Report and Recommendation of the President to the Board of Directors

Project Number: 50259-002
April 2018

Proposed Loan
Republic of Uzbekistan: Western Uzbekistan Water Supply System Development Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 28 March 2018)

Currency unit	–	sum (SUM)
SUM1.00	=	$ 0.0001228492
$1.00	=	SUM 8,140.06

ABBREVIATIONS

ADB	–	Asian Development Bank
CSA	–	Agency Kommunhizmat (Communal Services Agency)
EMP	–	environmental management plan
m^3	–	cubic meter
MHCS	–	Ministry of Housing and Communal Services
O&M	–	operation and maintenance
PAM	–	project administration manual
PCU	–	project coordination unit
PMC	–	project management consultant
RK	–	Republic of Karakalpakstan
TN	–	State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus
WSS	–	water supply and sanitation
WTP	–	water treatment plant

NOTE

In this report, "$" refers to United States dollars.

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PROJECT AT A GLANCE

1. Basic Data				**Project Number:** 50259-002
Project Name	Western Uzbekistan Water Supply System Development Project	**Department /Division**	CWRD/CWUW	
Country	Uzbekistan	**Executing Agency**	Agency "Kommunhizmat" (CSA) formerly Uzbekistan Communal Services Agency "Uzkommunkhizmat"	
Borrower	Government of Uzbekistan			

2. Sector	**Subsector(s)**		**ADB Financing ($ million)**
✓ **Water and other urban infrastructure and services**	Urban water supply		145.00
		Total	**145.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation ($ million)	37.60
		Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns Urban environmental improvement		

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Private sector development (PSD)	Public sector goods and services essential for private sector development		

5. Poverty and SDG Targeting		**Location Impact**	
Geographic Targeting	Yes	Rural	High
Household Targeting	No	Urban	Medium
SDG Targeting	Yes		
SDG Goals	SDG6		

6. Risk Categorization: Low

7. Safeguard Categorization **Environment:** B **Involuntary Resettlement:** C **Indigenous Peoples:** C

8. Financing

Modality and Sources	Amount ($ million)
ADB	**145.00**
Sovereign Project (Concessional Loan): Ordinary capital resources	145.00
Cofinancing	**0.00**
None	0.00
Counterpart	**27.30**
Government	27.30
Total	**172.30**

Source: Asian Development Bank

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Republic of Uzbekistan for the Western Uzbekistan Water Supply System Development Project.

2. The project will support the Government of Uzbekistan in improving water supply services in the Republic of Karakalpakstan (RK), an autonomous republic in Uzbekistan. It will upgrade and expand water supply networks, improve climate change awareness and resilience, build institutional capacity, and strengthen the sustainability of the RK's water supply and sanitation (WSS) utility.[1]

II. THE PROJECT

A. Rationale

3. Spanning more than 165,000 square kilometers, the RK covers the entire northwestern extremity of Uzbekistan.[2] It has a dispersed population of about 1.8 million, and its primary economic drivers are agriculture, natural gas, and minerals. The RK's natural environment is primarily arid desert comprising sparse, barren lands that are subject to severe drought. As such, the RK suffers from acute surface water shortage. Although aquifers exist, the groundwater is mostly saline and of limited value, as it is prohibitively expensive to treat for human consumption. Water supply conditions are therefore critical.

4. Municipal water supply services in the RK are provided by a regional WSS utility, the State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus (TN).[3] Although operational, TN faces considerable challenges as most of its Soviet-era infrastructure has depreciated to the point of dilapidation. Its services are unreliable, leakage losses are high, and water quality is a growing concern. These deficiencies prevent TN from delivering services that meet regulator and public expectations, which in turn undermines consumer confidence and willingness to pay, increases regulator reluctance to raise tariffs, and reduces financial and institutional performance. As with similar utilities in Uzbekistan, the TN has become locked in a vicious cycle that requires external intervention to modernize and expand its asset base while overhauling its institutional capacity.

5. TN's service deficiencies relate directly to poor WSS sector performance. In the RK, only 37% of the population in the project area—13% in rural areas—is connected to the centralized water supply system. Recent surveys indicate that 40% of connected households receive water for less than 6 hours per week and that water pressures are often low. About 75% of connected households reportedly experience excessive water salinity and hardness issues. [4] Correlations are also frequently drawn between poor water quality and waterborne disease incidence.[5] The substantial consumer base that is yet to be connected to a centralized water supply is forced to purchase water from trucked supplies at exorbitant prices or consume water that is increasingly

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[1] The Asian Development Bank (ADB) provided project preparatory technical assistance for the Western Uzbekistan Water Supply System Development Project.

