Project Administration Manual

Project Number: 50259-002
Loan Number: LXXXX
16 March 2018

Republic of Uzbekistan: Western Uzbekistan Water Supply System Development Project

ABBREVIATIONS

ADB	=	Asian Development Bank
C&P	=	communication and participation
COA	=	chamber of accounts
COM	=	cabinet of ministers
CSA	=	Agency Kommunkhizmat (Communal Services Agency)
DMF	=	design and monitoring framework
EA	=	executing agency
EMP	=	environmental management plan
GAP	=	gender action plan
IA	=	implementing agency
IEE	=	initial environmental examination
LARP	=	land acquisition and resettlement plan
MHCS	=	Ministry of Housing and Communal Services
PCU	=	project coordination unit
PMC	=	project management consultant
QCBS	=	quality- and cost based selection
RRP	=	report and recommendation of the President to the Board
RK	=	Republic of Karakalpakstan
RKS	=	Republic of Karakalpakstan *Suvokova*
SPS	=	Safeguard Policy Statement
TOR	=	terms of reference
TN	=	State Unitary Enterprise Department for Operation of the Interregional Water Supply Tuyamuyun-Nukus
WTP	=	water treatment plant

Contents

Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Agency "*Kommunkhizmat*" (CSA), the Executing Agency (EA) under the Ministry of Housing and Communal Services (MHCS), the Project Coordination Unit (PCU), the State Unitary Enterprise Department for Operation of the Interregional Water Supply Tuyamuyun-Nukus (TN), the Implementing Agency (IA), are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by CSA of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreements, the provisions of the loan agreements shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

A. Rationale

1. Spanning more than 165,000 square kilometers, the RK covers the entire northwestern extremity of Uzbekistan.[1] 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.

2. 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).[2] Although operational, the 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, has become locked in a vicious cycle that requires external intervention to modernize and expand its asset base while overhauling its institutional capacity.

3. TN's service deficiencies relate directly to poor WSS sector performance. In the RK, only 36.6% of the population in Karakalpakstan—12.9% in rural areas—is connected to the centralized water supply system. Recent surveys show that 40% of households receive water for less than 6 hours per week and that water pressures are often low.[3] About 75% of households reportedly experience excessive water salinity and hardness issues. Correlations are also frequently drawn between poor water quality and waterborne disease incidence.[4] 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 polluted.[5]

4. 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.[6] The second phase will overhaul the wider institutional framework by creating the

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[1] 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.

[2] 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.

[3] Poverty and Social Analysis Report, 2017, ADB 9286-UZB: Western Uzbekistan Water Supply Development Project.

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

[5] Survey results show that household consumers purchase trucked water from TN at a cost of up to SUM20,000 per cubic meter (m^3) versus a piped water tariff of SUM675/m^3.

[6] 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.

Ministry of Housing and Communal Services (MHCS).[7] The Agency Kommunhizmat (CSA), reporting to the MHCS, is responsible for implementing externally funded projects including those funded by ADB.[8]

5. The project supports the government's WSS reform program by helping improve TN's institutional capacity while revitalizing its regional water supply system. It will benefit 388,000 inhabitants in six districts and 116 rural settlements by providing reliable and safe water supply through universal metered household connections.[9] It is consistent with ADB's Water Operational Plan, 2011–2020[10] and country operations business plan, 2018–2020 for Uzbekistan.[11]

6. Lessons to be incorporated in the project design 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.

B. Impact and Outcome

1. The project is aligned with the following impacts: climate resilience, health, and living 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.

C. Outputs

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

3. **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, geographic information system, and hydraulic modeling; (iv) introducing web-based management and reporting systems; and (v) commissioning a grievance redress mechanism.

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[7] The MHCS manages government policy and interdepartmental coordination for housing and other communal service sectors, including WSS.

[8] 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.

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

[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.

