u>Project Performance Monitoring System</u> The Borrower shall cause UCSA to ensure that the implementation of the Project, the operation of the Project facilities, and the benefits derived from the Project are monitored and evaluated annually by the PMU. Within six (6) months of the Effective Date, PPMS shall be established by UCSA. The establishment of baseline data and benchmarks, collection of information, monitoring and evaluation of benefits, and evaluation of social impact, shall be undertaken by the PMU with the consultants support. Data collection shall be carried out (a) prior to physical implementation of each subproject in conjunction with socioeconomic surveys, (b) regularly during Project implementation, and (c) for three (3) months after physical completion of the Project. The results shall be incorporated into the Project progress and completion reports. (Schedule 5, para. 17 of the LA)	Delayed compliance. PPMS was not established within 6 months after effective date, i.e., 29 January 2011. It was established in June 2011 and the first PPMS report was submitted to ADB by the end of September 2011. The collection of information, monitoring and evaluation of benefits, and evaluation of social impact were undertaken by the PMU with benchmark specialist support. Results of the PPMS were included in the quarterly progress report, and the completion report. Data collection upon project completion was not completed 3 months after physical completion of the Project as required. The benchmarking report for 2014–2015 was submitted to ADB in May 2015.
19.	<u>Project Reviews</u> The Borrower, UCSA and ADB shall jointly conduct semi-annual reviews during the first two (2) years of the Project, and annual reviews thereafter. A comprehensive mid-term review shall be undertaken after the third year of Project implementation. These reviews shall include evaluation of project implementation arrangements, detailed evaluation of the Project scope, the actual implementation progress, resettlement and environment safeguards, community involvement, health education and hygiene practice, feedback from the PPMS, performance of consultants, institutional and capacity development progress, and possible reallocation of the Loan and Grant proceeds. The cost recovery mechanisms for each subproject shall also be evaluated and remedial action shall be instituted as needed. (Schedule 5, para. 18 of the LA)	Complied with. A loan inception mission was fielded from 15 to 21 April 2009. 7 review missions were fielded from November 2009 to November 2014. A midterm review mission was fielded from 11–18 October 2012. One disbursement mission was conducted from 23 to 25 May 2012. A project completion review was conducted in March–April 2015.
	Particular Covenants	
20.	In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all obligations set forth in Schedule 5 to this Loan Agreement and the Project Agreement. (Section 4.01 of the LA)	Complied with.
21.	The Borrower shall enable ADB's representatives to inspect the Project, the Project facilities, and any relevant records and documents. (Section 4.02 of the LA)	Complied with.
22.	The Borrower shall take all actions which shall be necessary on its part to enable UCSA to perform	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	its obligations under the Project Agreement, including the establishment and maintenance of tariffs as stipulated in paragraph 7 of Schedule 5 of this Loan Agreement, and shall not take or permit any action which would interfere with the performance of such obligations. (Section 4.03 of the LA)	
23.	(a) The Borrower shall exercise its rights under the Subsidiary Loan Agreement in such a manner as to protect the interests of the Borrower and ADB and to accomplish the purposes of the Loan. (b) No rights or obligations under the Subsidiary Loan Agreement or the Subloan Agreement shall be assigned, amended, or waived without the prior concurrence of ADB. (Section 4.04 of the LA)	Complied with.
24.	(a) The Recipient shall cause the Project to be carried out with due diligence and efficiency and in conformity with sound applicable financial, business and development practices. (b) In the carrying out of the Project, the Recipient shall perform, or cause to be performed, all obligations set forth in Schedule 2 to this Grant Agreement. (Section 4.01 of the GA)	Complied with.
25.	The Recipient shall make available to UCSA, promptly as needed, the funds, facilities, services and other resources which are required, in addition to the proceeds of the Grant, for the carrying out of the Project. (Section 4.02 of the GA)	Complied with.
26.	The Recipient shall enable ADB's representatives to inspect the Project, the Goods financed out of the proceeds of the Grant, and any relevant records and documents. (Section 4.03 of the GA)	Complied with.
27.	The Recipient shall ensure that the activities of its departments and agencies with respect to the carrying out of the Project are conducted and coordinated in accordance with sound administrative policies and procedures. (Section 4.04 of the GA)	Complied with.
28.	The Recipient shall take all action which shall be necessary on its part to enable UCSA to perform its obligations under the Project Agreement, and shall not take or permit any action which would interfere with the performance of such obligations. (Section 4.05 of the GA)	Complied with.
29.	(a) The Recipient shall exercise its rights under this Grant Agreement in such a manner as to protect the interests of the Recipient and ADB and to accomplish the purposes of the Grant. (b) No rights or obligations under the financing arrangements shall be assigned, amended,	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	abrogated or waived without the prior concurrence of ADB. (Section 4.06 of the GA)	
30.	(a) UCSA shall carry out the Project with due diligence and efficiency, and in conformity with sound administrative, financial, engineering, environmental, social safeguards, and public utility practices. (b) In the carrying out of the Project and operation of the Project facilities, UCSA shall perform all obligations set forth in this Project Agreement, and the Loan Agreement and the Grant Agreement to the extent that they are applicable to UCSA. (Section 2.01 of the PA)	Complied with.
31.	UCSA shall make available, promptly as needed, the facilities, services, equipment and other resources which are required, in addition to the proceeds of the Loan and the Grant, for the carrying out of the Project in accordance with the Loan Agreement and the Grant Agreement. (Section 2.02 of the PA)	Complied with.
32.	(a) In the carrying out of the Project, UCSA shall employ competent and qualified consultants and contractors, acceptable to ADB, to an extent and upon terms and conditions satisfactory to ADB. (b) Except as ADB may otherwise agree, all Goods, Works and consulting services to be financed out of the proceeds of the Loan shall be procured in accordance with the provisions of Schedule 4 to the Loan Agreement. ADB may refuse to finance a contract where Goods, Works or consulting services have not been procured under procedures substantially in accordance with those agreed between the Borrower and ADB or where the terms and conditions of the contract are not satisfactory to ADB. (Section 2.03 of the PA)	Complied with.
33.	UCSA shall carry out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. UCSA shall furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request. (Section 2.04 of the PA)	Complied with.
34.	(a) UCSA shall take out and maintain with responsible insurers, or make other arrangements satisfactory to ADB for, insurance of the Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice.	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	(b) Without limiting the generality of the foregoing, UCSA undertakes to insure, or cause to be insured, the Goods to be imported for the Project and to be financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such Goods. (Section 2.05 of the PA)	
35.	UCSA shall maintain, or cause to be maintained, records and accounts adequate to identify the Goods, Works and consulting services and other items of expenditure financed out of the proceeds of the Loan and the Grant, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, its operations and financial condition. (Section 2.06 of the PA)	Complied with.
36.	(a) ADB and UCSA shall cooperate fully to ensure that the purposes of the Loan and the Grant will be accomplished. (b) UCSA shall promptly inform ADB of any condition which interferes with, or threatens to interfere with, the progress of the Project, the performance of its obligations under this Project Agreement, or the accomplishment of the purposes of the Loan and the Grant. (c) ADB and UCSA shall from time to time, at the request of either party, exchange views through their representatives with regard to any matters relating to the Project, UCSA, the Loan, and the Grant. (Section 2.07 of the PA)	Complied with.
37.	(a) UCSA shall furnish to ADB all such reports and information as ADB shall reasonably request concerning (i) the Loan and the Grant and the expenditure of the proceeds thereof; (ii) the Goods, Works and consulting services and other items of expenditures financed out of such proceeds; (iii) the Project; (iv) the administration, operations and financial condition of UCSA; and (v) any other matters relating to the purposes of the Loan and the Grant. (b) Without limiting the generality of the foregoing, UCSA shall furnish to ADB quarterly reports on the execution of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such form and in such detail and within such a period as ADB shall reasonably request, and shall indicate, among other things, progress made and problems encountered during	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	<p>the quarter under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following quarter.</p> <p>(c) Promptly after physical completion of the Project, but in any event not later than three (3) months thereafter or such later date as ADB may agree for this purpose, UCSA shall prepare and furnish to ADB a report, in such form and in such detail as ADB shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by UCSA of its obligations under this Project Agreement and the accomplishment of the purposes of the Loan and the Grant.</p> <p>(Section 2.08 of the PA)</p>	
38.	<p>(a) UCSA shall (i) maintain separate accounts for the Project and for its overall operations; (ii) have such accounts and related financial statements (balance sheet, statement of income and expenses, and related statements) audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; and (iii) furnish to ADB, promptly after their preparation but in any event not later than six (6) months after the close of the fiscal year to which they relate, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan and Grant proceeds and compliance with the financial covenants of the Loan Agreement and the Grant Agreement as well as on the use of the procedures for imprest accounts/statement of expenditures), all in the English language. UCSA shall furnish to ADB such further information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.</p> <p>(b) UCSA shall enable ADB, upon ADB's request, to discuss UCSA financial statements and its financial affairs from time to time with the auditors appointed by UCSA pursuant to Section 2.09(a) above, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of UCSA unless UCSA shall otherwise agree.</p> <p>(Section 2.09 of the PA)</p>	Complied with.
39.	UCSA shall enable ADB's representatives to inspect the Project, the Goods and Works financed	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	out of the proceeds of the Loan, the Grant, and any relevant records and documents. (Section 2.10 of the PA)	
40.	<p>(a) UCSA shall, promptly as required, take all action within its powers to maintain its corporate existence, to carry on its operations, and to acquire, maintain and renew all rights, properties, powers, privileges and franchises which are necessary in the carrying out of the Project or in the conduct of its business.</p> <p>(b) UCSA shall at all times conduct its business in accordance with sound administrative, financial, environmental, social safeguards, and public utility practices, and under the supervision of competent and experienced management and personnel.</p> <p>(c) UCSA shall at all times operate and maintain its equipment and other property, and from time to time, promptly as needed, make all necessary repairs and renewals thereof, all in accordance with sound administrative, financial, engineering, environmental, social safeguards, public utility, and maintenance and operational practices. (Section 2.11 of the PA)</p>	Complied with.
41.	Except as ADB may otherwise agree, UCSA shall not sell, lease or otherwise dispose of any of its assets which shall be required for the efficient carrying on of its operations or the disposal of which may prejudice its ability to perform satisfactorily any of its obligations under this Project Agreement. (Section 2.12 of the PA)	Complied with.
42.	Except as ADB may otherwise agree, UCSA shall apply the proceeds of the Loan to the financing of expenditures on the Project in accordance with the provisions of the Loan Agreement and this Project Agreement, and shall ensure that all Goods, Works and consulting services financed out of such proceeds are used exclusively in the carrying out of the Project. (Section 2.13 of the PA)	Complied with.
43.	Except as ADB may otherwise agree, UCSA shall duly perform all its obligations under the Subsidiary Loan Agreement and the Subloan Agreement, and shall not take, or concur in, any action which would have the effect of assigning, amending, abrogating or waiving any rights or obligations of the parties under the Subsidiary Loan Agreement and the Subloan Agreement. (Section 2.14 of the PA)	Complied with.
44.	UCSA shall promptly notify ADB of any proposal to amend, suspend or repeal any provision of its Charter and shall afford ADB an adequate opportunity to comment on such proposal prior to taking any action thereon. (Section 2.15 of the PA)	Complied with.
45.	Project Executing Agency and Project Implementing Agency	UCSA was the EA and fulfilled its responsibility generally in a satisfactory manner.