[2] Established through the 1992 Constitution of Uzbekistan, the RK is an integral region of Uzbekistan that has protected sovereignty, an autonomous status, and its own constitution.

[3] The TN has about 1,650 employees. Its centralized system services 41,979 domestic and 770 institutional and commercial consumers. It also provides trucked water to 6,282 consumers in remote areas.

[4] ADB. 2017. *Poverty and Social Analysis Report for the Western Uzbekistan Water Supply Development Project.* Consultant's report. Manila. (TA 9286-UZB).

[5] Muynak in northern Karakalpakstan had a significantly high incidence of hepatitis A in 2014 and 2015.

polluted.[6]

6. The government fully recognized the sector constraints and, with support from the Asian Development Bank (ADB) and other development partners, has responded by implementing a phased, nationwide institutional consolidation and sector-wide management, financial, and cost recovery reform program. The initial phase, driven largely by the Decree of the Cabinet of Ministers No. 306, has led to the consolidation of Karakalpakstan's WSS services into TN and the implementation of more than 40 time-bound corporate governance improvements to strengthen utility capacity.[7] The second phase is overhauling the wider institutional framework by creating the Ministry of Housing and Communal Services (MHCS).[8] The Agency Kommunhizmat (CSA), reporting to the MHCS, is responsible for implementing externally funded projects including those funded by ADB.[9]

7. The project is consistent with ADB's Water Operational Plan, 2011–2020[10] and Country Operations Business Plan, 2018–2020 for Uzbekistan.[11] It will support the government's WSS reform program by helping improve TN's institutional capacity, while revitalizing its regional water supply system in six of the 14 districts of the RK.[12] Benefitting 388,000 inhabitants, the project will provide reliable and safe water supply through metered household connections.[13]

8. Lessons to be incorporated in the project design from previous ADB sector experience include (i) securing timely counterpart support by engaging government agencies at the early stage of project preparation, (ii) improving project quality and efficiency by adopting least-cost solutions in project design, (iii) providing training and capacity building of project implementation personnel to reduce procurement and construction delay, and (iv) accelerating domestic approval procedures by engaging design institutes during project preparation.

9. **Value added by ADB assistance**. The project enables the government to implement the most efficient solution in meeting water supply demands in the RK. It will also introduce international best practices and support WSS reforms, including tariff reforms and the phase out of flat tariffs. The government would not be able to incorporate these interventions without ADB support.

B. Impact and Outcome

10. The project is aligned with the following impact: climate resilience, health and living

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[6] Survey results show that household consumers purchase trucked water from TN at a cost of SUM5,000 per cubic meter (m^3) versus a piped water tariff of SUM675/m^3.

[7] Government of Uzbekistan. 2015. *Decree of the Cabinet of Ministers of the Republic of Uzbekistan "On Implementation of Main Directives of Development of Water Supply and Sanitation Organizations."* Decree of the Cabinet of Ministers No. 306. Tashkent. The decree led to the amalgamation of the rural WSS entity Karakalpakselkhozvodoprovod with TN.

[8] The MHCS manages government policy and interdepartmental coordination for housing and other communal service sectors, including WSS. The project supports this second phase, by providing institutional capacity strengthening of the MHCS and the CSA.

[9] The CSA is the authorized government entity responsible for developing investment projects in WSS and other communal service sectors, including projects funded by international finance institutions.

[10] ADB. 2011. *Water Operational Plan, 2011–2020*. Manila. The project is consistent with the plan's results framework impact and outcomes.

[11] ADB. 2017. *Country Operations Business Plan: Uzbekistan, 2018–2020*. Manila. WSS improvements, including regulatory reforms, institutional and management capacity building, and improved access for women, are highlighted as priority interventions.

[12] The six project districts are Amudarya, Beruniy, Karauzak, Kungrad, Muynak, and Nukus.