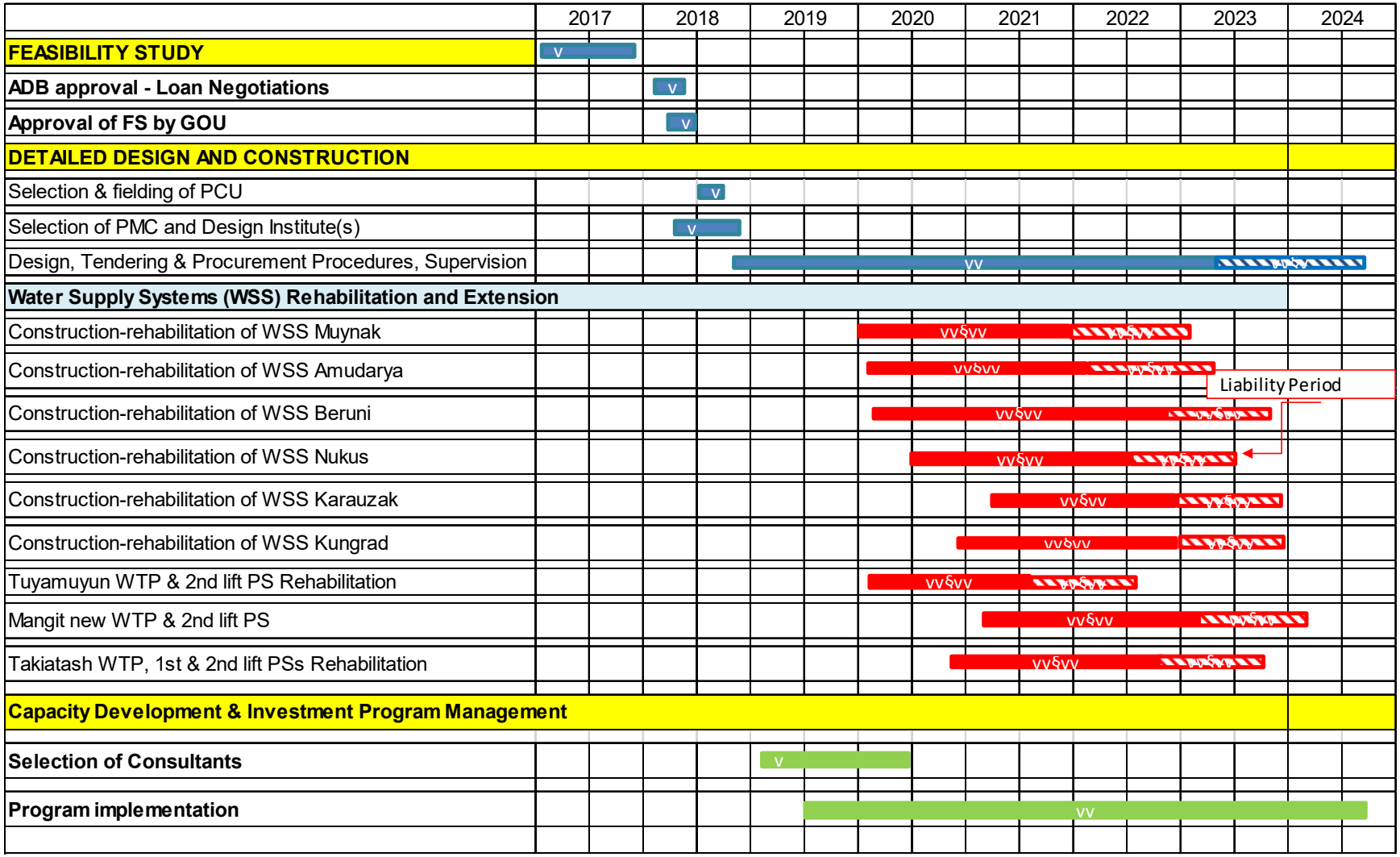
II. IMPLEMENTATION PLAN

A. Project Readiness Activities

	2017				2018			
Indicative Activities	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Responsible Individual Unit/Agency/Government**
Advance contracting actions	X	X	X	X	X	X	X	EA, ADB
Retroactive financing actions	X	X	X	X	X	X	X	EA
Establish project implementation arrangements	X	X	X	X	X	X		EA
ADB Board approval			X					ADB
Loan signing				X				MOF, SCI, EA, ADB
Government legal opinion provided					X			MOF, MOJ, SCI
Government budget inclusion			X					MOF
Loan effectiveness						X		SCI, MOF, ADB

ADB = Asian Development Bank, EA = executing agency, MOF = Ministry of Finance, MOJ = Ministry of Justice, SCI=State Committee of Investment

B. Overall Project Implementation Plan



III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

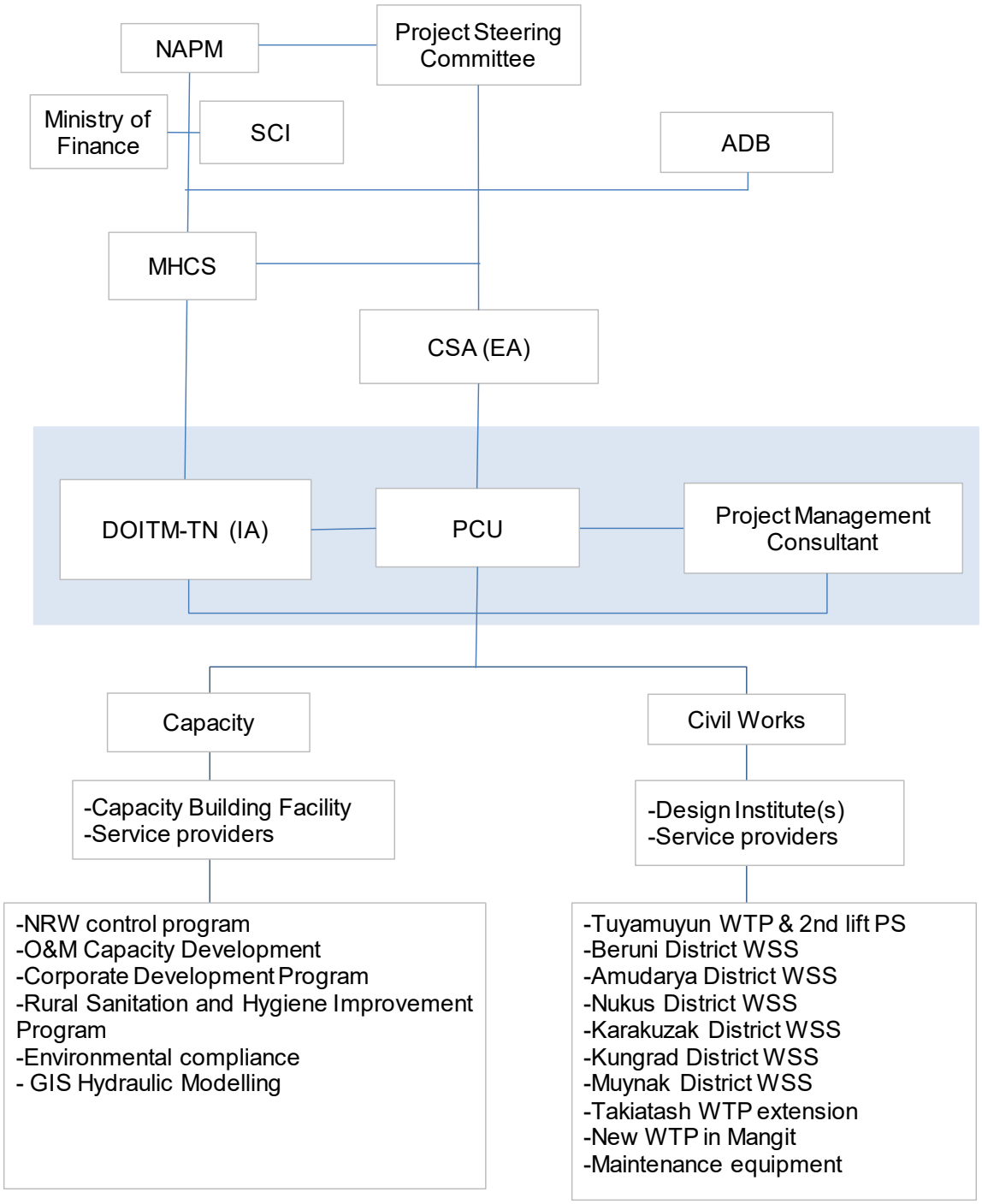
Project implementation organizations	Management Roles and Responsibilities
Executing Agency (EA) Communal Services Agency "Kommunkhizmat" (CSA) and Project Coordination Unit (PCU)	➢ Setup project steering committee ➢ Assume overall responsibility for project implementation; such as procurement, contract management, financial management, project administration, and safeguards compliance, reporting and engagement of additional PCU staff for the project ➢ Approve medium term and annual rolling plans for project implementation ➢ Ensure compliance with loan covenants ➢ Ensure government counterpart fund allocation ➢ Open and manage the sub-advance account ➢ Prepare and submit withdrawal applications to ADB ➢ Submit audited project accounts and audited financial statements to ADB ➢ Approve procurement plans, bidding documents, bid evaluation and contract awards in accordance with ADB and Government of Uzbekistan requirements ➢ Submit regular quarterly and annual project progress reports to ADB ➢ Submit updated resettlement plans for ADB concurrence prior to implementation ➢ Coordinate capacity building activities ➢ Ensure capabilities are developed for operations and maintenance (O&M) of completed infrastructure ➢ Ensure compliance with ADB's social and environmental policies and guidelines during project implementation ➢ Prepare and submit social and environmental monitoring reports to ADB ➢ Approve proposed actions in the event of adverse financial audits or monitoring and evaluation reports ➢ Select consultants for project development and audit
Project Steering Committee	➢ Coordinate and monitor project activities of the project coordination unit (PCU) ➢ Support PCU in carrying out the approved annual rolling plans ➢ Coordinate in providing capacity development program for PCU ➢ Obtain necessary approvals from respective departments prior to awarding of civil works contracts ➢ Support PCU in the implementation of environmental management plans (EMPs)