	COVENANT	STATUS OF COMPLIANCE
	UCSA as the Project Executing Agency shall be responsible for the overall Project coordination and implementation, and liaison with ADB and government agencies concerned. UCSA shall be directly responsible for the planning, design, and development and rehabilitation of water supply systems under the Project. (Schedule, para 1 of the PA)	
46.	<p>Project Management Unit</p> <p>UCSA shall establish the PMU, which will be responsible for (a) supervising project implementation, budgeting, financial planning, and accounting; (b) carrying out procurement activities; (c) providing administrative and technical support to the PIU; (d) preparing consolidated Project progress reports and completion report; and (e) consolidating Project accounting, auditing and monitoring, and reporting to ADB, the Borrower, and other stakeholders. The Borrower shall ensure that throughout the Project implementation period the PMU remains headed by Project Director and comprised of (a) one deputy project director, who will also serve as the sector strategy study manager; (b) a financial specialist/accountant; (c) a water supply and sanitation specialist, (d) a procurement specialist, (e) a monitoring and environment specialist, (f) a driver, and (g) an office manager/translator. (Schedule, para 2 of the PA)</p>	<p>Complied with.</p> <p>The existing PMU was strengthened with additional staff, including various specialists, to assume the expanded responsibility. It coordinated project implementation matters with the other agencies concerned. Frequent turnover of staff, however, affected its achievement of responsibility in a timely manner.</p>
47.	<p>Project Implementation Unit</p> <p>UCSA shall ensure that the PIU shall be established by SPG in Termez to be responsible for the day-to-day implementation of the Project at the local level. The major responsibilities of the PIU shall include (a) participating in Project planning, detailed design, and bid evaluation; (b) coordinating the activities of consultants and contractors; (c) overseeing construction activities; (d) coordinating resettlement activities; (e) monitoring the environment and social impacts of the Project activities; (f) supervising capacity building activities; and (g) preparing and consolidating subproject accounting, auditing and monitoring reports for submission to the PMU. UCSA shall ensure that throughout the Project implementation period the PIU remains headed by a Project coordinator acceptable to ADB, and comprised of (i) a financial specialists/accountant, (ii) a water supply and design specialist, (iii) a monitoring and social and resettlement specialist, (iv) a driver, and (v) and an office manager/translator. (Schedule,</p>	<p>Complied with.</p> <p>A PIU was established in May 2009 in the city of Termez in Surkhandarya Province based on CMD No. 79, dated 20.3.2009. The PIU was staffed with expertise as required. The PIU Termez comprised a total of 5 key and 2 supporting staff members consisting of the (i) PIU head; (ii) water supply design and construction engineer; (iii) social and resettlement specialist; (iv) monitoring expert; (v) financial/accounting specialist; (vi) driver; and (vii) office manager/translator. By the time the EA's PCR was prepared the position of social and resettlement specialist had been terminated due to completion of the project's resettlement and social works. The PIU was supported by project management consultants. The PIU fulfilled all its responsibilities, including community participation activities, as required.</p>

	COVENANT	STATUS OF COMPLIANCE
	para 3 of the PA)	
48.	Sector Strategy, Roadmap and Investment Plan UCSA shall develop a new water supply and wastewater sector strategy (the "Sector Strategy"), a roadmap, and an investment program is carried out in accordance with the agreed process in consultation with stakeholders in the sector so that the agreed Sector Strategy is approved by the Government by 31 December 2011. UCSA shall keep ADB informed of any major changes in the sector programs and plans that may impact the Project and any future projects to be financed by ADB. (Schedule, para 4 of the PA)	
49.	Water Tariff Review and Adjustments 5. UCSA shall report to ADB that results of the Borrower's reviews and adjustments, if any, of water tariff level and structure within three (3) months of each review. (Schedule, para 5 of the PA)	Complied with. The results of the actual review and adjustments were reported to ADB in a timely manner.
50.	Environment UCSA shall ensure that (a) the Project facilities are constructed, operated, maintained and monitored in conformity with all applicable laws and regulations of the Borrower, including regulations and standards for environmental protection, health, labor and occupational safety, ADB's Environment Policy (2002), the IEE, and the SIEE for the Project; (b) any adverse environmental impacts during construction and operation are minimized by implementing mitigation measures and monitoring program detailed in the EMMP set forth in the IEE; (c) the progress on the EMMP implementation and any violations of environmental standards are reported to ADB semi-annually in accordance with the specifications set forth in the IEE; and (d) the EMMP is incorporated in the bidding documents. (Schedule, para 6 of the PA)	Delayed compliance. All the Project facilities were designed, constructed, operated, maintained, and monitored in conformity with all applicable laws and regulations of the Borrower and ADB. The environmental risk was low, safeguard performance was reflected in project progress reports, appropriate post-construction reinstatement was carried out, and the overall environmental impacts were positive. The EMMP was incorporated into the bidding documents and adverse environmental impacts during construction were mitigated. The progress of the EMMP implementation was, however, not reported to ADB semiannually. Instead, an environmental monitoring report covering July 2010–March 2014 was submitted and disclosed on the ADB website, and later on the UCSA website. Thereafter, a post-construction environment monitoring report covering April 2014–June 2015 was prepared and disclosed on the ADB and UCSA websites and its provincial government websites in the local language. An environmental audit was conducted and the proposed actions were implemented.
51.	Involuntary Resettlement UCSA shall ensure that (a) the Project is carried out in accordance with applicable laws and regulations of the Borrower, ADB's Involuntary Resettlement Policy (1995), and the RP; (b) the RP and due diligence reports are updated based on detailed design of the subprojects, disclosed to all	Complied with. The RP was approved by ADB. Construction began on the Surkhan subproject in Djarkurgan District after the 7 farm enterprises and 12 households were compensated in cash in April 2012. The LARP implementation report, which included compensation arrangements, was

	COVENANT	STATUS OF COMPLIANCE
	affected persons, and resubmitted to ADB for approval; (c) no civil works contract is awarded for the Djarkurgan subproject until the updated RP has been approved by ADB, and (d) the contractors are not given a notice to proceed under the Djarkurgan subproject until the RP has been implemented in accordance with its terms. (Schedule, para 7 of the PA)	submitted and disclosed on the ADB website in February 2014.
52.	Gender and Labor UCSA shall ensure that the GAP is implemented in a timely manner over the entire Project period, and adequate resources are allocated for this purpose. The implementation of the GAP will be closely monitored, and the progress will be reported through quarterly reports to ADB. (Schedule, para 8 of the PA)	Complied with.
53.	UCSA shall ensure that all civil works contractors (i) employ women and local people, including disadvantaged people, living in the vicinity of the relevant subproject; (ii) provide equal pay to men and women for work of equal type; (iii) provide safe working conditions for male and female workers; (iv) abstain from child labor; and (v) conduct an information and education campaign on sexually transmitted diseases and HIV/AIDS for construction workers as part of the health and safety program at camp sites during the construction period. All civil works contracts shall include specific clauses on these undertakings, and compliance shall be strictly monitored during Project implementation (Schedule, para 9 of the PA)	Complied with.
54.	Anticorruption Measures During Project implementation, UCSA shall that ADB reserves the right to investigate directly, or through its agents, any possible corrupt, fraudulent, collusive or coercive practices relating to the Project. To support these efforts, UCSA shall ensure that (i) provisions are included in the bidding documents for the Project, and in all contracts financed by ADB in connection with the Project specifying the right of ADB to audit and examine the records and accounts of PMU, PIU and vodokanals, and all contractors, suppliers, consultants and other service providers as they relate to the Project; (ii) periodic inspections of the contractors' activities related to fund withdrawals and settlements under the Project are carried out; and (iii) auditors have the right to conduct random or spot audits for contract implementation activities under the Project. The cost of this auditing will be borne by the Project; and (b) maintain and update its website to present information on externally	Complied with.

	COVENANT	STATUS OF COMPLIANCE
	funded projects, including this Project. With regard to this Project, the website shall provide information on, among other things, water tariff review procedures, results of annual reviews and adjustments, collection efficiency, financial statements of this Project procurement activities and details on the adopted bidding procedures, amounts of the contracts awarded, the list of goods and/or services purchased, and their intended and actual utilization (Schedule, para 10 of the PA)	
55.	<p>Maintenance Plan</p> <p>For the cranes, excavators and major repair equipment to be provided under the Project and shared between the district vodokanals, UCSA shall cause the Surkhandarya provincial vodokanal to prepare in consultation with vodokanals a maintenance plan covering the proposed station to place the equipment and standards, procedures, other arrangements for the maintenance and use of the equipment. UCSA shall, by 30 September 2009, submit the draft plan to ADB for review. (Schedule, para 11 of the PA)</p>	<p>Delayed compliance.</p> <p>A maintenance plan was prepared in November 2009 and approved by ADB in December 2009. Major repair and maintenance equipment was procured and placed in the Surkhandarya provincial vodokanal station to be shared by the district vodokanals.</p>
56.	<p>Hygiene Promotion Activities</p> <p>UCSA shall ensure that (a) by 31 December 2009, the implementation arrangements and implementation plan for the hygiene promotion activities are prepared to be carried out in all schools in the Project Area; (b) by 30 June 2010, the hygiene baseline survey is completed; and (c) the follow up surveys are carried out in 2012 and 2014. (Schedule, para 12 of the PA)</p>	<p>Delayed compliance.</p> <p>A hygiene promotion consultant was only engaged in August 2011. An implementation plan and arrangements were prepared and a hygiene baseline survey completed in September 2011. Follow-up and final surveys were carried out in September 2013 and April 2014, respectively.</p>
57.	<p>Project Performance Monitoring System</p> <p>13. UCSA shall ensure that the implementation of the Project, the operation of the Project facilities, and the benefits derived from the Project are monitored and evaluated annually by the PMU. Within six (6) months of the Effective Date, a PPMS shall be established by UCSA. The establishment of baseline data and benchmarks, collection of information, monitoring and evaluation of benefits, and evaluation of social impact, shall be undertaken by the PMU with the consultants support. Data collection shall be carried out (a) prior to physical implementation of each subproject in conjunction with socioeconomic surveys, (b) regularly during Project implementation, and (c) for three (3) months after physical completion of the Project. The results shall be incorporated into the Project progress and completion reports. (Schedule, para 13 of the PA)</p>	<p>Delayed compliance.</p> <p>The PPMS was not established within 6 months after the effective date, i.e., 29 January 2011. It was established in June 2011 and the first PPMS report was submitted to ADB by the end of September 2011. The collection of information, monitoring and evaluation of benefits, and evaluation of social impacts were undertaken by the PMU with the benchmark specialist support. Results of the PPMS were included in the quarterly progress report, and the completion report. Data collection upon project completion was not completed 3 months after physical completion of the Project as required. The benchmarking report for 2014–2015 was submitted to ADB in May 2015.</p>
58.	<p>Project Reviews</p> <p>UCSA shall conduct jointly with the Borrower and</p>	<p>Complied with.</p>

	COVENANT	STATUS OF COMPLIANCE
	<p>ADB semi-annual reviews during the first two (2) years of the Project, and annual reviews thereafter. A comprehensive mid-term review shall be undertaken after the third year of Project implementation. These reviews shall include evaluation of project implementation arrangements, detailed evaluation of the Project scope, the actual implementation progress, resettlement and environment safeguards, community involvement, health education and hygiene practice, feedback from the PPMS, performance of consultants, institutional and capacity development progress, and possible reallocation of the Loan and Grant proceeds. The cost recovery mechanisms for each subproject shall also be evaluated and remedial action shall be instituted as needed. (Schedule, para 14 of the PA)</p>	<p>A loan inception mission was fielded from 15 to 21 April 2009.</p> <p>7 review missions were fielded from November 2009 to November 2014.</p> <p>A midterm review mission was fielded from 11 to 18 October 2012.</p> <p>One disbursement mission was conducted from 23 to 25 May 2012.</p> <p>A project completion review was conducted in March–April 2015.</p>

CONTRACT PACKAGES AND PROCUREMENT PROCEDURES

Cat.	Description	Procurement Method	Contract Date	Contractor	Contract Value in '000 USD equivalent		
					at Appraisal	at Completion	Difference
	LOAN 2466-UZB						
1	Works						
1.1	WSS Kizirik district	NCB	14-May-10	PC "Santehgazmontaj"	963.000	934.431	28.569
1.2	WSS Angor district	NCB	20-Jul-10	TME "Parvina"	1,008.000	966.335	41.665
1.3	WSS Muzrabad district	ICB	19-Nov-10	Termiz Ta'minot	5,311.000	5,682.038	-371.038
1.4	WSS Jarkurgan district	ICB	09-Sep-10	PC "Turonirsuvqurilish"	2,223.000	2,138.139	84.861
1.5	WSS Surhan /Jarkurgan district	ICB	18-Nov-10	278-HKMJ LTD	4,291.000	4,174.719	116.281
1.6	WSS Shurchi district	NCB	13-Apr-11	PC Hudoynazar	1,456.000	1,314.908	141.092
1.7	WSS Sariasiya district	ICB	16-Dec-11	LLC "Tongsuvqurish"	2,367.000	2,399.797	-32.797
1.8	WSS Kumkurgan district	NCB	25-Nov-10	JV "Kimyohimoyata'minot"	1,726.000	1,626.903	99.097
1.9	WSS Termez city	ICB	22-Dec-11	PC "Muborok Ta'minot Bazasi"	8,920.000	8,792.262	127.738
	TOTAL				28,265.000	28,029.532	235.468
2	Equipment and Machines						
2.1	Excavators	ICB	Oct-09	Road International Co. Ltd.	490.022	544.874	-54.852
2.2	Truck Cranes	ICB	Oct-09	TTEMZ Ltd.	344.396	260.119	84.277
2.3	Dump truck	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	47.465	30.560	16.905
2.4	Water tank truck	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	83.786	56.480	27.306
2.5	Mobile diesel compressor	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	37.840	29.741	8.099
2.6	Transport vehicles (7 & 4 seats)	DP	Aug-09	Uzavtotehxizmat Ltd.	33.523	26.612	6.911
2.7	Mobile Welding equipment	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	66.854	55.195	11.659
2.8	Tools set	S	Oct-09	Eltex Savdo Servis Ltd.	20.000	4.720	15.280
2.9	Service Van	S	Feb-12	Uzavtotehxizmat Ltd.	76.605	72.641	3.964
2.10	Portable measuring device	S			49.509	0.000	49.509
2.11	Small office equipments	S	Various	Various	0.000	11.717	-11.717
	TOTAL				1,250.000	1,092.659	157.341
3	Consulting Services						
3.1	Detailed Design (Nat. assignment)	QCBS	Nov-09	PC "Loyiha Maslahat"	900.000	734.180	165.820
3.2	Project Implementation Assistance (Int. assignment)	QCBS	Jan-10	Eptisa Servicios de Ingenieria S.L. & UBI Consulting LLC	500.000	501.246	-1.246
3.3	Hygiene Program (Nat. assignment)	CQS	Aug-11	Info Captial Group LLC	200.000	195.200	4.800
3.4	Audit	LCS	May-10 May-13	Tsiar Finans LLC Grant Thornton	100.000	46.439 41.340	12.221
3.5	Construction Supervision (Nat. assignment)	ICS	Oct-2010 to Jan-2014	Various (12 contracts)	300.000	279.024	20.976
3.6	External Monitoring Consultant	ICS	Jun-14	Tolmasbek Boltaev		2.454	-2.454
3.7	PCR preparation consultant	ICS	Sep-14	Ilhomjon Fayziev		11.759	-11.759
	TOTAL				2,000.000	1,811.642	188.358