[13] The project also includes a sanitation and hygiene improvement program for poor, rural households.

conditions in the RK improved. The project will have the following outcome: access to climate-resilient, reliable, sustainable, and affordable water supply services improved and expanded in the six selected project districts of the RK.[14]

C. Outputs

11. **Output 1: Water supply infrastructure rehabilitated, expanded, and upgraded.** This output comprises the (i) construction, rehabilitation, and expansion of three water treatment plants (WTPs); (ii) construction and rehabilitation of about 300 kilometers of water mains; (iii) construction of 4 water distribution centers and rehabilitation of 24 water distribution centers; (iv) construction and rehabilitation of about 900 kilometers in the water distribution network; and (v) provision of consumer meters.

12. **Output 2: Institutional capacity strengthened.** This output includes (i) formulating performance indicator-based reporting; (ii) establishing a training center; (iii) operationalizing a nonrevenue water control system, a geographic information system, and hydraulic modeling; (iv) introducing web-based management and reporting systems; and (v) commissioning a grievance redress mechanism.

D. Summary Cost Estimates and Financing Plan

13. The project is estimated to cost $172 million (Table 1). Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).

Table 1: Summary Cost Estimates
($ million)

Item		Amount[a]
A.	**Base Cost**[b]	
	1. Water supply infrastructure expanded and upgraded	141.5
	2. Institutional capacity strengthened	11.5
	Subtotal (A)	**153.0**
B.	**Contingencies**[c]	**12.4**
C.	**Financial Charges During Implementation**[d]	**6.9**
	Total (A+B+C)	**172.3**

[a] Includes taxes and duties of $27.3 million. Such amount does not represent an excessive share of the project cost. The government will finance taxes and duties of $27.3 million by exemption.
[b] In mid-2017 prices as of August 2017.
[c] Physical contingencies computed at 3% of base cost estimates for civil works and equipment. Price contingencies computed at average of 1.6% on foreign exchange costs and 6.5% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.
[d] Includes interest for the Asian Development Bank loan at 2% per year.
Source: Asian Development Bank estimates.

14. The government has requested a concessional loan of $145 million from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years; an interest rate of 2% per year during the grace period and thereafter; and such other terms and conditions set forth in the draft loan and project agreements. The government will relend the entire loan proceeds to the TN pursuant to a subsidiary loan agreement under similar terms.

15. The summary financing plan is in Table 2. ADB will finance the expenditures in relation to civil works, goods, project implementation support, training, capacity building, and interest during implementation. It will also finance (i) costs of the project coordination unit (PCU) in the executing

[14] The design and monitoring framework is in Appendix 1.

agency, including staff salaries and operating costs;[15] and (ii) social charges and withholding taxes on PCU staff salaries.

Table 2: Summary Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	145.0	84.2
Government[a]	27.3	15.8
Total	**172.3**	**100.0**

[a] Government contributions include taxes and duties.
Source: Asian Development Bank estimates.

16. **Climate finance.** Climate adaptation is estimated to cost $37.6 million. ADB will finance 100% of adaptation costs. Details are in the PAM. Climate adaptation measures include the provision of climate resilient water distribution networks to provide reliable and safe water supply to 116 remote RK settlements that suffer from droughts, poor groundwater quality, and increasing ambient temperatures.

E. Implementation Arrangements

17. CSA is the executing agency for the project. It will be responsible for, among others, procurement, contract management support, financial management, project administration, and safeguards compliance and reporting. The TN will be the implementing agency for the project, with its Investment Department as the implementation unit. It will be (i) the employer in all contracts under the project, (ii) the owner of all constructed and rehabilitated facilities, (iii) the holder of the advance account, and (iv) the agency responsible for preparing project financial statements and entity financial statements. The Interdepartmental Council is an oversight body that provides strategic guidance and makes policy level decisions during project implementation.

18. The implementation arrangements are summarized in Table 3 and described in detail in the PAM.[16]

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	July 2018–July 2024		
Estimated completion date	July 2024		
Estimated loan closing date	January 2025		
Management			
(i) Oversight body	Interdepartmental Council[a]		
(ii) Executing agency	CSA		
(iii) Key implementing agency	TN		
(iv) Implementation unit	TN's Investment Department		
Procurement	International competitive bidding: Works	9 contracts	$153,766,025
	National competitive bidding: Works	1 contracts	$1,796,203
	National competitive bidding: Goods	7 contracts	$1,592,012