Project implementation organizations	Management Roles and Responsibilities
	➢ Coordinate regular reporting of PCU to EA on EMP implementation ➢ Coordinate the implementation of the project's consultation and participation plan, social development plan and gender action plan (GAP) ➢ Undertake regular quality control inspection of project facilities ➢ Manage the handover of Project facilities to agencies responsible for operation and maintenance ➢ Undertake monitoring in compliance with the Design and Monitoring Framework (DMF) and other project documents such as EMP, Resettlement Plans (RP), and GAP in conjunction with PCU
State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun – Nukus (TN), Implementing Agency (IA)	➢ Open and manage the project's advance account ➢ Manage separate project financial records and account, and prepare and submit required financial reports, accounts, and agency financial statements for submission to PCU and ADB ➢ Ensure implementation of GAP ➢ Undertake monitoring with disaggregation of data by sex and income group as required by the Project's design and monitoring framework ➢ Monitor and review overall implementation in consultation with the EA including: – Project implementation schedule – Prior review in accordance with procurement plan – Actions required with reference to the summary poverty reduction and social strategy, GAP, EMP and RP; – Timeliness of budgetary allocations and counterpart funding – Project expenditure progress with procurement and disbursement, statement of expenditures when applicable – Compliance with loan covenants – Likelihood of attaining project development objectives – Named as employer in all the project contracts

B. Key Persons Involved in Implementation

Executing Agency	
Communal Services Agency "Kommunkhizmat" (CSA)	Officer's Name: Mr. Zamzambay Tadjibaev Position: Director General Telephone No. 998 71 2322537 Facsimile: 998 71 2341103 Office address: 1 Niyozbek Yuli St., 100035, Tashkent Republic of Uzbekistan
Project Coordination Unit (PCU)	Officer's Name: Abdurashit Arslanov Position: Acting Director Telephone No. 998 71 2352678 Facsimile: 998 71 2340559 Email address: adbpcuucsa@gmail.com
Asian Development Bank Urban Development and Water Division (CWUW) Central and West Asia Department	Staff Name: Yong Ye Position: Director, CWUW Telephone No.+63 2 632 6346 Email address: yyong@adb.org
	Staff Name: Hao Zhang Position: Principal Urban Development Specialist Telephone No. +63 2 632 5851 Email address: hzhang@adb.org

C. Project Organization Structure



ADB =Asian Development Bank; CSA = Communal Services Agency; DOITM-TN = State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus; EA = executing agency;; GIS = geographic information system; IA = implementing agency; MCHS = Ministry of Housing and Communal Services; NAPM = National Agency for Project Management; NRW = nonrevenue water; O&M = operations and maintenance; PCU = Project Coordination Unit; SCI = State Committee for Investment; WTP = water treatment plant.

4. Agency "*Kommunhizmat*" (CSA), under the MHCS, is the executing agency (EA) for the project. It will be responsible for, among others, procurement, contract management, financial management, project administration, and safeguards compliance and reporting. The TN will be the Implementing Agency (IA) for the project. 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) responsible for the preparation of the project financial statements and entity financial statements. The EA, through the Project Coordination Unit (PCU) will report to ADB regarding project implementation.

5. The Implementing Agency (IA) will be the State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun – Nukus (TN). This is the institution in charge of the supply of drinking water to the population of RK as well as the maintenance and expansion of the existing water supply system within the RK. A consultative Project Steering Committee (PSC), appointed by the Cabinet of Ministers and chaired by the Minister of Finance will provide overall guidance on project implementation.

6. A project management consultant (PMC) will be selected by the EA-PCU following ADB *Guidelines on the use of Consultants by the Asian Development Bank and its Borrowers* dated March 2013 as amended from time to time. Advance procurement procedure is envisaged. The PMC will be staffed with 72 person months (pm) of international and 282 pm of national experts.

7. **PCU.** Further to recent reform, the number of project coordination units (PCU) entrusted with responsibility for effective implementation of the donor-funded projects in the water supply and sanitation (WSS) sector now under the MHCS has been restricted to three units. One PCU is responsible for ADB financed projects, the second for World Bank, and the third is for Arab coordination group projects.[12] The decree establishes also the number of staff in each unit. Currently the PCU has 13 staff.

8. The implementation arrangements are summarized in Table 1.

Table 1: Implementation Arrangements

Aspects	**Arrangements**		
Implementation period	July 2018 to July 2024		
Estimated completion date	July 2024		
Estimated Loan closing date	January 2025		
Management			
(i) Oversight body	Interdepartmental Council [a] Cabinet of Ministers Ministry of Housing and Communal Services Republic of Karakalpakstan		
(ii) Executing agency	Agency "Kommunhizmat" (CSA)		
(iii) Key implementing agencies	TN		
(iv) Implementation unit	State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun – Nukus (TN)		
Procurement	International competitive bidding - Works	9 contracts	$153,766,025
	National competitive bidding - Works	1 contract	$ 1,796,203

[12] Decree of the Cabinet of Ministers No. 334, of 23 November, 2015 about Measures for improvement of mechanisms of implementation of investment projects financed by International Financial Institutions

Aspects	Arrangements		
	National competitive bidding - Goods	7 contracts	$ 1,592,012
	Shopping – Goods	2 contracts	$ 100,180
Consulting services	QCBS (90:10): Project Management Consultant (PMC)	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 & Corporate Development Program	International 2 contracts	$1,728,000
	QCBS (90:10): Rural Sanitation and Hygiene Improvement Program	International	$600,000
	QCBS (90:10): Procurement of GIS	International	$493,970
	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.		