Cat.	Description	Procurement Method	Contract Date	Contractor	Contract Value in '000 USD equivalent		
					at Appraisal	at Completion	Difference
	GRANT 0131 UZB						
1	Consulting Services						
1.1	Strengthening of Sector Strategy & Management (Int. assignment)	QCBS	Aug-10	EGIS BCEOM International	1,000.000	854.641	120.509
1.2	Sector Strategy Consultant	ICS	Nov-09	Bakhrom Umurzakov		24.850	
1.3	Capacity Development (Nat. assignment)	ICS	Apr-10	Abdugaffor Abdullaev	370.000	37.690	-76.654
1.4		ICS	Nov-09	Oybek Beknazarov		25.351	
1.5		ICS	Jan-13	I.Fayziev		16.698	
1.6		CQS	Aug-12	Uzkomunukuvtashkilotchi		56.394	
1.7		CQS	Dec-12	Uzkomunukuvtashkilotchi		38.500	
1.8		CQS	Aug-12	Kelajak Shahri Rivoji LLC		272.021	
	TOTAL				1,370.000	1,326.145	43.855
2	Equipment and Machines						
2.1	Office equipment	S	Oct-09	"Sharq Kompyuter Technik"	28.320	25.656	0.054
2.2	23 UPS	S	Jan-10	WORLD STUDIO		2.610	
2.3	Office furniture	S	Oct-09	PC "Kenjabaev Z.R."	18.400	14.488	3.912
2.4	Bicycle	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	2.000	1.900	0.100
2.5	Pipe locator	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	0.500	0.475	0.025
2.6	Leak detection equipment	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	1.000	0.930	0.070
2.7	Welding set	S	Nov-09	Xinjiang Yadana Int. Tr. Co. Ltd.	13.000	12.350	0.650
2.8	Software: Accounting 1C	S	Dec-09	Plus Soft Ltd	3.100	2.948	0.152
2.9	Office refurbishment	S	Jan-10	Fabullo Stroy Servis Ltd.	32.880	28.268	2.465
2.10		S	Mar-10	C/O PMU		2.147	
2.11	Small O&M vehicle	S	Jan-11	Xinjiang Eksan Int. Trade Co. Ltd.	30.800	30.305	0.495
2.12	Portable measuring device	S	Jun-11	Xinjiang Eksan Int. Trade Co. Ltd.	0.000	49.600	-49.600
2.13	Various expenses	S	Jun-10	Various	0.000	1.862	-1.862
	TOTAL				130.000	173.539	-43.539
	GRAND TOTAL				33,015.000	32,433.517	581.483

CONTRIBUTION TO THE ADB RESULTS FRAMEWORK

Item	Results Framework Indicator (Level 2)	Target	Achieved Output
Water			
1.	Households with new or improved water supply (number)	70,000	69,632
2.	Water supply pipes installed or upgraded (length of network in kilometers)	333	672

Source: Asian Development Bank project completion review mission.

ECONOMIC AND FINANCIAL REEVALUATION

A. Introduction

1. Post-project economic and financial analyses were prepared to reevaluate the expected economic and financial returns based on actual cost expended, and to compare these returns with those projected during appraisal. Reevaluation based on the methodology accepted during appraisal allows for a comparison of projected indicators with the indicators after project completion.

B. Methodology

2. An economic and financial reevaluation was carried out in accordance with Asian Development Bank (ADB) guidelines.¹ The economic internal rate of return (EIRR) was calculated based on actual investment costs, and actual and projected operation and maintenance (O&M) expenses. To calculate the EIRR, benefit and cost streams were discounted in the economic analysis, taking into account the economic cost of capital (EOCC) at 12%. A subproject is declared economically beneficial when the EIRR is greater than the EOCC. The financial internal rate of return (FIRR) was calculated taking into account costs and revenue flows, and measured against the weighted average cost of capital (WACC), which was 4.2% at appraisal and 4.5% at reevaluation. A subproject is considered sustainable when the FIRR exceeds the WACC.

C. Economic Analysis

3. **Economic benefits.** The economic and financial analysis assumptions applied at reevaluation were updated from appraisal estimates and based on (i) actual post-construction operating information, including water demand, water tariff, and O&M costs; and (ii) statistical data, including the population served by the subproject, population growth rates, staff salaries, and average household income. In the economic analysis, benefits were reevaluated based on updated assumptions that determine cost savings in collection time and storage facility (including maintenance and treatment costs). Table 8A-1 presents the assumptions and indicators used to estimate the benefits at appraisal and at reevaluation.

Table A9-1. Assumptions

Particulars	Unit	Appraisal ^a	Reevaluation ^a
Savings on collection cost			
Average collection time	hrs/day	0.51	0.61
Wage rate	SUM/year	387,449	746,200
Collection cost	SUM/year	185,659	359,054
Savings on storage and treatment costs			
Storage unit cost	SUM	11,342	22,184
Unit financing cost	SUM/year	2,992	4,804
Unit O&M cost	SUM/year	2,268	3,708

^a Averaged across the vodokanals.

4. The “without-project” scenario for water consumption, which was found to be below standard levels (the essential water requirement is 12–15 liters per capita per day), was also adopted during reevaluation. For the “with-project” scenario, subproject water consumption was based on actual operational data. The future selling price or tariff for rural families should not exceed 5% of their monthly income.

¹ Guidelines for the Financial Governance and Management of Investment Projects Financed by the Asian Development Bank (2002); ADB. 1994. *Framework for the Economic and Financial Appraisal of Urban Development Sector Projects of ADB*. Manila; and ADB. 1998. *Handbook for the Economic Analysis of Water Supply Projects*. Manila.

5. The economic evaluation included both direct and indirect benefits. A higher standard of public hygiene leads to a decrease in waterborne diseases, less time spent on collecting water, and a decrease in or the elimination of household water treatment and maintenance costs. All these were quantified in economic terms. However, the health benefits from the avoided cost of treating water-related disease will only be evident after several years of system operation and so these were not quantified.

6. The project's water supply facilities will reduce the economic cost of obtaining water for each household. There will be cost savings resulting from time saved collecting water from alternative and supplementary sources, from maintaining private water reservoirs or containers, and traditional treatment by boiling water. Collection time ranges between 0.4 to 2 hours (averaging 0.61 at reevaluation) depending on the distance travelled by household members to an alternative water source. The hourly minimum wage rate was used to monetize time saved. Water supplied by the project will replace private water supplies used by the existing households (non-incremental demand) and will enable them to increase their consumption (incremental demand). Cost savings also result from eliminating the need to acquire and maintain containers to store boiled water.

7. Resource cost savings are estimated by multiplying the non-incremental water consumed by the average economic price in the without project situation. The value of incremental water and water from non-technical loss is based on the average willingness-to-pay as a proxy for the demand price of project water. The demand price of water without the project is the financial demand price of the various alternative sources in economic terms. The total value of non-incremental and incremental water comprises the total economic benefits of the water supply project.

8. **Economic costs.** Economic capital investment and O&M costs were reevaluated based on actual financial payments. A domestic price numeraire was applied at appraisal and reevaluation. Economic costs exclude taxes and duties, and financial prices are converted to economic prices using reevaluated conversion factors. The shadow exchange rate factor (SERF) at reevaluation is calculated at 1.2 (at appraisal at 1.0).² The conversion factor for skilled and unskilled labor, the shadow wage rate factor (SWRF), was assumed at 1.0 and 0.8, respectively.³ The economic life of the project was assumed at 25 years after project completion.

9. **Benefit-Cost Ratio (BCR).** A subproject BCR was assessed to determine if benefits exceed costs, indicating economic sustainability. Results of the analysis show that the BCR for all subprojects exceeded 1.0 and varies between 1.5 and 2.1, averaging 1.8.

10. **EIRR.** The overall project EIRR was recalculated at 23.5%, lower than the 32.1% estimated at appraisal. The lower EIRR was mainly due to the higher overall project cost and the longer implementation period. However, the EIRR is relatively higher than the ADB recommended discount rate of 12%. The project is therefore considered economically viable. Appraisal EIRRs range between 24.4% and 39.7%. The reevaluated EIRRs are between 20.0% and 28.7%. A detailed calculation of EIRRs is given in Supplementary Appendix E.

11. **Sensitivity analysis.** All subprojects remain robust despite a 20% increase in O&M costs and a 20% decrease in benefits, with subprojects more sensitive to the latter. Increasing costs resulted in a lower average EIRR of 23.4%. Decreasing benefits resulted in an even lower average of 17.9%. The same trend was reflected at project appraisal. Table A8-2 summarizes the results of the analysis.

² SERF was determined using ADB prescribed guidelines. The latest available data (April 2016) on Uzbekistan imports and exports, taxes and duties, and subsidies were applied in the SERF equation.

³ The SWRF was based on the consultant's assessment of the current labor situation in coverage areas.

Table A9-2. EIRR and Sensitivity Analysis

Subproject	At Appraisal						At Project Completion					
	Base Case		O&M+20%		Benefit –20%		Base Case		O&M+20%		Benefit –20%	
	EIRR	ENPV	EIRR	ENPV	EIRR	ENPV	EIRR	ENPV	EIRR	ENPV	EIRR	ENPV
Djarkurgan	38.6%	1.00	37.5%	0.20	24.0%	2.20	26.4%	8.15	26.2%	8.07	20.8%	5.00
Hodjaipak	31.5%	1.00	31.2%	0.10	22.6%	2.10	24.8%	6.32	24.2%	6.06	18.3%	3.20
Kumkurgan	27.9%	1.90	25.2%	0.70	15.6%	3.50	23.4%	4.96	23.1%	4.84	17.5%	2.46
Muzrabad	34.2%	1.00	33.6%	0.10	22.9%	2.10	21.7%	15.50	21.6%	15.32	16.5%	7.40
Sariasia	24.4%	1.60	23.7%	0.30	16.7%	2.90	22.3%	6.69	22.2%	6.58	16.8%	3.19
Shurchi	29.7%	0.90	29.2%	0.10	21.6%	2.10	23.2%	3.87	23.0%	3.81	17.3%	1.92
Surkhan	39.7%	0.90	39.6%	0.00	26.0%	1.90	28.7%	21.16	28.6%	21.05	22.3%	13.25
Termez	31.1%	1.10	30.5%	0.10	20.7%	2.30	20.0%	11.01	19.8%	10.76	15.2%	4.45
Overall	32.1%	9.40	31.3%	1.60	21.3%	19.10	23.5%	77.67	23.4%	76.49	17.9%	40.87

EIRR = economic internal rate of return; ENPV = economic net present value; O&M = operation and maintenance.

D. Financial Analysis

12. The financial analysis assesses the capacity of subprojects to cover future costs, including capital investments and O&M costs, taking into account any necessary replacements. “Without-project” and “with-project” scenarios were analysed, assessing increasing costs and revenues over a 25-year period. As with the appraisal methodology, the main financial parameters of sustainability in the reevaluation were (i) the FIRR, which should be higher than the WACC; and (ii) tariff affordability, generally acceptable up to 5 % of the average household income.

13. **Subproject revenues.** Revenues were calculated based on actual domestic and non-domestic demand, including demand arising from public standpipes. Subproject forecasts assume that the water supply from existing alternative sources will eventually be replaced by subproject supplies. Sales revenues are based on tariffs designed for full-cost recovery, but in accordance with tariff reforms that ensure social acceptability.