[15] ADB financing of PCU costs is necessary for the overall success and expeditious completion of the project, including timely approvals from concerned government agencies. The budgeted costs for the PCU are reasonable and consistent with previous project management costs financed by ADB in the country.
[16] Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Aspects	Arrangements		
	Shopping: Goods	2 contracts	$100,180
Consulting services	QCBS (90:10) – Project management consultant	International: 72 person-months National: 282 person-months	$3,526,224
	QCBS (90:10) – National Design Institute	National: 302 person-months	$1,470,700
	QCBS (90:10) – Capacity and Corporate Development Program	International: 2 contracts	$1,728,000
	QCBS (90:10) – Rural Sanitation and Hygiene Improvement Program	International: 1 contract	$600,000
	QCBS (90:10) – GIS procurement	International	$493,160
	LCS – Annual auditing	National	$144,000
Advance contracting	Advance contracting for the PMC and detailed design consultants		
Disbursement	The loan proceeds will be disbursed following ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, CSA = Agency Kommunhizmat, GIS = geographic information system, LCS = least-cost selection, PMC = project management consultants, QCBS = quality- and cost-based selection, TN = State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus.

[a] Interdepartmental Council oversees implementation of large and strategic projects under the Cabinet of Ministers of the Republic of Uzbekistan. The council consists of up to 17 members from different agencies, including the Ministry of Housing and Communal Services, and the Government of Karakalpakstan, and is chaired by the deputy prime minister.

Source: Asian Development Bank.

19. CSA has requested advance contracting for the early recruitment of the project management consultants (PMCs) and detailed design consultants.[17]

III. DUE DILIGENCE

A. Technical

20. The selection of project districts follows ADB and government priorities. In addition to overall technical viability, system continuity, raw water quality for treatment, and constructability, the selection of the districts was based on weighted criteria relating to population, public health and safety, climate change vulnerability, and economic development potential.

21. Due to the unique water resource situation in the RK, in that surface water from the Amu Darya River constitutes the primary and reliable water source, technically and financially viable options are limited to (i) centralized treatment and long-haul transmissions to distribution centers; (ii) localized treatment using groundwater; and (iii) centralized treatment at three optimal locations and with supplemental local groundwater treatment where feasible. Option (iii) was recommended due to its least cost and maximum beneficial impacts. The water supply infrastructure developed under Option (iii) will also serve as the main grid of the RK water supply system for future water supply service development in the eight remaining districts of the territory. The proposed design and technology are compatible with local conditions and the capacity of the TN. Technical features and the selection of materials incorporate measures for climate change resilience and adaptation. Open-cut and trenchless methods using high-density polyethylene pipe will be adopted.

[17] Advertisement expected in the third quarter of 2018.

B. Economic and Financial

22. In September 2017, the Central Bank of the Republic of Uzbekistan devalued the local currency by 92.38% to $1 = SUM8,100. However, recent procurement for WSS projects funded by international financial institutions showed that the estimated contract costs in United States dollars have remained unchanged. The uncertainty brought by the sum's devaluation will be carefully monitored during project implementation.

23. **Economic analysis.** An economic analysis was conducted following ADB guidelines and derived benefits from (i) incremental water consumption calculated using willingness to pay and water demand projections as proxies; and (ii) resource cost savings from non-incremental water sales when households switch from alternative water sources to piped water. It also estimated the health benefits from the improved reliability and quality of non-incremental water consumption leading to potentially lowered incidence of waterborne diseases in the project areas. The resulting base-case economic internal rate of return is 11.47%, exceeding ADB's prescribed minimum discount rate of 9.00% and confirming the project's economic viability. A sensitivity analysis undertaken to test economic viability determined that the project will remain economically robust under the following scenarios: (i) a 10% increase in investment cost, (ii) a 10% increase in operation and maintenance (O&M) costs, (iii) a 10% decline in benefits, (iv) a combination of the first three scenarios, and (v) a 1-year delay in subproject benefits. The sensitivity analysis shows that the economic internal rate of return is most sensitive to a combination of an increase in capital cost with a decrease in benefits, and least sensitive to an increase in O&M costs.