[a] Interdepartmental Council on cooperation with technological institutes, organizations and donor countries, implementation of large and strategic projects under the Cabinet of Ministers of the Republic of Uzbekistan which consists of up to 17 members from different agencies and is chaired by the Deputy Prime Minister.
Source: Asian Development Bank.

IV. COSTS AND FINANCING

9. The project is estimated to cost $172.3 million (Table 2). Detailed cost estimates are included in Sections C, D, E and F.

Table 2: 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 an 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 annum.
Source: Asian Development Bank estimates.

10. 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 2.0% per year during the grace period and thereafter; and

such other terms and conditions set forth in the draft loan and project agreements. The proceeds of the loan will be relent from the Borrower to the TN pursuant to a subsidiary loan agreement.

11. The summary financing plan is in Table 3. ADB will finance expenditures in relation to civil works, goods, project implementation support, training, capacity building and interests during implementation. In addition to works, goods, consulting services, and interest during implementation, ADB project funding will include the financing of (i) costs of the PCU in the EA, including staff salaries and operating costs;[13] and (ii) social charges and withholding taxes assessed on PCU staff salaries.

Table 3: Summary Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	145.0	84.1
Government[a]	27.3	15.9
Total	**172.3**	**100.0**

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

A. Cost Estimates Preparation and Revisions

12. Cost estimates for the proposed project infrastructure including the water treatment works, transmission mains and water distribution systems were prepared by the design unit consultants. Costs are estimated based on detailed designs for each component and current prices for materials, equipment and civil works in similar locations in Uzbekistan. The cost estimates for the technical assistance, capacity building and support activities were prepared by the PPTA consultant utilizing local knowledge and also based on current costs prevailing in Uzbekistan. The costs have been revised several times to allow for changes in the configuration and scope of the project. Costs were compiled in COSTAB, and also in Excel to facilitate further manipulation and revision by the PCU during implementation of the project.

B. Key Assumptions

13. The following key assumptions underpin the cost estimates and financing plan:

(i) Exchange rate: SUM 3820.46 = $1.00 (as of 23 May 2017).
(ii) Zero refers to items where no price contingencies were applied e.g. consulting services
(iii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

[13] ADB financing of PCU costs is considered necessary to ensure timely availability of funds for a function critical to the overall success and timely completion of the project. In addition, the budgeted costs for the PCU are viewed as reasonable and consistent with project management costs incurred and financed by ADB under the ongoing Djizzak Sanitation System Development Project, the four tranches under the ongoing multitranche financing facility, and the Tashkent Province Water Supply Development Project.

Inflation Rates for Price Contingency Calculation

	Up to Negotiation	Up to Project Start	2018	2019	2020	2021	2022
Inflation (in %'s) /a							
ZERO							
Annual rates							
Local	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Compounded rates							
Local	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOST							
Annual rates							
Local	0.00	0.00	8.00	8.00	8.00	9.00	3.50
Foreign	0.00	0.00	1.25	1.25	1.25	1.25	1.25
Compounded rates							
Local	0.00	0.00	4.00	12.32	21.31	31.64	39.71
Foreign	0.00	0.00	0.63	1.88	3.16	4.45	5.75
Exchange rates (Local/Foreign) /b							
ZERO							
Rates actually used	3,820.46	3,820.46	3,820.46	3,820.46	3,820.46	3,820.46	3,820.46
Constant purchasing parity rates	3,820.46	3,820.46	3,820.46	3,820.46	3,820.46	3,820.46	3,820.46
% deviation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOST							
Rates actually used	3,820.46	3,820.46	3,948.60	4,211.84	4,492.63	4,815.18	5,047.33
Constant purchasing parity rates	3,820.46	3,820.46	3,948.60	4,211.84	4,492.63	4,815.18	5,047.33
% deviation	0.00	0.00	0.00	0.00	0.00	0.00	0.00

\a Yearly values are within Each Project Year
\b Yearly values are at Project Year Midpoints