14. **Subproject costs.** Capital investments include all infrastructure costs. O&M costs include staff wages, and administration, water treatment, power and fuel, and maintenance costs. The annual depreciation expense was calculated at 5% for civil works (50-year useful life), and 6.7 % for equipment (15-year useful life).

15. **Tariffs and cost recovery.** Current subproject tariffs for house connections, budget organizations (i.e., institutional connections, including schools, hospitals, and government offices) and public standpipes were used in the analysis. Future tariffs were determined to satisfy certain cost recovery options based on projected O&M costs, including depreciation, loan interest, and profit margins. It was assumed that the tariff collection rate would improve as services improve. The actual collection rate is about 85%, and is assumed to increase gradually to a minimum of 90% by 2025. Table A8-3 presents the tariffs, cost recovery levels, and relevant financial sustainability indicators.

Table A9-3. Projected Cost Recovery Tariffs and Financial Indicators

Particulars	Unit	2015	2016	2017	2018	2019	2020	2025
Djarkurgan								
Tariff	SUM/m ³	208	208	271	271	366	366	900
Water Sales	m ³ mill	1.533	1.587	1.642	1.720	1.795	1.795	1.795
Revenue	SUM mill	256	268	365	387	551	558	1,454
Net Income	SUM mill	(129)	(123)	(52)	(35)	112	112	884

Particulars	Unit	2015	2016	2017	2018	2019	2020	2025
Cash, End-year	SUM mill	99	194	182	201	354	536	3,516
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	times	2.12	2.10	2.71	2.71	3.66	3.50	6.88
Depreciation Cover	times	0.62	0.65	1.06	1.13	1.85	1.84	5.73
Debt Coverage	rate	2.88	2.99	1.01	1.08	1.74	1.75	5.55
Khojaipak								
Tariff	SUM/m ³	354	354	460	460	598	598	1,314
Water Sales	m ³ mill	7.832	7.832	7.832	7.832	7.832	7.832	7.832
Revenue	SUM mill	2,217	2,245	2,955	2,991	3,935	3,982	9,262
Net Income	SUM mill	957	944	1,527	1,520	2,327	2,324	6,807
Cash, End-year	SUM mill	876	2,329	4,007	5,945	8,436	11,271	36,724
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	times	3.06	2.93	3.64	3.48	4.33	4.14	7.27
Depreciation Cover	times	3.89	3.85	5.58	5.55	7.88	7.87	20.80
Debt Coverage	rate	30.72	30.44	9.00	9.07	12.94	13.08	36.54
Kumkurgan								
Tariff	SUM/m ³	56	73	95	114	137	164	546
Water Sales	m ³ mill	1.345	1.345	1.345	1.345	1.345	1.345	1.345
Revenue	SUM mill	230	233	377	381	617	625	2,709
Net Income	SUM mill	(189)	(195)	(77)	(81)	131	129	1,951
Cash, End-year	SUM mill	67	85	63	56	246	463	6,081
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	rate	1.37	1.31	2.00	1.92	2.94	2.81	9.19
Depreciation Cover	times	0.29	0.26	0.90	0.87	1.94	1.91	11.49
Debt Coverage	rate	1.54	1.37	0.97	0.94	2.06	2.06	12.45
Muzrabad								
Tariff	SUM/m ³	247	247	383	383	593	593	2,208
Water Sales	m ³ mill	2.519	2.519	2.519	2.519	2.519	2.519	2.519
Revenue	SUM mill	497	503	790	800	1,254	1,269	5,005
Net Income	SUM mill	(906)	(930)	(730)	(747)	(319)	(334)	2,895
Cash, End-year	SUM mill	(79)	256	(797)	(1,278)	(1,447)	(1,512)	5,775
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	times	0.95	0.91	1.35	1.29	1.91	1.83	5.43
Depreciation Cover	times	(0.04)	(0.07)	0.28	0.24	0.81	0.78	5.53
Debt Coverage	rate	(0.19)	(0.36)	0.30	0.26	0.89	0.87	6.08
Sariasiya								
Tariff	SUM/m ³	226	226	305	305	412	412	1,012
Water Sales	m ³ mill	2.302	2.302	2.302	2.302	2.302	2.302	2.302
Revenue	SUM mill	416	421	575	582	796	805	2,098
Net Income	SUM mill	(111)	(114)	7	9	196	199	1,327
Cash, End-year	SUM mill	193	408	501	617	913	1,240	5,937
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	rate	3.08	2.95	3.81	3.64	4.71	4.50	8.84
Depreciation Cover	times	0.86	0.85	1.29	1.29	1.91	1.91	5.67
Debt Coverage	rate	4.41	4.37	1.37	1.38	2.01	2.03	6.14
Shurchi								
Tariff	SUM/m ³	141	141	155	155	170	170	227
Water Sales	m ³ mill	3.022	3.022	3.022	3.022	3.022	3.022	3.022
Revenue	SUM mill	340	345	384	389	433	438	617
Net Income	SUM mill	24	21	49	45	76	42	143
Cash, End-year	SUM mill	214	414	641	868	1,125	1,348	2,294

Particulars	Unit	2015	2016	2017	2018	2019	2020	2025
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	rate	2.46	2.35	2.48	2.37	2.49	2.38	2.54
Depreciation Cover	times	1.16	1.13	1.31	1.28	1.48	1.45	2.14
Debt Coverage	rate	—	—	—	—	—	7.57	2.32
Surkhan								
Tariff	SUM/m ³	316	316	473	473	710	710	2,397
Water Sales	m ³ mill	1.977	1.977	1.977	1.977	1.977	1.977	1.977
Revenue	SUM mill	499	506	768	777	1,180	1,194	4,265
Net Income	SUM mill	(392)	(399)	(193)	(193)	180	183	2,885
Cash, End-year	SUM mill	155	310	251	243	552	941	9,678
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	rate	2.13	2.04	2.92	2.80	4.01	3.84	10.35
Depreciation Cover	times	0.48	0.47	0.92	0.91	1.61	1.60	7.00
Debt Coverage	rate	2.48	2.41	0.98	0.98	1.71	1.73	7.56
Termez								
Tariff	SUM/m ³	177	177	177	177	177	177	177
Water Sales	m ³ mill	14.189	14.189	14.189	14.189	14.189	14.189	14.189
Revenue	SUM mill	2,012	2,037	2,062	2,087	2,112	2,137	2,263
Net Income	SUM mill	146	139	129	118	105	(145)	(321)
Cash, End-year	SUM mill	1,520	2,956	4,383	5,799	7,201	8,343	10,041
Collection Efficiency	rate	80%	81%	82%	83%	84%	85%	90%
O&M Cost Cover	rate	3.47	3.32	3.18	3.04	2.91	2.78	2.22
Depreciation Cover	times	1.13	1.12	1.11	1.10	1.09	1.08	0.98
Debt Coverage	rate	—	—	—	—	—	5.60	1.09

m³ = cubic meter; O&M = operation and maintenance.

16. As of September 2014, the average tariff collection rate in the nine subprojects was recorded at 80%. Water tariffs have been adjusted twice annually since 2009. Tariffs for non-metered consumers were increased by 1.5 times on 1 December 2013. Based on 2014 financial statements, however, some vodokanals did not fully recover O&M costs because of the frequent power outages during the preceding years, which affected collection and overall finances. With increased tariffs, backed by a government resolution that tariffs shall be structured to attain full cost recovery, and energy-efficient pumps and equipment installed under the project to resolve the energy situation, the financial standing of the vodokanals has since shown improvement. In 2015–2016, all vodokanals except Muzrabad are seen to reflect operating ratios below 0.76 (i.e., inversely, O&M cost coverage at higher than 1.3). After 2018, all vodokanals, except Muzrabad, are projected to see cost recovery of O&M and depreciation expenses. Muzrabad is estimated to require \$2.88 million in operating subsidies to sustain operations until 2022, after which the vodokanal will be self-sufficient.

17. In the financial analysis, tariffs were proportionately corrected to account for inflation as the costs were expressed nominally. In the discounted cash flows, tariffs were reflected in real terms. As a sustainability measure, initial tariffs will increase 2 years after subproject completion to give users time to adapt to tariff reforms, including tariffs adjusted biennially, and that are in line with user willingness-to-pay. However, actual financial performance data of subproject vodokanals toward project completion in 2013–2014 and during initial operation in 2014–2015 reveal a low cost recovery. Immediate remedial measures were undertaken, with the government issuing two-step increases of 15% each (one in April and another in September of the same year). This improved the financial condition of the vodokanals, with seven of the eight in Surkhandarya showing cost recovery of all O&M costs in 2015–2018. In 2015–2016, three of the eight vodokanals also covered depreciation expenses, and this improved to five of eight vodokanals in 2017–2018. After 2018, all subproject vodokanals,

except Muzrabad, are expected to fully cover O&M and depreciation costs. With the projected tariffs given in Table A8-1, Muzrabad can likewise attain full cost recovery.

18. **Affordability analysis.** An affordability analysis was undertaken to ensure that households, particularly those in the low-income group, can afford the water tariffs. On the generally accepted principle that expenditure on water supply services should not exceed 4–5% of household income, the projected water tariffs are considered affordable.

19. Current subproject water tariffs are a fixed monthly payment based on constant consumption norms. Part of the tariff reform is to apply volumetric tariffs based on metered usage. Reviews during appraisal showed a high willingness to have an individual service connection and pay for it because of difficulties related to existing supply sources, e.g., water delivery or collection from remote sources, maintenance of one's own system, additional cost of treatment to avoid waterborne diseases, and the like.

20. Table A8-4 demonstrates levels of affordability in 2015, 2017, 2019, and 2025 (Year 10). Average income data were derived from the social survey and published national and regional statistics. The analysis shows applied tariffs in Surkhandarya Province throughout the study period to be within defined maximum affordability. For the assessment period 2015–2025, income allocation to water is estimated at minimum 0.2% and maximum 3.1%.

Table A9-4. Tariff Affordability Analysis

Subproject	Year	PPH	Ave. HH Income \$/mo	Per Capita Consumption lpcd	Ave. Water Bill \$/mo	Income Allotted to Water %
Djarkurgan	2015	5.84	317	124	1.59	0.5%
	2017	5.84	363	127	2.11	0.6%
	2019	5.84	416	129	2.91	0.7%
	2025	5.84	626	137	7.60	1.2%
Khojaipak	2015	5.30	317	116	1.45	0.5%
	2017	5.30	363	118	1.92	0.5%
	2019	5.30	416	121	2.54	0.6%
	2025	5.30	626	128	5.93	0.9%
Kumkurgan	2015	6.09	317	108	1.66	0.5%
	2017	6.09	363	110	2.71	0.7%
	2019	6.09	416	113	4.43	1.1%
	2025	6.09	626	120	19.25	3.1%
Muzrabad	2015	5.79	317	108	1.58	0.5%
	2017	5.79	363	110	2.50	0.7%
	2019	5.79	416	113	3.95	1.0%
	2025	5.79	626	120	15.62	2.5%
Sariasiay	2015	5.80	317	108	1.58	0.5%
	2017	5.80	363	110	2.18	0.6%
	2019	5.80	416	113	3.00	0.7%
	2025	5.80	626	120	7.84	1.3%
Shurchi	2015	6.66	317	108	1.82	0.6%
	2017	6.66	363	110	2.04	0.6%
	2019	6.66	416	113	2.29	0.6%
	2025	6.66	626	120	3.23	0.5%
Surkhan	2015	5.84	317	116	1.71	0.5%
	2017	5.84	363	118	2.61	0.7%
	2019	5.84	416	121	4.00	1.0%
	2025	5.84	626	128	14.33	2.3%

Subproject	Year	PPH	Ave. HH Income \$/mo	Per Capita Consumption lpcd	Ave. Water Bill \$/mo	Income Allotted to Water %
Termez	2015	5.84	317	124	1.41	0.4%
	2017	5.84	363	127	1.43	0.4%
	2019	5.84	416	129	1.46	0.4%
	2025	5.84	626	137	1.55	0.2%

PPH = persons per household; HH = household; lpcd = liter per capita per day.

21. **Weighted Average Cost of Capital.** The WACC is calculated in real terms and used as a basis for measuring subproject financial viability. Funding sources are the ADB loan, capital contributions from the government, and cofinanciers, with weights at 74.7%, 19.9%, and 5.5%, respectively. Inflation is estimated at an annual average of 0.3% for foreign costs and 6.8% for local costs. The rates are computed on an after-tax basis, resulting in the WACC in real terms being estimated at 4.30%, as given in Table A8-5.