24. **Financial analysis.** A financial cost–benefit analysis was conducted and the results confirmed the financial viability of the project. The calculated financial internal rate of return was 1.42%, exceeding the weighted average cost of capital of 0.45%. The sensitivity analysis showed that financial viability will be at risk if increased investments and O&M costs are combined simultaneously with a decline in tariff revenues. To yield a positive financial internal rate of return, The analysis assumed under a worst-case scenario that tariffs would need to be increased by about 180% in real terms by 2023. Nominally, this entails increasing the tariff for residential users from the current rate of SUM675/cubic meter (m^3) to SUM2,786/m^3 by 2024. The assumed increase in tariffs requires an annual real rate of increase of 14.5%, which is higher than the 12.3% historical average of the real rate of tariff increases in the RK since 2012.[18] ADB has discussed the proposed rate of increase with the Ministry of Finance and TN, and both have agreed that the rate is reasonable given the exceptionally high demand for clean, safe, and reliable water supply in the project districts and the lower tariff increases from 2012 to 2017. The tariff would also be affordable to targeted household beneficiaries that have expressed their willingness to pay more for cleaner, safer, and more reliable water systems. At present, most of them access clean water through trucks or vendors at a higher cost of SUM5,000/m^3.

25. To ensure financial sustainability, the government remains committed to support TN's debt servicing[19] and Uzbekistan's water tariff reforms.[20] The analysis indicates that TN's operating ratio will exceed one, which is required to maintain the company's financial sustainability.

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[18] Ministry of Finance revised water tariffs annually until 2009, and twice a year thereafter (in April and October).

[19] Government of Uzbekistan. 2012. *Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "About Additional Measures for Ensuring Timely Servicing of the Foreign Credit and Borrowed Funds Raised for Project Implementation on Improvement of Water Supply in the Republic of Karakalpakstan and the Khorezm Region."* No. 66. Tashkent (7 March). Resolution No. 66 stipulates that the government will subsidize an average of 93% of TN's debt servicing requirements until 2043.

[20] ADB approved a technical assistance on water and sanitation strategy development and capacity building in Uzbekistan to assist the government in improving its water tariff regulatory framework.

C. Governance

26. Originally established as an interregional bulk producer and supplier of water from the Tuyamuyun system to water distribution agencies, the TN was reorganized in 2016 to become a state-owned enterprise solely responsible for providing WSS in the RK. In general, officers and staff possess moderate knowledge and skills in financial management, which are expected to be strengthened by the government's strong commitment to sector reforms and improved governance. These initiatives encompass major legislative and regulatory reforms; institutional rationalization; and a renewed focus on efficiency, accountability, and sustainability through improved cost recovery.

27. The overall financial management risk rating of the TN is *moderate* for the following reasons: (i) it has limited experience in managing advance accounts;[21] (ii) adjustments are necessary to its accounting, budgeting, auditing, and reporting systems for the project's financial management; and (iii) its staff lack sufficient understanding of ADB's loan disbursement policies and procedures. CSA has experience in implementing WSS projects funded by ADB, the World Bank, and other international financial institutions; and it will supervise and guide TN to mitigate the financial management risk. Under CSA's overall supervision, TN will have access to financial management consultants and training.

28. Procurement risk assessment confirmed that the overall risk is *high* mainly because of prolonged government oversight procedures and implementation delays experienced by CSA in its past procurement transactions. With the project risk mitigation measures and other support activities implemented, however, CSA generally satisfies ADB requirements for an executing agency and its system is adequate to (i) prepare qualified bidding documents; and (ii) conduct the procurement of works, goods, equipment, and consulting services. Engaging international PMCs will strengthen CSA further and will ensure that all procurement procedures are conducted with due consideration for economy, efficiency, and transparency. ADB will coordinate closely with government agencies to minimize delays.

29. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, CSA, and TN. The specific policy requirements and supplementary measures are described in the PAM (footnote 16).

D. Poverty, Social, and Gender

30. The project supports poverty reduction indirectly through improved access to safe and reliable drinking water. More than half of the 388,000 inhabitants in the project area are poor.[22] Only 37% of project households have access to piped water while the rest use hand-pumped water or other sources for their living needs. Some 15% of households purchase drinking water and 9% use potentially unsafe water from open sources (canals and rivers) for drinking and cooking because of unstable water supply. Only 21% of households in the project area have bathrooms with piped water supply and only 2% have flushing toilets. Just 34% of households are satisfied with the quality of piped water. Kindergartens, schools, colleges, medical institutions, and hospitals (about 450 social establishments) lack adequate water supply and improved sanitation facilities. Better access to safe and reliable potable water will improve hygiene and sanitation practices, improve public health, and reduce household costs for medical care. The

[21] Following previous government practice in the Uzbekistan WSS sector, implementing agencies did not manage advance accounts.