C. Detailed Cost Estimates by Expenditure Category

Item	(Sum Million) Foreign Exchange	Local Currency	Total Cost	(US$ Million) Foreign Exchange	Local Currency	Total Cost	% of Total Base Cost
I. Investment Costs							
A. Civil Works							
1. Water treatment plants	27,773.58	38,883.01	66,656.59	7.27	10.18	17.45	10.1%
2. Water distribution centers	25,265.37	35,371.52	60,636.89	6.61	9.26	15.87	9.2%
3. Network pipelines	141,664.32	198,330.05	339,994.36	37.08	51.91	88.99	51.6%
4. Household connections	11,490.95	22,981.90	34,472.85	3.01	6.02	9.02	5.2%
5. Detailed Engineering Design	3,371.25	2,247.50	5,618.75	0.88	0.59	1.47	0.9%
6. Nonrevenue water control	730.22	1,022.31	1,752.54	0.19	0.27	0.46	0.3%
Subtotal	**210,295.69**	**298,836.29**	**509,131.98**	**55.04**	**78.22**	**133.26**	**77.3%**
B. Equipment and Machinery							
1. Equipment WTP	10,429.62	7,449.73	17,879.34	2.73	1.95	4.68	2.7%
2. Equipment district WSS	12,143.27	8,673.76	20,817.03	3.18	2.27	5.45	3.2%
3. Equipment nonrevenue water control	2,980.69	2,129.07	5,109.76	0.78	0.56	1.34	0.8%
4. Utility machineries and equipment	3,473.89	2,481.35	5,955.24	0.91	0.65	1.56	0.9%
Subtotal	**29,027.47**	**20,733.90**	**49,761.37**	**7.60**	**5.43**	**13.02**	**7.6%**
C. Project Implementation Support							
1. Project management	150.37	751.87	902.24	0.04	0.20	0.24	0.1%
2. Consulting services	6,393.39	6,393.39	12,786.77	1.67	1.67	3.35	1.9%
3. Project financial audit	229.23	320.92	550.15	0.06	0.08	0.14	0.1%
4. Environmental management	79.56	238.69	318.26	0.02	0.06	0.08	0.0%
5. Social safeguards	61.13	305.64	366.76	0.02	0.08	0.10	0.1%
Subtotal	**6,913.68**	**8,010.50**	**14,924.18**	**1.81**	**2.10**	**3.91**	**2.3%**
D. Training, studies and capacity building							
1. Corporate development program	1,130.86	2,261.71	3,392.57	0.30	0.59	0.89	0.5%
2. O&M capacity development	1,337.16	1,872.03	3,209.19	0.35	0.49	0.84	0.5%
3. GIS hydraulic model	942.06	942.06	1,884.11	0.25	0.25	0.49	0.3%
4. Rural sanitation and hygiene improvement	382.05	1,910.23	2,292.28	0.10	0.50	0.60	0.3%
Subtotal	**3,792.12**	**6,986.02**	**10,778.14**	**0.99**	**1.83**	**2.82**	**1.6%**
II. Contigencies							
Physical Contingencies	6,967.23	9,425.14	16,392.37	1.82	2.47	4.29	2.5%
Price Contingencies	69,037.73	93,238.90	162,276.63	3.47	4.68	8.15	4.7%
Subtotal	**76,004.96**	**102,664.04**	**178,669.00**	**5.29**	**7.15**	**12.44**	**7.2%**
III. Interest							
Interest During Implementation	30,917.50		30,917.50	6.88	-	6.88	4.0%
Total Project Cost (I +II+ III)	**356,951.42**	**437,230.76**	**794,182.18**	**77.62**	**94.72**	**172.33**	**100.0%**

D. Allocation and Withdrawal of Loan Proceeds

Western Uzbekistan Water Supply System Development Project			
Number	**Item**	**Total Amount Allocated for ADB Financing (US$) Category**	**Basis for Withdrawal from the Loan Account**
1	Civil Works and Goods	111,300,000	100% of total expenditure claimed*
2	Equipment and Machinery	10,850,000	100% of total expenditure claimed*
3	Project Implementation Support	3,260,000	100% of total expenditure claimed*
4	Training, Studies and Capacity Building	2,350,000	100% of total expenditure claimed*
5	Interest Charge	6,880,000	100% of total expenditure claimed*
6	Unallocated	10,360,000	
	Total	145,000,000	

ADB = Asian Development Bank
*Exclusive of taxes and duties for all items imposed within the territory of the Borrower.

E. Detailed Cost Estimates by Financier

Item	ADB		The Government		Total Cost	
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	Taxes and Duties
I. Investment Costs						
A. Civil Works						
1. Water treatment plants	14.5	83.33	2.9	16.67	17.4	2.9
2. Water distribution centers	13.2	75.81	2.6	15.16	15.9	2.6
3. Netw ork pipelines	74.2	425.06	14.8	85.01	89.0	14.8
4. Household connections	7.5	43.10	1.5	8.62	9.0	1.5
5. Detailed Engineering Design	1.5	8.43	-	-	1.5	-
6. Nonrevenue w ater control	0.4	2.19	0.1	0.44	0.5	0.1
Subtotal	**111.3**	**83.52**	**22.0**	125.90	**133.3**	**22.0**
B. Equipment and Machinery				-		
1. Equipment WTP	3.9	83.33	0.8	4.47	4.7	0.8
2. Equipment district WSS	4.5	83.33	0.9	5.21	5.4	0.9
3. Equipment nonrevenue w ater control	1.1	83.33	0.2	1.28	1.3	0.2
4. Utility machineries and equipment	1.3	83.33	0.3	1.49	1.6	0.3
Subtotal	**10.9**	**83.33**	**2.2**	12.44	**13.0**	**2.2**
C. Project Implementation Support				-		
1. Project management	0.2	83.33	0.0	0.23	0.2	0.0
2. Consulting services	2.8	83.33	0.6	3.20	3.3	0.6
3. Project financial audit	0.1	83.33	0.0	0.14	0.1	0.0
4. Environmental management	0.1	83.33	0.0	0.08	0.1	0.0
5. Social safeguards	0.1	83.33	0.0	0.09	0.1	0.0
Subtotal	**3.3**	**83.33**	**0.7**	3.73	**3.9**	**0.7**
D. Training, studies and capacity buildi				-		
1. Corporate development program	0.7	83.33	0.1	0.85	0.9	0.1
2. O&M capacity development	0.7	83.33	0.1	0.80	0.8	0.1
3. GIS hydraulic model	0.4	83.33	0.1	0.47	0.5	0.1
4. Rural sanitation and hygiene improvema	0.5	83.33	0.1	0.57	0.6	0.1
Subtotal	**2.4**	**83.33**	**0.5**	2.69	**2.8**	**0.5**
Total Base Cost	**127.8**	**83.49**	**25.3**	144.77	**153.0**	**25.3**
II. Contingencies				-		
Physical Contingencies	3.6	83.33	0.7	4.10	4.3	0.7
Price Contingencies	6.8	83.33	1.4	7.78	8.1	1.4
III Interest During Implementation	**6.9**	**100.00**	**-**	-	**6.9**	**-**
Total PROJECT COSTS	**145.0**	**84.14**	**27.3**	**15.86**	**172.3**	**27.3**
% Total Project Cost		**84%**		**16%**	**100%**	