Table A9-5. Weighted Average Cost of Capital (WACC)

Particulars	Total Cost	ADB Loan	Gov't Equity	Co- Financing
Amount, SUM million	61,546.00	48,622.00	12,925.00	3,551.00
Weight, %	100.00	74.70	19.90	5.5.0
Nominal cost, %		1.70	25.00	1.00
Tax rate, %		10.00	0.00	0.00
Tax-adjusted nominal cost		1.50	25.00	1.00
Inflation rate, %		0.30	6.80	6.80
Real cost, %	18.30	1.20	17.00	0.00
Real WACC, %	4.30	0.92	3.38	0.00

22. **FIRR and Sensitivity Analysis.** Based on results of the reevaluation, all subproject FIRRs were found to exceed the WACC. FIRRs ranged between 5.4% and 6.3%, averaging 5.6%. The reevaluated average is slightly higher than at appraisal, at 5.5%.

23. The sensitivity analysis evaluates the effects on financial viability of a 10% increase in O&M costs and a 10% decrease in revenues. As at appraisal, all subprojects remain robust under the sensitivity scenarios. With the 10% increase in O&M costs, the average FIRR decreases to 5.2%. When revenue decreases by 10%, the average FIRR falls to 4.6%. Table A8-6 presents the FIRR and sensitivity analysis. Detailed calculation of FIRRs is given Supplementary Appendix F.

Table A9-6. FIRR and Sensitivity Analysis

Subproject	At Appraisal						At Project Completion					
	Base Case		O&M+10%		Revenue -10%		Base Case		O&M+10%		Revenue -10%	
	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV
Djarkurgan	5.5%	5.90	5.2%	2.00	4.3%	9.40	5.4%	445	5.3%	376	4.5%	-39
Hodjaipak	5.3%	7.10	5.2%	0.60	4.2%	9.90	5.4%	482	5.2%	378	4.4%	-80
Kumkurgan	5.8%	4.50	5.2%	3.80	4.3%	9.70	5.9%	834	5.7%	724	5.0%	282
Muzrabad	5.2%	6.00	5.0%	1.90	4.3%	9.60	5.5%	2,660	5.4%	2,490	4.9%	991
Sariasia	5.7%	5.00	5.4%	2.20	4.4%	8.70	5.7%	733	5.6%	645	4.6%	40
Shurchi	5.8%	4.60	5.5%	1.80	4.6%	7.80	5.5%	284	5.4%	251	4.3%	-67

Subproject	At Appraisal						At Project Completion					
	Base Case		O&M+10%		Revenue –10%		Base Case		O&M+10%		Revenue –10%	
	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV	FIRR	FNPV
Surkhan	5.1%	7.50	5.0%	0.50	4.3%	9.70	5.4%	1,162	5.3%	1,145	4.6%	104
Termez	5.5%	5.40	5.3%	1.80	4.4%	8.40	6.3%	1,439	6.2%	1,287	4.6%	49
Overall	5.5%	46.00	5.2%	14.60	4.4%	73.20	5.6%	85,577	5.5%	84,038	4.7%	69,326

FIRR = financial internal rate of return; FNPV = financial net present value; O&M = operation and maintenance.

SUMMARY OF SOCIAL, POVERTY, AND GENDER ISSUES

A. INTRODUCTION

1. This appendix reviews social, poverty, and gender issues and assesses implementation of the gender action plan (GAP) as well as the benefits attained because of the project. The actual achievements against targets are shown in Table 1. The project-related documents, GAP, social and economic impact assessment study, and Asian Development Bank (ADB) publications were analyzed with respect to the GAP.

2. A sample survey with project beneficiaries and interviews with officials of community-based organizations, implementing partners, nongovernmental organizations (Fund “Makhalla,” Makhalla, women’s committees), and ADB staff were conducted to determine the impact of project activities, the usefulness of the GAP, and its contribution to women’s empowerment.

B. GENDER ACTION PLAN AND RESULTS

1. Background

3. From its Soviet past, Uzbekistan inherited standards of gender equality that were among the most advanced in the world.¹ After achieving independence in 1991, Uzbekistan took over a well-developed water supply and sanitation (WSS) infrastructure that had been built under the Soviet regime. Uzbekistan inherited an enormous number of WSS systems (mostly over-designed) that were reaching the end of their useful life. Water was obtained from deep bore fields located either adjacent to or far from urban areas.² The country had problems with the quality and reliability of its water supply; many connected households had water only intermittently.³ The Surkhandarya project aimed to improve living standards and public health for 340,000 people. The overall outcome was safe, reliable, inclusive, and sustainable water and sanitation services, as well as improved community hygiene.⁴

4. The project design took a proactive approach to ensure that women and the poor would gain the maximum possible benefits from all project activities. The project was implemented in seven districts of Surkhandarya Province: Angor, Djarkurgan (including two subprojects), Kizirik, Kumkurgan, Muzrabad, Sariasiya, Shurchi, and the city of Termez.

5. The project design phase included intensive social and gender analysis and determined specific concerns and water use and hygiene education needs for men, women, and children. The project preparatory technical assistance’s socioeconomic survey conducted in 2007 to 2008 showed a household poverty rate of 33% in the seven subproject districts and 31% in Termez. In June 2010, about 50% of the population of the seven target districts was female, and 25% of households in Termez and 20% in other subprojects were managed by women. Before the construction, only 42% of households in the project districts had access to piped water in their homes, while in Termez, access was about 90%. However, 13% of these connections have never worked, and the remaining operate for an average of 8.4 hours per day in subproject districts and 11.2 hours per day in Termez. In the subproject districts 45% of households sometimes used water from open reservoirs (river, canal) for household needs, including more than 20% households that used river water for drinking. On average, the annual expenses for diarrhea treatment amounted to about 10% of monthly family income per sick child. In general, only 45% of the 130 schools in the subproject areas were connected to a piped water supply, and after construction all these schools, as well as all households in the project area, have piped water.

¹ ADB. July 2013. A Story within a Story. Gender and Water in Uzbekistan. Manila, p. 2.

² Ibid., p. 3.

³ Ibid., p. 3.

⁴ Ibid., p. 5.

6. In Uzbekistan, it is the woman's responsibility to collect water for cooking, washing, cleaning, and other basic needs. It was evident that women and girls were the primary beneficiaries of the project in terms of time savings, a reduced burden in terms of labor, and improved family and community health.

2. The Gender Action Plan

7. The project was categorized with a gender equity theme.⁵ The GAP was designed with specific gender targets and indicators to promote the fullest possible participation of women and girls in project activities (Table 1). In all subprojects, consumer representative and project support groups (CRPSG), each consisting of 5 persons, were established with representatives from local women's committees, the Department of Education, Sanitation Epidemiological Surveillance Services, communities, district healthcare departments, schools. These disseminated information about the project's benefits, took part in decisions on project implementation, conducted surveys, carried out activities on raising awareness and improving competence on sanitation, hygiene, and handling water. Women were empowered to take on roles as trainers and interviewers on sanitation and hygiene in the CRPSG and on the boards of consumer representative groups. The GAP was well-structured, providing broad guidance on how gender actions could be implemented in the field to reduce the burden on women and girls in accessing safe and reliable drinking water, increasing their productivity and their chance to attend schools with adequate sanitation facilities, and reducing medical expenditures because of poor water and sanitation.

8. The project's GAP was comprehensive, with clear outcomes and outputs and defined activities. The project's design and monitoring framework incorporated gender targets from the GAP under each output. The GAP was developed with the executing agency to ensure that the proposed activities were relevant to local conditions.

9. GAP implementation and monitoring were facilitated by a community development and gender focal point in the project management unit (PMU) and project implementation unit (PIU). The PMU included a social, gender, and poverty issues specialist from the consultancy company, hired on an intermittent basis for 14 months, who was responsible for GAP monitoring. PMU, PIU, and ADB staff as well as consultants were gender aware and sensitive, and respected the importance of gender issues as a part of social development.

10. By providing a safe, reliable, and inclusive piped water supply, improving sanitation, and promoting good hygiene behaviors, the project benefitted both men and women. Women experienced greater benefits in terms of time savings, reduced drudgery, and improved family health. The project's impacts included poverty reduction through reduced drudgery, improved health, and reduced expenditures on health care and increased access to a safe water supply. The brief information about GAP targets and achievements is in Table 1. More than 75% of gender-related targets in the GAP targets were achieved and in some cases were exceeded.

Table A10-1: Gender Action Plan Targets and Achievements

Activities	Indicators and Targets	Achievement at Completion	Year
Component 1: Strengthening Sector Strategy and Management			
Ensure women are represented in workshops to prepare sector strategy, road map and investment plan	At least 30% of participants in consultative workshops are women professionals/leaders	50% of participants in consultative workshops are women leaders.	1–2
Ensure social, poverty, and gender specialist is involved in the	Specialist participates in workshops and provides	GS initiated and conducted workshops for the PMU, PIU,	

⁵ The project was approved before the introduction of ADB's gender classification system, however, it was categorized with the GEN theme as all gender requirements were met during the project's implementation.

Activities	Indicators and Targets	Achievement at Completion	Year
preparation of the sector strategy, road map, and investment plan	advice on strategy documents	and vodokanals in collaboration with deputy khokims (in charge of women's issues) and makhalla maslahatchi (advisors), provided with recommendations on education program	
Component 2: Water Supply Development			
Include women as members of the consumer representative groups to be formed in each subproject area	At least 30% of women members of consumer representative groups	68% of 153 representatives of consumer and project support groups in all subprojects are women	1–2
Ensure women are represented and participate within design and construction stage consultations and decision-making processes and structures	At least 30% of women in public meetings on water sector development	More than 50% of women in public meetings. 40% of suggestions on the project are made by women.	
Component 3: Sanitation and Hygiene^a			
Hygiene baseline and follow-up surveys in schools disaggregated by gender	Gender-disaggregated baseline and follow-up survey information available	Gender-disaggregated baseline survey in 2011 and follow-up survey in 2013 are carried out by Info Capital Group LLC	1–5
Hygiene promotion activities, including provision of simple hygiene materials (soap, cleaning fluids, etc.) that target girls and their caregivers (mothers, etc.)	Evidence of hygiene materials targeting girls	Simple hygiene means are provided at the 41 trainings and 3 seminars	
	Hygiene products provided to schools and makhallas during hygiene training	Soap, cleaning fluids, and others supplies were provided at the trainings and 9,007 booklets and 11,099 posters in local languages were distributed to 41 pilot schools, 32 pilot makhallas, and 32 organizations.	
Ensure women are represented in hygiene promotion teams to carry out activities in schools	30% of members of hygiene promotion teams are women	68% of members of hygiene promotion teams are women	
Training on water handling, hygiene, and sanitation carried out for selected schools (mixed groups) and makhallas in a form easily accessible to homebound women in selected pilot areas	>10 relevant training materials developed and distributed	Booklets covering 4 themes and posters covering 5 themes, methodical aids, program of trainings in local languages	2–5
	>50 trained pupils by gender in each school in the project areas	181 teachers are trained in pilot schools in the project areas and they train pupils by gender in established sanitary and hygiene corners. 129 (71.3%) of trained teachers are women.	
	At least 5 women trained in each makhalla in the project areas	632 (79.9%) of 791 persons trained in each of 48 makhallas are women	
Component 4: Capacity Development for Service Delivery^b			
Ensure women take part in vodokanal training activities and study tours by choosing suitable venues and timing	At least 20% of participants in all training activities and study tours are women	30% of those trained in management and water supply and 10% of study tour participants are women.	1–5

Activities	Indicators and Targets	Achievement at Completion	Year
Ensure women participate in training activities for consumer representative groups, households, and teachers	At least 30% of participants in community-level training activities are women	30% of participants are women	
Ensure women are represented and participate in developing customer contracts between vodokanal and the public	At least 30% of participants in consultation groups are women	30% of participants are women	
Ensure that the customer complaints service in each vodokanal has a gender-sensitive person and that complaints are disaggregated by gender	Each customer care unit has a gender focal point to receive and address women's complaints	Women are hired to position of customer care unit in each vodokanal to receive and address women's complaints	
Gender sensitivity training carried out for vodokanal, PIU, and PMU staff in mixed-gender groups	Training data/reporting	4 trainings for vodokanal, PIU, and PMU staff in mixed gender groups in 2010–2012	
Ensure women are represented and participate in performance monitoring reporting and workshops	At least 30% of participants at performance monitoring workshops are women	30–53% of participants are women	
Component 5: Project Implementation Assistance			
Recruit a social, poverty, and gender specialist in the PMU (UCSA)	Specialist available for 30 months over project period	GS from the consultancy company hired on an intermittent basis for 14 months.	1–5
Ensure collection of gender-disaggregated baseline information and monitor and evaluate trends. Ensure inclusion of GAP issues in social profile at implementation and completion phases	Gender-disaggregated baseline information available and M&E reports. Social/gender profile included in the reports	Gender-disaggregated baseline information collected in four different regions made available and M&E reports	
Identify a gender focal point for adequate implementation, M&E of gender indicators/targets at PIU	Availability of GAP focal points in PIU during project implementation	M&E specialist	
Ensure gender-balanced composition (and equal pay) of PMU and PIU	Gender-balanced PMU and PIU	30% of PMU and PIU staff are women	
Capacity development training and consultation with EA, PMU, and PIU on implementation of the GAP	Progress toward meeting the GAP indicators and targets		

EA = executing agency; GAP = gender action plan; GS = gender specialist; M&E = monitoring and evaluation; PIU = project implementation unit; PMU = project management unit; UCSA = Uzbekistan Communal Services Agency.