[22] Using the 1.5 times the minimum monthly wage as a poverty threshold, the poverty and social assessment considered more than half of the project area's households as poor.

project will improve the health, living conditions, and productivity of residents while contributing to poverty reduction in the target areas.[23]

31. WSS constraints negatively affect the quality of life of all family members, especially of women, who are primarily responsible for delivering water, cooking, cleaning, and caring for children and sick and disabled family members. The project will directly reduce the workload of women and girls, freeing up their time and providing them with greater opportunities for economic and educational activities.

32. The project's primary beneficiaries will be about 388,000 inhabitants, about 50% of whom are women and girls. Project implementation will reduce unproductive labor costs, sparing about three working days for women every month, and develop improved sanitation practices and positive hygiene behavior among women and schoolchildren to ensure maximum health benefits. At least 178,000 women and girls will have access to continuous potable centralized water supplies. The project is classified *effective gender mainstreaming*. Gender-specific actions are set out in the gender action plan with the following key features: recruitment of a PCU social development and gender specialist, facilitation of women's participation in project-associated activities, and provision of employment opportunities for women in laboratory and customer care units and during the construction period.[24] The project's gender action plan envisages the collection of sex-disaggregated data on most of the planned activities.

E. Safeguards

33. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.[25]

34. **Environment (category B).** Project impacts are expected to be limited in magnitude and short-term in nature, and to mostly relate to the construction and rehabilitation of the distribution centers, transmission mains, and distribution networks. These include dust, noise, vibration, hazardous solid waste (asbestos-containing materials, scrap metals, and oils from old equipment), labor and public safety, temporary blockage of household access, traffic disturbance, and the production and transportation of construction materials. CSA has included mitigation measures to address construction and operational impacts in the environmental management plan (EMP), which it prepared as part of the initial environmental examination.

35. Environmental impacts during the operation phase include increased water use from water sources, the disposal of sludge from the WTPs and borehole sites, accidental leakage from chlorination, noise from WTPs and pumping stations, and higher sewage production relative to the capability of community facilities. The implementation of a planned regional sewerage system will mitigate impacts from increased sewage production.[26] In addition, the project incorporates a sanitation and hygiene improvement program that pilots wastewater improvements for poor, rural households.[27] The initial environmental examination was disclosed on the ADB website on 6 September 2017. CSA conducted public consultations in all project districts.

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[23] Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).
[24] Gender Action Plan (accessible from the list of linked documents in Appendix 2).
[25] ADB. Safeguard Categories. https://www.adb.org/site/safeguards/safeguard-categories.
[26] Government of Uzbekistan. 2017. *Resolution of the President of the Republic of Uzbekistan "On the Program of Integrated Development and Modernization of Drinking Water Supply and Sanitation Systems for 2017–2021."* No. PP-2910. Tashkent. The government will conduct an awareness program before the sewerage system is operationalized.
[27] Rural Sanitation and Hygiene Improvement Program, anticipated to pilot the installation of septic tanks.

36. The PCU in CSA will be responsible for EMP implementation and for compliance with ADB's safeguard requirements and national environmental regulations. The PCU's existing safeguard staff will be assisted by the PMC's environmental specialists, who will oversee EMP implementation. A full-time safeguard staff member will be provided to the implementing agency. The project will finance EMP implementation costs, while mitigation measures and environmental monitoring costs will be included in the construction contracts and environmental supervision costs will be included in the PMC consulting services. A grievance redress mechanism to handle both environmental and social safeguard issues will be established after project effectiveness. The PCU will submit semiannual environmental monitoring reports to ADB and relevant government authorities, and these reports will be disclosed to the public on the websites of CSA (in Uzbek or Russian) and ADB (in English).

37. **Involuntary resettlement (category C).** The resettlement due diligence conducted for the project, based on the preliminary design and walkover surveys, suggests that no land acquisition and resettlement impacts will occur, as construction works will be within the existing facilities owned by the TN, on municipal land, on state land reserve, and within the rights-of-way assigned to municipal roads and municipal infrastructure. Certification of land ownership was provided by the TN. In compliance with ADB requirements, CSA prepared a resettlement framework to ensure that unanticipated impacts are considered during detailed design. If land acquisition and involuntary resettlement impacts or related unanticipated impacts are identified during implementation, CSA will prepare a resettlement plan following ADB's Safeguard Policy Statement, which it will submit to ADB for review before awarding any contracts and implement before starting civil works.