F. Detailed Cost Estimates by Outputs/Components

Expenditure Account		Output 1: Water Supply Infrastructure Rehabilitated, Expanded and Upgraded																		Output 2: Institutional Capacity Strengthened							
		Least Cost and Climate Resilient WTPs Developed						Water Supply Systems Rehabilitated and Climate Proofed												Institutional Capacity Strengthened and Project Implementation Capacity Enhanced							
	TOTAL	Tuyamuyun WTP	% of CC	Takiatash WTP	% of CC	Mangit WTP	% of CC	Amudarya District	% of CC	Beruniy District	% of CC	Karauzak District	% of CC	Kungrad District	% of CC	Nukus District	% of CC	Muynak District	% of Cost CC	Improved Water Utility Operations & Business Model	% of CC	Nonrevenue Water Control System	% of CC	Rural Sanitation and Hygiene Improvement	% of CC	Detailed Engineering and Water Supply	% of CC	Project Implementation Support	% of CC
I. Investment Costs																											
A. Civil Works																											
1. Water treatment plants	17.45	1.73	9.9	7.60	43.6	8.12	46.5	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
2. Water distribution centers	15.87	0.00	0.0	0.00	0.0	0.00	0.0	1.66	10.5	3.76	23.7	2.33	14.7	3.27	20.6	2.34	14.8	2.51	15.8	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
3. Network pipelines	88.99	0.00	0.0	0.00	0.0	0.00	0.0	18.77	21.1	19.45	21.9	11.06	12.4	19.21	21.6	13.39	15.0	7.12	8.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
4. Household connections	9.02	0.00	0.0	0.00	0.0	0.00	0.0	2.00	22.1	2.29	25.3	0.80	8.9	2.46	27.3	0.87	9.6	0.61	6.7	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
5. Detailed engineering design	1.47	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	1.47	100.0	0.00	0.0
6. Nonrevenue water control	0.46	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.46	100.0	0.00	0.0	0.00	0.0	0.00	0.0
Subtotal	133.26	1.73	1.3	7.60	5.7	8.12	6.1	22.43	16.8	25.50	19.1	14.19	10.6	24.94	18.7	16.59	12.5	10.24	7.7	0.00	0.0	0.46	0.3	0.00	0.0	1.47	1.1	0.00	1.1
B. Equipment and Machinery																											
1. Equipment WTP	4.68	1.24	26.5	1.90	40.5	1.54	32.9	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
2. Equipment district WSS	5.45	0.00	0.0	0.00	0.0	0.00	0.0	0.53	9.6	1.51	27.8	0.99	18.2	0.47	8.7	0.86	15.8	1.09	20.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
3. Equipment nonrevenue water control	1.34	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	1.34	100.0	0.00	0.0	0.00	0.0	0.00	0.0
4. Utility machineries and equipment	1.56	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	1.56	1.0
Subtotal	13.02	1.24	9.5	1.90	14.6	1.54	11.8	0.53	4.0	1.51	11.6	0.99	7.6	0.47	3.6	0.86	6.6	1.09	8.3	0.00	0.0	1.34	10.3	0.00	0.0	0.00	0.0	1.56	12.0
C. Project Implementation Support																											
1. Project management	0.24	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.24	1.0
2. Consulting services	3.35	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	3.35	1.0
3. Project financial audit	0.14	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.14	1.0
4. Environmental management	0.08	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.08	1.0
5. Social development	0.10	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.10	1.0
Subtotal	3.91	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	3.91	100.0
D. Training, Studies and Capacity Building																											
1. Corporate Development Program	0.89	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.89	1.0
2. O&M capacity development	0.84	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.84	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
3. GIS hydraulic model	0.49	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.49	1.0
4. Rural sanitation and hygiene improveme	0.60	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.60	100.0	0.00	0.0	0.00	0.0
Subtotal	2.82	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.84	29.8	0.00	0.0	0.60	21.3	0.00	0.0	1.38	49.0
Total Base Cost	**153.02**	**2.97**	**1.9**	**9.50**	**6.2**	**9.66**	**6.3**	**22.95**	**15.0**	**27.01**	**17.7**	**15.18**	**9.9**	**25.41**	**16.6**	**17.46**	**11.4**	**11.33**	**7.4**	**0.84**	**0.5**	**1.80**	**1.2**	**0.60**	**0.4**	**1.47**	**1.0**	**6.85**	**4.5**
Physical Contingencies	4.29	0.09	2.1	0.29	6.6	0.29	6.8	0.69	16.0	0.81	18.9	0.46	10.6	0.76	17.8	0.52	12.2	0.34	7.9	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.05	1.1
Price Contingencies	8.15	0.16	2.0	0.60	7.3	0.53	6.5	1.29	15.9	1.53	18.8	0.86	10.6	1.44	17.6	0.99	12.2	0.65	8.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.09	1.1
Subtotal	12.44	0.25	2.0	0.88	7.1	0.82	6.6	1.98	15.9	2.34	18.8	1.32	10.6	2.20	17.7	1.51	12.2	0.99	8.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.13	1.1
Financial Charges During Implementation	6.88	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
Total Project Cost	**172.33**	**3.22**	1.9	**10.38**	6.0	**10.48**	6.1	**24.93**	14.5	**29.35**	17.0	**16.50**	9.6	**27.61**	16.0	**18.97**	11.0	**12.31**	7.1	**0.84**	0.5	**1.80**	1.0	**0.60**	0.3	**1.47**	0.9	**6.98**	4.1

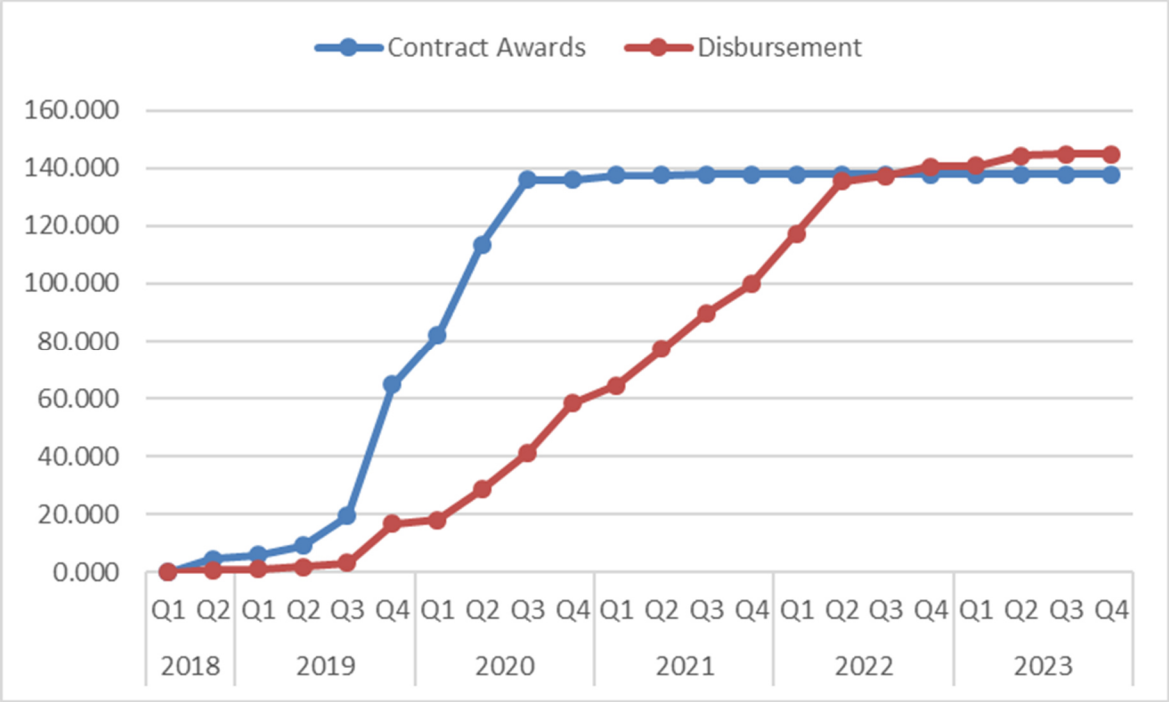
CC = cost category; GIS = geographic information system; O&M = operation and maintenance; WSS = water supply system; WTP = water treatment plant