^a Details and budget provided in sanitation and hygiene promotion component.

^b Details and budget for training activities included in capacity development component.

Source: ADB. 2008. *Report and Recommendation to the President to the Board of Directors, Proposed Loan for the Surkhandarya Water Supply and Sanitation Project in Uzbekistan*. Manila.

11. Major GAP activities and targets were monitored on a quarterly basis and were achieved in more than 70% of cases, and in some cases exceeded. The summary is below (Table 2). The detailed GAP is given in Supplementary Appendix G.

Table A10-2. Summary on Monitoring Gender Action Plan Achievements

GAP Components: Major GAP activities	Relevant GAP Performance Indicators	Target	Actual	Notes
Strengthening Sector Strategy/ Management: Ensure women's representation in sector	Women professionals/leaders are participants in consultative workshops	30%	30%	
Water Supply Development: Ensure women are represented and participate in design, construction, decision-making processes, structures	Women are members of consumer representative and project support groups	30%	68%	
	Women take part in public meetings on water sector development	30%	30%	
Sanitation and Hygiene: Gender- sensitive hygiene promotion activities	Ensure women's representation in hygiene promotion teams in schools	30%	87%	
	Training in water handling, hygiene, and sanitation carried out	10	41 trainings and 3 seminars	
	Training materials (leaflets, posters) on water handling, hygiene, and sanitation developed and distributed	400	3,235 (posters) 5,374 (booklets)	
	# of trained persons (including pupils, women, teachers, nurses)	200	Total 1,145 Women 879 (76.8%)	
Capacity Development for Service Delivery: Ensure women's representation in all training activities	Ensure that women take part in vodokanal training activities (technical skill development and leadership) and study tours by choosing suitable venues and timing	20%	15%	
	Ensure that the customer complaints service in each vodokanal has a gender-sensitive person on the staff and that complaints are disaggregated by gender	9	9	
	Ensure that women participate in training activities for consumer representative groups, households, and teachers	30%	30%	

GAP Components: Major GAP activities	Relevant GAP Performance Indicators	Target	Actual	Notes
Project Implementation Assistance	Recruit social/gender expert for PMU (UCSA)	1	1	Expert from the consultancy company hired on an intermittent basis for 14 months.
	Identify a gender focal point from Makhalla Fund for adequate implementation, M&E of gender indicators, and targets at PIU	8	8	In 9 subproject areas (Djarkurgan and Surkhan – united and represented by one Gender Focal Point).
	Ensure gender-balanced composition of PMU and PIU	30%	30%	
	Gender sensitivity training for vodokanal, PIU, and PMU staff conducted	4	4	GAD trainings held in 4 project districts with 30–53% women's participation. Project GS to conduct trainings

GAD = ; GAP = gender action; GS = gender specialist; M&E = monitoring and evaluation; PIU = project implementation unit; PMU = project management unit; UCSA = Uzbekistan Communal Services Agency.

C. OUTPUTS

12. The project outputs were safe, reliable, and sustainable water supply and sanitation services and improved community hygiene in participating urban centers of Surkhandarya. This directly impacts on lifestyle by providing safe, reliable water to 340,000 people by 2014 (an average of 50% of the population of the seven target districts is female) and to 367,000 by 2020.

13. **Output 1. Rehabilitated water supply infrastructure in urban centers of seven districts and the city of Termez.** A rehabilitated and newly constructed infrastructure results in savings on purchasing water for basic needs and on time. Access to a water supply system improve the quality of people's lives in small and medium-sized cities of Surkhandarya Province. The main beneficiaries were 3,079 low-income families, including 47% of households headed by women. This project resulted in social improvements and decreased poverty by providing equitable access to a safe and reliable water supply to urban and poor rural communities and vulnerable groups. A survey conducted after construction in the subproject areas demonstrated its positive impact on lifestyle and living standards. Before the construction of a new water supply system, people used containers to save water and purchased water for 30,000–50 000 sum per household per month. In the subproject areas, the average household's monthly fee for service is 2000–3000 sum in accordance with installed water meters. These savings are a significant amount of money for families in rural areas (about 30% of a family's monthly budget). Some results of the household survey after construction are given in Supplementary Appendix H.

14. **Output 2. Improved latrines (with hand-washing facilities) in selected schools in project areas.** The project provided 17 schools with improved latrine facilities. All schools in the project areas were also provided with a piped water supply. The change in sanitation practices is the major output. Women, men, and children in schools now have access to safer and more adequate sanitation facilities. A majority of the teachers at the schools are women and about 50% of schoolchildren are girls. This provided women and girls with the opportunity to attend schools with adequate sanitation facilities. In general, the project has reduced medical expenditures because of poor water and sanitation.

15. Interviewees in all the subproject areas expressed their thanks for the new latrines. Schoolchildren⁶ Mohida Nimatova and Sevinch Rahmatullaeva (6th grade); Saodat Rahmatullaeva, Zaynab Poyonova, and Mahfuza Rahmatullaeva, Sabrina Mardonova and Xurshida Mamatova (7th grade); and Farruh Xalimov (6th grade) are pleased with the new toilet and improved sanitation of School No. 7 in Muzrabad District. They were trained in best practices of sanitation and hygiene.

16. Mr. Ravshan Boyqobilov, a teacher, was pleased with the new toilet and improved sanitation of School No. 7 in Muzrabad District. In all, 921 pupils of this school (including 512 girls) and 94 teachers (including 64 women) were satisfied with the project. They were also trained in best practices on sanitation and hygiene.

17. One thousand pupils and 65 teachers at School No. 1 in Djarkurgan have improved sanitation and hygiene after the construction of a new toilet.

18. Mr. Ruzimurot Mendokov, director of School No. 2 in Sariasiya, was pleased with the project. A total of 1,083 pupils (including 512 girls) and 58 teachers (including 52 women) are now using the new toilet. They are trained in best practices of sanitation and hygiene. Output 3. Innovative hygiene promotion activities in school communities in project areas. The GAP prepared during assessment addressed gender impacts and promoted women's active involvement in the project and direct access to project benefits such as the involvement of women in the health, safety, and the environment (HSE) program.

19. The HSE program included (i) HSE workshops; (ii) orientation and training of rayon and village health staff, village leaders, and schoolteachers and schoolchildren in all selected communities; (iii) equipping selected health posts and schools with materials and software required for training; and (iv) development and implementation of the HSE program in schools and communities (makhallas).

20. This program helped the beneficiaries improve their understanding of the close interrelationship between hygiene, water, sanitation, and health. Gender-sensitive hygiene promotion activities were carried out in all schools and makhallas in the project areas. A total of 1,145 persons were trained; 76.8% of them were women. Information on the population trained under the HSE is given in Supplementary Appendix I.

21. Within the program, the following aids have been prepared in Uzbek and Russian: (i) training materials on hygiene and sanitation and materials related to trainers' preparation issues: 9,007 booklets (covering 4 themes) and 11,099 posters (covering 5 themes) in local languages were distributed to 41 pilot schools, 32 pilot makhallas, and 32 organizations; (ii) 1,000 copies (700 in Uzbek and 300 in Russian) of a teaching aid for schoolteachers as well as the 175-page volume, "Practice-based learning the basics of hygiene, sanitation and healthy lifestyle"; (iii) a digital database and all materials used for trainings (orders issued by the Ministry of Health and Ministry of Public education, programs, scenarios, questionnaires, handouts, presentations, samples of exercises, educational research, different activities on sanitation and hygiene, norms on sanitation and hygiene in schools, success stories of establishment centers in different schools, and others).

22. CRPSG conducted initial and follow-up gender-sensitive surveys to assess the sanitation practices and positive hygiene behavior among the population, in particular women and children. During these surveys 45 households, 90 teachers, 164 students (grades 1–4), 82 boys (grades 5–9), 82 girls (grades 5–9), and 41 school administrators were interviewed.

⁶ The interview was conducted on 9 October 2013.

23. To ensure the project's sustainability, special "Cleanliness and Health" ("Tozalik va salomatlik") corners were established in all pilot schools. In School No. 3 in the city of Termez, the Resource Center on Sanitation and Hygiene was established to coordinate the activities of all established corners in pilot schools in the subproject areas and distribute information. This center is equipped with such facilities as notebooks, an LCD projector, digital photo camera, digital video camera, fax machine, and microphones. It was also provided with a digital database as well as with all training materials mentioned above. The center developed and distributed a program of trainings and such activities as "Clean hands day" and "International water day." The center's regularly conducts hygiene trainings for teachers from different districts.

24. Output 4. Training program to improve operations, management, and customer relations skills developed, implemented, and evaluated. By project completion, a broad range of trainings, including 13 programs on management, water supply and sanitation, management of community facilities, financial management, tariff policies, and government private partnership on the basis of world practices had been delivered to PMU, PIU, and vodokanal staff and the CRPSG. The program covered 191 persons, 30% of whom are women. The number of trained persons is given in detail in Supplementary Appendix J.

25. Customer care units and customer representative groups were established in each vodokanal. Women were hired in the vodokanal client relation sections to deal with other women.

26. However, trainings on social gender and public awareness, information technology, and computerization of systems were not included in the contract with RUM NEC "Uzkommunuquvtashkilotchi" and they were not delivered.

27. **Output 5. Study tours to places with good-practice examples.** The purpose was to study the experience of water supply enterprises of these countries, meet with private companies working within public-private partnership (PPP) projects and to study intercommunity models of management of water supply and sanitation systems.

28. National study tours to the Fergana valley, to Tashkent, and Khorezm regions for groups of 12 participants each were conducted in 2012–2013.

29. International study tours to South Korea, France, and Spain for groups of 10 participants each were conducted in 2012–2013.

30. Mrs. Nazira Muzrabova, chief accountant of Vodokanal in Sariasiya District actively participated in GAP implementation. She said: "I am trained in South Korea during study tour and I acknowledge the project for this opportunity for professional development. I have learned many useful things on service providing and management. We may also use experience of our South Korean colleagues in this country. Now I train girls for working in Vodokanal of our district."⁷

31. Study-tour participants actively discussed and participated in the preparation of frameworks and WSS strategy, and in running the vodokanal offices throughout the project implementation period.

32. The training and awareness activities improved the institutional capacity of UCSA and the vodokanals to support gender issues in their operations. The project's gender-related activities were continued under the ongoing multitranchise financing facility Water Supply and Sanitation Sector Investment Program.

⁷ The interview was conducted on 10 October 2013.

33. The study tours were provided for 66 persons, 10% of whom were women. More women were selected for study tours, but because of personal circumstances, such as sickness and household responsibilities, were unable to participate.

SUMMARY OF ENVIRONMENTAL ISSUES

I. IMPACT

A. The project obtained the desirable impact

1. The project's primary objective is improving the drinking water supply and sanitation conditions, providing access to households in selected district centers and villages to a reliable and affordable source drinking water. Before the project, households in district centers and villages did not have free access to safe and adequate water supply services. The main positive impact of the project is provision of drinking water to 340,000 people living in the nine subproject areas, e.g., in seven districts and one city of Surkhandarya Province.

2. Project implementation has resulted in the following impacts:

- (i) in seven districts and the regional capital more than 340,000 people were provided with access to safe drinking water;
- (ii) the quality of drinking water was improved in order to meet the appropriate sanitary standards;
- (iii) the health of the population in the subproject areas improved;
- (iv) it made the use of water for personal and domestic hygiene possible for the local population, especially women;
- (v) the burden on family members (women and children) to find and collect water was reduced;
- (vi) the skills for sustainable personal and public hygiene were improved and the ill effects caused by poor hygiene were reduced;
- (vii) the availability of water increased from 3–4 hours per day to 20 hours;
- 1. the use of modern resource-saving technologies decreased the amount of drinking water that had to be treated; the unaccounted-for water volume was reduced to 40%;
- (viii) environmental awareness, responsibility for environmental conservation, and the sustainable use of natural resources for people living in the project area increased;
- (ix) the introduction of economic mechanisms, such as water meters, ensures the rational use of drinking water;
- (x) the social importance of natural resources, especially clean drinking water, improved;
- (xi) the project's sustainability was ensured by joint action between with local authorities and the public and private sector on environmental protection and the rational use of natural resources
- (xii) An environmental monitoring group was established to monitor environmental protection activities in the subproject areas after completion of the project and the adoption of measures to protect the environment.