38. As part of the resettlement due diligence, CSA conducted 71 in-depth interviews and nine public consultations in the six project districts. Communities expressed an immense need for clean and reliable drinking water supply in the project influence area, which could be achieved through the project. CSA, through the PCU, will carry out meaningful consultations throughout the project cycle. The executing and/or implementing agency will establish an effective gender-inclusive grievance redress mechanism to receive, record, and facilitate the resolution of communities' concerns related to any project impacts, with attention to vulnerable people.

39. The PCU has a dedicated safeguard specialist who will ensure that all activities related to involuntary land acquisition follow Uzbek legislation and policies and ADB's Safeguard Policy Statement requirements. The PCU will ensure that the resettlement framework is updated after detailed design is completed, and a resettlement plan will be prepared and implemented before starting civil works if any land acquisition and resettlement impact is identified. The PMC will support the PCU.

40. **Indigenous peoples (category C).** The project areas have an ethnic composition of 55% Uzbeks, 26% Karakalpaks, and 16% Kazakhs. Piped water supply will benefit all communities. The country, particularly the project area, does not have indigenous peoples' communities as defined in ADB's Safeguard Policy Statement. No further action will be required.

F. Summary of Risk Assessment and Risk Management Plan

41. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[28]

[28] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Table 4: Summary of Risks and Mitigation Measures

Risks	Mitigation Measures
Consumer tariff revenues do not meet expectations.	Resolution of the Cabinet of Ministers No. 239 mandates tariffs to be regulated by the Ministry of Finance.[a] Tariffs have increased twice per year in Karakalpakstan at an average of 14.5% annual real rate of increase. In addition, Resolution of the Cabinet of Ministers No. 66 stipulates that the government will subsidize an average of 93% of TN's debt servicing until 2043.
Government approval procedures by oversight agencies take longer than anticipated.	Close coordination is to be maintained with government agencies to minimize delays in international contractor and/or supplier registration. PCU and implementing agency staff will participate in ADB procurement training.

ADB = Asian Development Bank, PCU = project coordination unit, TN = State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus.

[a] Government of Uzbekistan. 2010. *Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "About Measures for Further Enhancement of Procedure for Declaring (Approval) and Establishment of Regulated Prices (Rates) for Goods (Works, Services)."* No. 239. Tashkent (28 October).

[b] Government of Uzbekistan. 2012. *Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "About Additional Measures for Ensuring Timely Servicing of the Foreign Credit and Borrowed Funds Raised for Project Implementation on Improvement of Water Supply in the Republic of Karakalpakstan and the Khorezm Region."* No. 66. Tashkent (7 March).

Source: Asian Development Bank.

IV. ASSURANCES

42. The government, CSA, and TN have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

43. The government, CSA, and TN have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement and project agreement.

V. RECOMMENDATION

44. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of $145,000,000 to the Republic of Uzbekistan for the Western Uzbekistan Water Supply System Development Project, from ADB's ordinary capital resources, in concessional terms, with an interest charge at the rate of 2% per year during the grace period and thereafter; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao
President

19 April 2018

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with
Climate resilience, health, and living conditions in the Republic of Karakalpakstan improved (Project-defined).

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Access to climate-resilient, reliable, sustainable, and affordable water supply services improved and expanded in the six selected project districts in the Republic of Karakalpakstan	By 2025: a. 100% of households in selected urban centers of the six project districts connected to the centralized water supply system (2017 baseline: less than 60%) b. 100% of households in the selected urban centers of the six project districts connected to centralized water supply system receive continuous water supply (2017 baseline: less than 15%) c. 100% of consumers served by the project in selected settlements outside of the urban centers gained access to reliable, climate resilient, and safe water supply (2017 baseline: less than 25%) d. Consumer satisfaction with quality of water supply increased to 90% in the project area (2017 baseline: less than 35% household consumer satisfaction) e. Collection efficiency of affordable tariffs for water supply services maintained above 95% (2017 baseline: above 95%)	a–e. Annual TN project progress reports, executing agency project completion report	Consumer tariff revenues do not meet expectations
Outputs 1. Water supply infrastructure rehabilitated, expanded, and upgraded	By 2024 1a. One WTP in Mangit with a capacity of 28,000 m^3/day constructed (2017 baseline: not applicable) 1b. Capacity of one WTP in Takhiatash expanded to 120,000 m^3/day (2017 baseline: 60,000 m^3/day) 1c. One WTP in Tuyamuyun with a capacity 140,000 m^3/day upgraded (2017 baseline: not applicable) 1d. About 300 km of transmission pipelines constructed (2017 baseline: 0) 1e. About 900 km of distribution pipelines constructed or rehabilitated (2017 baseline: about 600 km in poor condition)	1a–i. Annual TN project progress reports, executing agency project completion report	Government approval procedures by oversight agencies take longer than anticipated