G. Detailed Cost Estimates by Year ($ million)

Item	Total Cost	2018	2019	2020	2021	2022	2023
I. Investment Costs							
A. Civil Works							
1. Water treatment plants	17.45	0.00	1.97	4.74	4.74	4.25	1.74
2. Water distribution centers	15.87	0.00	1.59	3.98	3.98	4.76	1.56
3. Network pipelines	88.99	0.00	8.90	26.70	26.70	26.70	0.00
4. Household connections	9.02	0.00	0.90	2.71	2.71	2.71	0.00
5. Detailed Engineering Design	1.47	0.22	0.44	0.37	0.37	0.07	0.00
6. Nonrevenue water control	0.46	0.09	0.18	0.18	0.00	0.00	0.00
Subtotal	**133.26**	**0.31**	**13.98**	**38.68**	**38.50**	**38.49**	**3.30**
B. Equipment and Machinery							
1. Equipment WTP	4.68	0.00	0.56	1.26	1.26	1.13	0.47
2. Equipment district WSS	5.45	0.00	0.54	1.36	1.36	1.63	0.54
3. Equipment nonrevenue water control	1.34	0.27	0.53	0.53	0.00	0.00	0.00
4. Utility machineries and equipment	1.56	0.00	0.16	0.47	0.47	0.47	0.00
Subtotal	**13.02**	**0.27**	**1.79**	**3.63**	**3.09**	**3.23**	**1.01**
C. Project Implementation Support							
1. Project management	0.24	0.00	0.00	0.00	0.09	0.09	0.05
2. Consulting services	3.35	0.14	0.72	1.35	0.89	0.24	0.00
3. Project financial audit	0.14	0.01	0.03	0.03	0.03	0.03	0.01
4. Environmental management	0.08	0.02	0.02	0.02	0.02	0.00	0.00
5. Social safeguards	0.10	0.05	0.05	0.00	0.00	0.00	0.00
Subtotal	**3.91**	**0.23**	**0.82**	**1.40**	**1.03**	**0.36**	**0.06**
D. Training, Studies and Capacity Building							
1. Corporate development program	0.89	0.00	0.18	0.27	0.27	0.18	0.00
2. O&M capacity development	0.84	0.00	0.25	0.42	0.17	0.00	0.00
3. GIS hydraulic model	0.49	0.00	0.10	0.15	0.15	0.10	0.00
4. Rural sanitation and hygiene improvement	0.60	0.00	0.12	0.24	0.24	0.00	0.00
Subtotal	**2.82**	0.00	0.65	1.07	0.82	0.28	0.00
Total Base Cost	**153.02**	**0.81**	**17.24**	**44.78**	**43.45**	**42.36**	**4.38**
Physical Contingencies	4.29	0.00	0.44	1.24	1.24	1.25	0.13
Price Contingencies	8.15	0.00	0.37	1.73	2.44	3.20	0.41
Financial Charges During Implementation	6.88	0.03	0.75	1.99	1.96	1.95	0.20
Total Project Cost	**172.33**	**0.84**	**18.80**	**49.74**	**49.09**	**48.75**	**5.12**
% Total Project Cost	**100%**	**0%**	**11%**	**29%**	**28%**	**28%**	**3%**