3. The project has the following impacts on the environment:

- (i) Termez – the project will guarantee the supply of clean drinking water for the regional capital. Total number of people covered by the subproject is 139,700. Implementation of this subproject will improve sanitation, hygiene and quality of life for residents living in Termez.
- (ii) Muzrabad District – this subproject will increase the water supply for the district's rural population and improve sanitation, hygiene and living conditions in 22 villages with a total population of 51,410.
- (iii) Kizirik District – this subproject will increase the access to drinking water to more than 12,000 people.

- (iv) Shurchi District – this subproject will improve the water quality for the district center and improve sanitary and living conditions for more than 23,000 people.
- (v) Jarkurgan District – this subproject increases the area for a guaranteed water supply, and improves sanitation, hygiene, and living conditions in the district center and 17 villages with a total population of 56,897.
- (vi) Sariasiya District – this subproject will provide drinking water and improve the sanitation, hygiene, and living conditions of the population in the district center and 5 rural villages, with a total population 15,843.
- (vii) Kumkurgan District – this subproject covered more than 28,000 people and provided them with access to potable water and improved sanitation, hygiene, and living conditions of people living in areas covered by the subproject .
- (viii) Angor District – the subproject provided the district center with potable water and improved sanitation and living conditions for more than 12,000 people.

B. Positive impact on the environment as a result of work on HSE and improvement of infrastructure

4. The work to ensure health, safety, and the environment (HSE) during the implementation period was maintained at the proper level.
5. In almost all the construction sites, workers, specialists, and others wore appropriate gloves, shoes, and uniforms, in order to avoid damage and accidents. First-aid kits and facilities were also readily available. Safety instructions were also given out at the construction sites. Specialized work such as welding, earthworks, and installation of equipment was conducted by qualified and skilled specialists under direct supervision.
6. Compliance with sanitary requirements was generally met. Dining facilities were set up indoors at most of the construction sites. Sinks were installed in the kitchens, and soap, detergent, and dishcloths were provided. During the summer the area around the kitchen was constantly watered to avoid raising dust, and dishes and appliances were stored in special cabinets and constantly washed with detergent.
7. During construction, in many cases, the workers remained at the facilities in specially equipped trailers.
8. In some installations, the workers were equipped with showers.
9. In almost all facilities new toilets were built in accordance with sanitation and hygiene requirements and provided with water, soap, toilet paper, and garbage bins.
10. During construction no accidents or injuries were incurred. No workers or specialists had go to the hospital.
11. All work at the subprojects was monitored on a quarterly basis to ensure HSE and special programs were designed for any deviations or violations of rules and requirements.
12. At each site, meetings were held with lead contractors and workers to stress the importance of protecting the environment and the rational use of natural resources.

C. Positive impact on the environment as a result of providing toilets in rural schools

13. To ensure compliance with sanitary and hygiene requirements the project built 17 improved toilets in 17 schools in Angor (2 toilets), Kizirik (2), Muzrabad (3), Djarkurgan (3), Shurchi (2), Sariasiya (3), and Kumkurgan (2) districts. These improved facilities resulted in improved personal hygiene

among pupils; prevented soil, groundwater, and surface water from being polluted by sewage; and protected students against different viral diseases transmitted by poor hygiene.

II. EVALUATION

14. According to the rules and regulations of the Republic of Uzbekistan, the project is categorized as having a low-risk environmental impact. All the necessary documents for the project in terms of environment protection were designed in accordance with Environmental Policy (2002) of the Asian Development Bank (ADB), its Environmental Assessment Guidelines (2003), and national legislation.¹ The technology used in the project did not have a negative impact on the environment, and all the project-related activities were designed to mitigate any negative impact on the environment or to have a minimal impact. Providing access to quality drinking water for the population of Surkhandarya Province has had a huge positive impact. In particular, the project helped to improve the health and welfare of the local population, and ensure sanitary conditions.

15. Local authorities and public agencies from local government, the State Committee for Nature Protection, and the Service of Sanitation and Epidemiology were included in implementing the environmental monitoring and management plan (EMMP). This cooperation will help strengthen the project's potential and sustainability. Quarterly reports on implementation of the EMMP showed that the subprojects had no negative impact on the environment and that all work met the requirements and provisions of the EMMP. Environmental concerns, for which appropriate safeguards were built into the subproject's implementation, included: (i) protection of water sources; (ii) provision for the proper collection and disposal of domestic and construction waste; (iii) provision for the appropriate conditions and safety for the workers; (iv) improvement of sanitation and hygiene for the population in the subproject areas; (v) increase in awareness of the importance of environmental protections and the rational use of nature resources; (vi) protection of historical monuments and natural sites of ecological importance; and (vi) sustainability of the project through attracting local authorities, public agencies, public-private partnerships (PPPs). All these measures were included in the construction contracts and were all met. The project consultants monitored their performance on a quarterly basis. All work regarding implementation of the EMMP from 2010 to 2014 has been published on ADB's website.

16. An environmental audit was conducted on 22 November 2013 by Nazar Business and Technology, LLC (NBT). On 2 February 2014 NBT made a site visit to the subprojects located in Surkhandarya Province in order to check the implementation of the EMMP and ADB's other requirements regarding environmental protection.

17. Based on the findings of the environmental audit, the project management unit (PMU) developed a remedial action plan and indicated the progress status in the environmental monitoring report for the period April 2014–June 2015. The remedial action plan is in Supplementary Appendix K.

III. LESSONS LEARNT AND RECOMMENDATIONS

A. Preconstruction period

18. Due to a lack of environmental experts as well as a senior environmental protection expert when the project documents were prepared, tender documents and holding tender initial environmental examination (IEE), summary initial environmental examination (SIEE), the environmental management and monitoring plan (EMMP), and their various appendixes were not included. Environmental protection experts should therefore be involved from the very early stages of the project.

19. Once the senior environmental expert was engaged, he regularly assisted with implementation of the EMMP and institutional development of environmental aspects in the subprojects.

¹ RD 118.0027714.24–93: "Instruction on the procedure for environmental impact assessment."

20. The time needed to prepare documents and get agreement on them tends to be long. As a result, data obtained on the basis of previous studies and analysis become obsolete and require updating. For example, the IEE was developed in June 2008 and the project was launched in the first half of 2010. During this time, some data and materials from the IEE, SIEE, and EMMP had already become obsolete.

21. The use of different consulting firms to prepare the IEE, SIEE, and EMMP at different stages was ineffective, as these were not updated until a senior environmental protection expert was engaged.

22. The interaction between environmental protection experts of the PMU and the project implementation unit (PIU) and the senior environmental protection expert remained weak. The PMU should therefore coordinate activities by the experts at all stages of the project.

23. Interaction and coordination between environmental experts and ADB's environmental sector also remained weak. They should be reviewed to figure out how to strengthen them.

24. The interaction of local authorities, communities, the Surkhandarya regional committee for nature protection, and other appropriate agencies during the project's preparation and construction phases was also less than optimal. For example, the Surkhandarya regional committee for nature protection approved the project's environmental aspects in 2008, but the project was not launched until June 2010.

25. No serious environmental problems were identified during the project's preparation and early pre-construction stages. Camping, office construction, houses for workers, and their living and sanitary conditions were carried out in compliance with environmental requirements.

B. Construction period

26. During implementation of the subprojects no significant environment impacts were found. Improvement of the project's environmental protection system was still ongoing at the time this report was prepared.

27. Although there were special meetings at the beginning of the project with contractors about implementation of the EMMP during the construction phase, to discuss its implementation and measures to mitigate any negative impacts to the environment, not all contractors strictly followed the EMMP's requirements. Not all contractors were equally serious about environmental issues. For these there must be an explicit penalty clause, until EMMP requirements are met.

28. The involvement of local authorities is not sufficient. Despite the fact that both the regional and district khokimiyats were informed about the project, their practical involvement in its implementation in terms of environmental issues remained minimal.

29. Interactions between the project and local nongovernment organizations (NGOs) remained weak. The local NGOs don't have any information about the project and don't attempt to inform the local population about the project and its results. Local NGOs must therefore be more actively involved in the project.

30. Field monitoring of the EMMP should be done on a quarterly basis.

31. The report on implementation of the EMMP for the period 2010–March 2014 was put on ADB's website, but it was done relatively late.

32. The report on implementation of the EMMP should be disclosed to the local authorities and NGOs in order to inform them about the project so that they can promote it both in person and on mass media.

33. Additional monitoring by NGOs, local authorities, and project experts of implementation of the EMMP will enhance the project's sustainability.

34. An environmental monitoring group was established, but not until the project was almost completed due to bureaucratic obstacles and a lack of seriousness.

35. Training of local authorities, contractors, and the local population is very important. These kind of activities should thus be continued not only during project implementation, but also when the project has been completed.

36. The results of the surveys and workshops showed that there were no public complaints about the environmental, health, and safety aspects of the project and that the local communities were satisfied with the implementation of the mitigation measures and approved of the project. The environmental reporting requirements were met.

C. Post-project phase

37. There are risks associated with monitoring the implementation of the EMMP for the subprojects by the environmental monitoring group, because of all its members are civil servants and do not always have the opportunity to travel to the subproject areas because they are needed at the office, and because of a lack of funding and coordination.

38. Due to a lack of awareness of environmental issues the staff of the company dealing with the water supply at the water distribution station there is a risk of a negative environmental impact. To avoid this the company must hold regular staff meetings to explain the importance of environmental protection and mitigation of negative environmental impacts, and of the rational use of natural resources. The environmental monitoring group should handle these matters.

39. The public and other institutions of civil authority may not be sufficiently informed about the post-project condition of the subprojects after it is received by the state commission for operation. Mass media should be used to spread information about the situation and condition of the approved subproject.

40. The project has begun to generate environmental and social benefits. The data show that the project has resulted in an increase in the capacity to provide a clean and stable water supply, wastewater treatment, and solid waste management. These improving water quality which will, in turn, help to ensure public health and welfare.

SUMMARY OF LAND ACQUISITION AND RESETTLEMENT ISSUES

A. Scope of Land Acquisition and Resettlement

1. The subproject located in Djarkurgan District of Surkhandarya Province will (i) reconstruct and increase the capacity of “Surkhan” water intake; (ii) lay 16 kilometers (km) of trunk mains; and (iii) lay 55 km of distribution lines. This infrastructure will provide a safe water supply, on a continuous basis, to households in 17 villages with a total population of 28,852.

2. The physical component of the project primarily includes the replacement of water supply systems in nine subproject areas. There was new construction in one district that entailed temporary impacts on households and land. In Djarkurgan District, new construction entailed minimal temporary agricultural land acquisition. There is no permanent impact in the whole project area. No residences or structures were impacted or demolished. The Surkhandarya water supply and sanitation project had a temporary impact only in Djarkurgan District (in rural settlement “Surkhan”).

B. Affected Persons

3. Initially, during preparation of the land acquisition and resettlement plan (LARP) it was expected that 5.236 hectares (ha) of land would be temporarily affected (see Table 1, below).

Table A12-1: Temporary loss of access to land as per LARP:

№	AP Description	Land leased/operated (ha)			
		Total (T)	Affected (A)	Type	A/T (%)
Farm Enterprise					
1.	«Zulfiya» (AP: Khudayberdiev Ashur)	60.90	1.00	IC	1.64
2.	«Kamol Bobo» (AP: Kurbonov Normamat)	91.40	0.50	IC	0.52
3.	«Said» (AP: Turakulov Uktam)	95.90	0.10	IC	0.10
4.	«Bobomurod» (AP: Irmurodov Khurram)	66.10	0.58	IC	0.87
5.	«Arabbek» (AP: Umarov Shukhrat)	63.00	0.51	IC	0.81
6.	«Namoz Bobo» (AP: Kulatov Bakhodir	88.80	0.40	IC	0.45
7.	«Farkhod» (AP: Toshboev Makhsumkul)	202.50	2.11	IC	1.53
	Total		5.20		
Private Family Enterprises					
8.	Karshieva Bibikhon	0.16	0.006	IC	3.75
9.	Kuchimov Tura	0.16	0.006	IC	3.75
10.	Kholmurodov Abdumalik	0.20	0.002	IC	0.75
11.	Choriev Nurali	0.16	0.003	IC	1.87
12.	Turdiyev Khudoyberdi	0.16	0.003	IC	1.87
13.	Mustafokulov Khasam	0.25	0.003	IC	1.20
14.	Choriev Juma	0.15	0.003	IC	2.00
15.	Kahhorov Makhmatkul	0.20	0.003	IC	1.50
16.	Ramazonov Abduvait	0.25	0.003	IC	1.20
17.	Alyorov Juma	0.22	0.003	IC	1.36
18.	Zulfikorov Tursunpulat	0.20	0.002	IC	0.75
	Total		0.037		
	Totally temporarily impacted land		5.237		

AP = affected person; ha = hectare; IC = irrigated-cultivated; LARP = land acquisition and resettlement plan.