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	1f. 24 WDCs rehabilitated and 4 WDCs constructed (2017 baseline: 24 poorly functioning WDCs) 1g. Six newly equipped water quality laboratories fully staffed, with women comprising at least 30% of staff (2017 baseline: seven poorly functioning laboratories) 1h. Six O&M warehouses with central maintenance workshops and gender-sensitive sanitary facilities constructed and staffed, with women comprising at least 10% of staff (2017 baseline: 0) 1i. 69,000 household water meters installed in 100% of connected households, including at least 13,800 in households headed by women, from 2022 onward (2017 baseline: 27%)		
2. Institutional capacity strengthened	By 2021 2a. One training facility with gender-sensitive sanitary facilities constructed, equipped, and commissioned (2017 baseline: 0) 2b. GIS implemented and hydraulic model of water supply operations prepared (2017 baseline: not applicable) 2c. TN website with KPI-based performance reporting and other relevant public reporting materials commissioned (2017 baseline: not applicable) 2d. Corporate governance system improvements on quality control, grievance system, asset management, WSS services, and environmental management attested annually by independent professional ISO auditors (2017 baseline: not applicable) By 2022 2e. Nonrevenue water control system, including SCADA, implemented and commissioned (2017 baseline: not applicable)	2a–i. Annual TN project progress reports, executing agency project completion report	High turnover of TN's trained staff affects performance

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	2f. KPI-based reporting with reliable and verifiable input data instituted (2017 baseline: not applicable) 2g. Billing, accounting, and financial management systems improved (2017 baseline: not applicable) 2h. Eight TN officers, at least three of whom are women, trained and professionally certified by an accredited international training center in O&M of water treatment facilities and distribution networks (2017 baseline:0) 2i. Gender-inclusive customer grievance redress mechanism commissioned (2017 baseline: not applicable)		
Key Activities with Milestones **1. Water supply infrastructure rehabilitated, expanded, and upgraded** 1.1. Mobilize consultants by Q3 2018 1.2. Issue first bid document for civil works contract by Q4 2018 1.3. Award civil works contract(s) by Q2 2019 1.4. Award equipment contracts by Q3 2019 1.5. Complete installation of equipment by Q4 2021 1.6. Complete civil works contract(s) by Q1 2024 **2. Institutional capacity strengthened** 2.1. Recruit consultants byQ4 2019 2.2. Complete institutional capacity support programs by Q1 2024 **Project Management Activities** Strengthen the PCU in CSA Convene regular meetings of the Interagency Council[a] Prepare and submit project progress reports			
Inputs Asian Development Bank: $145.0 million (concessional ordinary capital resources loan) Government: $27.3 million			
Assumptions for Partner Financing Not Applicable			

CSA = Agency Kommunhizmat (Communal Services Agency), EMP = environmental management plan, GIS = geographic information system, ISO = International Organization for Standardization, km = kilometer, KPI = key performance indicator, m^3 = cubic meter, O&M = operation and maintenance, PCU = project coordination unit, Q = quarter, SCADA = supervisory control and data acquisition, TN = State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus; WDC = water distribution center, WSS = water supply and sanitation, WTP = water treatment plant.

[a] Interdepartmental Council on cooperation with technological institutes, organizations, and donor countries; and implementation of large and strategic projects under the Cabinet of Ministers of the Republic of Uzbekistan. The council consists of up to 17 members from different agencies and is chaired by the deputy prime minister.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=50259-002-3

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Risk Assessment and Risk Management Plan
12. Gender Action Plan
13. Initial Environmental Examination
14. Resettlement Framework

Supplementary Documents

15. Project Technical Analysis
16. Detailed Economic Analysis
17. Detailed Financial Analysis
18. Financial Management Assessment
19. Procurement Risk Assessment Report