4. However, later, during the subproject implementation period this indicator was reduced. A total of 2.642 ha was temporarily affected by pipe-laying: the water-main route went from the “Surkhan” water intake through farm fields (2.6 ha) and private family households (0.042 ha).

5. These irrigated, cultivated lands are operated by seven farm enterprises (fields) and 12 private family households (vegetable gardens). According to the LARP, the temporary strip of land required during construction from farms was 10 meters (m) wide (5 m from each side of the center axis to enable the excavator to move on one side and allow space to store the dug-up earth and topsoil on the other side) and from family households was 3 m (hand dug to minimize the scope of the negative impact). However, during the process of laying pipe this strip of land from farms was reduced from 10 m wide to 5 m due to the use of special digging equipment. As a result, the total affected land of farm enterprises was reduced by half: from 5.2 ha to 2.6 ha.

6. Pipe-laying took place between November 2012 and January 2013. During that period no crops were being grown so the actual scope of impact was equal to zero. After pipe-laying was completed, the project immediately restored these strips of lands and returned them to their owners.

7. According to the LARP, 11 households, with a total area of 0.036 ha, were expected to experience a temporary impact during implementation of the subproject. However, during implementation one more affected person was identified, who experienced an insignificant impact of 0.006 ha, or 3.8% of the household's total land area (see Table 2, below).

Table A12-2: Actual temporary loss of access to land:

№	AP Description	Land leased/operated (ha)			
		Total (T)	Affected (A)	Type	A/T (%)
Farm Enterprise					
1.	«Zulfiya» (AP: Khudayberdiev Ashur)	60.90	0.50	IC	0.820
2.	«Kamol Bobo» (AP: Kurbonov Normamat)	91.40	0.25	IC	0.270
3.	«Said» (AP: Turakulov Uktam)	95.90	0.05	IC	0.055
4.	«Bobomurod» (AP: Irmurodov Khurram)	66.10	0.29	IC	0.438
5.	«Arabbek» (AP: Umarov Shukhrat)	63.00	0.26	IC	0.405
6.	«Namoz Bobo» (AP: Kulatov Bakhodir	88.80	0.20	IC	0.225
7.	«Farkhod» (AP: Toshboev Makhsumkul)	202.50	1.06	IC	0.520
	Total		2.61		
Private Family Enterprises					
8.	Karshieva Bibikhon	0.16	0.006	IC	3.750
9.	Kuchimov Tura	0.16	0.006	IC	3.750
10.	Kholmurodov Abdumalik	0.20	0.002	IC	0.750
11.	Choriev Nurali	0.16	0.003	IC	1.870
12.	Turdiyev Khudoyberdi	0.16	0.003	IC	1.870
13.	Mustafokulov Khasam	0.25	0.003	IC	1.200
14.	Choriev Juma	0.15	0.003	IC	2.000
15.	Kahhorov Makhmatkul	0.20	0.003	IC	1.500
16.	Ramazonov Abduvait	0.25	0.003	IC	1.200
17.	Alyorov Juma	0.22	0.003	IC	1.360
18.	Zulfikorov Tursunpulat	0.20	0.002	IC	0.750
19.	Sobirov Yulchi	0.16	0.006	IC	3.750
	Total		0.040		
	Totally temporarily impacted land		2.650		

AP = affected person; ha = hectare; IC = irrigated-cultivated.

8. Seven farm enterprises and 12 family households lost access temporarily (for 3–4 weeks) to, on average, 0.93% of their holdings, which is very insignificant.

9. No one lost productive assets permanently due to pipe-laying works in this region. Seven farm enterprises temporarily lost access to an insignificant portion of their leased land temporarily. All pipe-laying took place in autumn or winter construction period, when no agricultural activities were taking place. Twelve households along whose vegetable gardens pipe-laying also took place in late autumn (November–January 2012/2013) also temporarily lost access to an insignificant portion of their lands, on average no more than 1.7%. All these farm enterprises and households will directly benefit from the results of the project, such as 24-hour access to a clean and safe water supply.

C. Compensation

10. The temporary loss of access to cultivated and irrigated land was compensated in cash based on a calculation of loss of potential income on the basis of the maximal revenue per 1 ha for farm enterprises and 0.10 ha for family households in 2009. The calculation for compensation is based on an entitlement matrix provided in the LARP for Djarkurgan District of Surkhandarya Province (September 2010, Section 4.5). The households which determined as vulnerable groups (a total of five, highlighted in Table 3) received additional compensation. For these households the calculated amount of compensation was multiplied by three. For example, the temporarily affected land of Mr. Kuchimov Tura amounted to 0.006 ha. The calculated compensation in the LARP equaled 12,300 sum. The amount of compensation paid was three times that amount, or 36,900 sum. (For detailed information on provision of compensation for vulnerable groups, see the LARP for Djarkurgan District of Surkhandarya Province (September 2010, Section 3.2, Item 24). Construction work on temporarily affected lands began after payment of all compensation.

Table A12-3: Compensations for temporary loss of access to land

No	AP Description	Affected (ha)	Amount ('000 SUM)
Farm Enterprise			
1	«Zulfiya» (AP: Khudayberdiev Ashur)	0.500	1,085.000
2	«Kamol Bobo» (AP: Kurbonov Normamat)	0.250	550.000
3	«Said» (AP: Turakulov Uktam)	0.050	98.5.000
4	«Bobomurod» (AP: Irmurodov Khurram)	0.290	665.000
5	«Arabbek» (AP: Umarov Shukhrat)	0.255	520.000
6	«Namoz Bobo» (AP: Kulatov Bakhodir)	0.200	370.000
7	«Farkhod» (AP: Toshboev Makhsumkul)	1.055	1,910.000
	Total	2.600	5,198.500
Private Family Enterprises			
8	Karshieva Bibikhon	0.006	16.875
9	Kuchimov Tura	0.006	36.900
10	Kholmurodov Abdumalik	0.002	9.340
11	Choriev Nurali	0.003	28.000
12	Turdiev Khudoyberdi	0.003	43.800
13	Mustafokulov Khasam	0.003	11.230
14	Choriev Juma	0.003	28.000
15	Kahhorov Makhmatkul	0.003	28.920
16	Ramazonov Abduvait	0.003	69.600
17	Alyorov Juma	0.003	42.000
18	Zulfikorov Tursunpulat	0.002	7.350
19	Sobirov Yulchi	0.006	35.000
	Total	0.042	367.404
	Grand total	2.642	5 565.904

AP = affected person; ha = hectare.

11. Compensation was paid on the basis of the LARP prepared for the Djarkurgan subproject. The LARP was prepared in September 2010 by the Uzbekistan Communal Services Agency (UCSA) in coordination with local authorities in charge of land acquisition and resettlement issues and was based on current land acquisition and resettlement rules of the Republic of Uzbekistan and the Asian Development Bank (ADB). All the LARP provisions were agreed with First Deputy Hokim of Djarkurgan District of Surkhandarya Province, the head of the district's State Land Resources and Cadaster Department, the chief architect, the head of the Agriculture and Water Resources Department, and the head of the district's Water Supply Enterprise. The LARP was then submitted to ADB for review and approval. ADB's approval was received in October 2010. The LARP is completely in line with provisions of the Decree of the Cabinet of Ministers of Uzbekistan No. 146, which was adopted later in May 2011, and ADB's Safeguard Policy Statement 2009.

D. Consultations

12. During project implementation, a number of meetings were held with affected farm enterprises, private family households, members of the "Surkhan" Rural Council of Peoples as well as makhalla committees. During the meetings they were informed about LARP principles, compensation, and entitlements. Before and after construction the project implementation unit (PIU) officers had continuous meetings with affected households to discuss pipeline routes and ways to minimize the amount of land acquisition and the scope of impact.

E. External Monitoring

13. An external resettlement monitoring consultant hired by the project management unit (PMU) independently monitored the project. The Djarkurgan District subproject was visited 11–12 July 2014 to verify the progress made on resettlement plan implementation with individual households that own orchards and on 6 September 2014 with farming enterprises that lease cropland. During the visit, consultant consulted with the PIU community-based organizations to verify whether conditions set in the updated LARP had been fully implemented. As result of this review the consultant prepared a resettlement verification report and it was uploaded to the ADB website in September 2014.

14. During the consultation with those people affected by the project, the monitoring consultant found that the households directly benefited from the project outcomes and thus were willing to participate within the project by giving their land and trees in accordance with the entitlements set in the LARP. The project has assessed their socioeconomic status and the potential impact of land acquisition. The resettlement plan and entitlements have been disclosed to the affected persons through public disclosure meetings at respective settlements.

F. Grievance

15. As of today no claims have been received from affected persons.

G. Conclusion

16. The LARP was implemented according to the entitlement matrix stated in the updated LARP for this project. The entitlement matrix was set correctly when the project was prepared and covered such major ADB Safeguard Policy Statement 2009 requirements as including any illegal users, identifying vulnerable groups of people, restoring income, and improving of livelihood of affected households. The verification visit established that all affected household lands had been restored in pre-project condition in order to generate income (farming enterprises) and operate as before (individual family households).

17. During the consultation with individual family members and farming enterprises the external monitoring consultant received no complaints in regard to implementation of the LARP. Rather, there

were requests to connect their households to the new drinking-water pipeline. During the consultation with authorities responsible for the water supply it was found that all individual households are gradually being connected to new pipeline.

18. All compensation was paid fully to affected households and fully agreed with the compensation amount specified in the LARP. They have confirmed that no crops, buildings, or structures were demolished or adversely impacted. They have signed the survey questionnaire documents as approval for the above statements.

19. After testing of the new water supply network is finished and the supply is commenced all affected households included in the LARP will be connected to the new water supply network free of charge regardless of their vulnerability status.

20. Minimization of the right of way from an initial 10 m to 5 m was made possible by applying special hand-digging methods on individual family households' orchard lands without impacting any trees or structures. This was also verified by consultation with affected households.

QUANTITATIVE ASSESSMENT OF OVERALL PROJECT PERFORMANCE

Criteria	Rating Descriptors	Criteria weights	Rating	WAS
Core				
Relevance	highly relevant	0.25	3	0.75
Effectiveness	effective	0.25	2	0.50
Efficiency	efficient	0.25	2	0.50
Sustainability	likely	0.25	2	0.50
Overall Rating	SUCCESSFUL	1.00		2.25
Non-Core				
Impacts	satisfactory			
Borrower performance	satisfactory			
ADB performance	satisfactory			

WAS = weighted average score

PROJECT RATING ANALYSIS

Criterion		Assessment
A. Relevance		
(i)	Relevance of project preparation to project output at the time of appraisal	Highly relevant
(ii)	Relevance of project output to achieving project goals and objectives at the time of appraisal	Highly relevant
(iii)	Priority of the project in the context of the country's development strategy at the time of appraisal	Yes
(iv)	Priority of the project in the context of one or more of ADB's strategic objectives at the time of appraisal	Yes
Evaluation rating		3
B. Effectiveness		
(i)	Achievement of most project physical outcomes	Yes
(ii)	Achievement of most project tangible outcomes (e.g., technical assistance)	Yes
(iii)	The likelihood that project outcomes will lead to project goals	Yes
Evaluation rating		2
C. Efficiency		
1. Efficiency of Investments		
(i)	EIRR = 23.5% > 12%	Yes
(ii)	FIRR = 5.6% > 4.2% weighted average cost of capital	Yes
(iii)	Cost-effectiveness of project generating project outputs	Yes
2. Efficiency of Process		
(i)	Manner of ADB's internal processing of the project	Yes
(ii)	Organization and management of executing and implementing agencies	Partially
(iii)	Effectiveness of project management	Partially
(iv)	Efficiency in recruiting consultants and other procurement	Yes
(v)	Timely and adequate availability of counterpart funding	Yes
Equivalent Rating		2

Criterion		Assessment
D. Sustainability		
(i)	Availability of adequate and effective demand for services or products	Partial
(ii)	Probable operating and financial performance of the operational entity and its ability to recover costs	Yes
(iii)	Probability of funds availability (cash flow) for continued operation, maintenance, and growth	Yes
(iv)	Probable availability of skills to continue support	Yes
(v)	Probable availability of appropriate technology and equipment to operate the project	Yes
(vi)	Probable availability of the enabling environment (subsidies, tariffs, price competitiveness, and political developments) in which the project operated at the time of evaluation	Yes
(vii)	Government ownership and commitment to the project	Yes
(viii)	The extent to which the operation affects the environment and renewable or nonrenewable resources	Yes
(ix)	The extent to which community participation and beneficiary incentives are adequate to maintain project benefits	Yes
Evaluation rating		2