H. Contract and Disbursement S-Curve

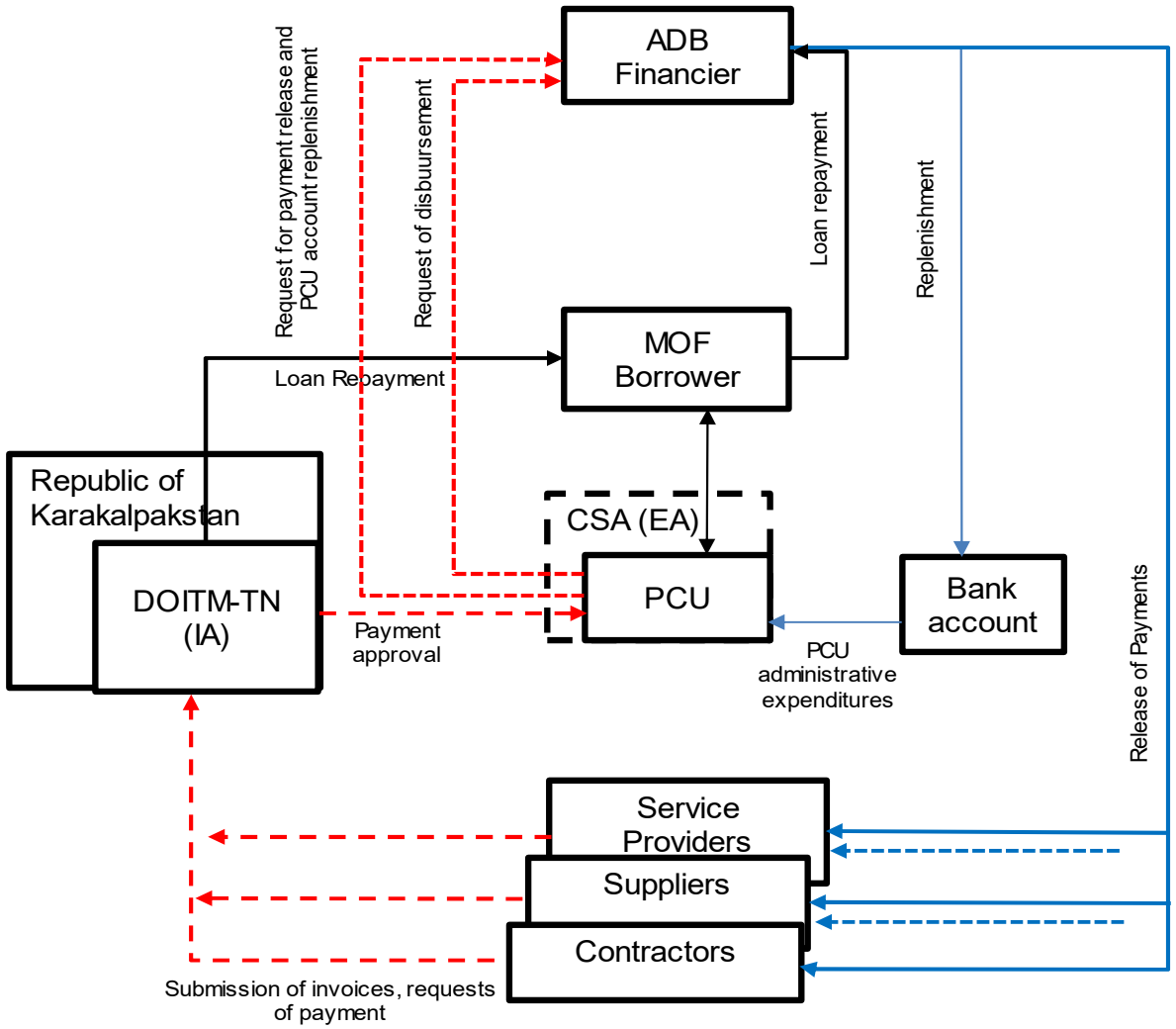
Contract Awards (in US$ million)						Disbursements (in US$ million)				
Year	**Q1**	**Q2**	**Q3**	**Q4**	**Total**	**Q1**	**Q2**	**Q3**	**Q4**	**Total**
2018	0.000	0.000	0.000	4.529	**4.529**	0.000	0.000	0.000	0.768	**0.768**
2019	1.411	3.185	10.262	45.238	**60.096**	0.165	0.761	1.478	13.436	**15.840**
2020	17.304	31.664	22.482	0.000	**71.450**	1.391	10.566	12.453	17.268	**41.677**
2021	1.440	0.000	0.411	0.000	**1.851**	6.112	12.827	12.613	9.922	**41.474**
2022	0.000	0.000	0.000	0.000	**0.000**	17.595	18.117	1.960	3.268	**40.940**
2023	0.000	0.000	0.000	0.000	**0.000**	0.180	3.369	0.547	0.209	**4.304**
Total Contract Awards					**137.926**	**Total Disbursements**				**145.004**



I. Fund Flow Diagram

14. The proposed Fund Flow diagram for the Project is shown below. The IA will receive and verify claims for payments from contractors, suppliers and service providers. The PCU will consolidate and approve the requests for payment and will forward request for disbursement to ADB.

15. ADB will pay the suppliers, service providers and contractors[14] via direct payment. An advance account will be established by TN through the Borrower in a bank acceptable to ADB for smaller items of expenditure of the PCU and the payment of staff salaries and office operating costs. The Borrower will be responsible for implementing the project according to the loan agreement and other agreements. On its part, ADB will monitor the project and review its progress to ensure that the loan and co-financing proceeds are spent as agreed upon. The repayment will be channeled through the MOF.



[14] When a loan becomes effective, a loan account will be opened in ADB's books in the name of the borrower and the loan amount is credited to that account. All disbursements under the loan will be carried out in accordance with ADB's Loan Disbursement Handbook (2017, as amended from time to time).

V. FINANCIAL MANAGEMENT

A. Introduction

16. In accordance with the relevant ADB guidelines, a financial management assessment (FMA) was conducted to ensure that the executing and implementing agencies have the appropriate financial management systems to manage the project's financial resources during implementation.[15] The FMA was undertaken in two stages, first at the country level, to understand Uzbekistan's financial accountability systems, governance policies, and accounting as well as auditing procedures. During this phase, country risks requiring mitigation were identified. The second stage assessed the financial management capability at the project level, mainly focusing on the project's implementing agency, the State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus (DOITM-TN), also referred to as TN. In addition, the financial management capacity of the Communal Services Agency (CSA), the intended executing agency of the project, was reviewed. The CSA and TN are expected to work closely on the financial management aspects of the project, with the former working through its PCU, a unit with an established track record in implementing ADB-funded projects.

B. Country Public Financial Management Risks and Mitigation

17. The public financial management system of Uzbekistan remains centralized. It is guided by a public financial management reform program which has yet to be fully implemented. The key components of the program include: i) establishing a fully functioning uniform treasury system, (ii) adopting and implementing a modern, unified budget and accounting system; and (iii) introducing a medium-term budget framework and program budgeting. While progress has been achieved on various aspects of the program, a few challenges persist. Sector planning, budgeting, and financing links need to be strengthened. Managing expenditure streams requires increased flexibility at the sector and local government. Many state-owned enterprises continue to operate inefficiently, at low-level tariffs that eventually lead to central government subsidies. There is sufficient accounting personnel capacity within the country, but they have to adapt to international financial reporting standards (IFRS) and contemporary financial management techniques. Internal and external audit policies and capacities are limited, and they have to be reinforced to prevent corrupt practices arising from the lack of transparent monitoring and misuse of funds.

18. The water supply sector of Uzbekistan appears to be insulating itself against country-risks posed by what has become a protracted public financial management reform process. It is in the midst of a major transformation, largely driven by Decree 306, which mandates a nationwide reorganization of sector institutions and implementation of sector-wide management, financial, and cost recovery reforms.[16] Decree 306 encompasses major legislative and regulatory reforms, institutional rationalization, and a renewed focus on efficiency, accountability and sustainability through improved cost recovery. All these augur well for both CSA and TN, not only in terms of expanding and strengthening their financial management capacity, but also for their long-term institutional sustainability.

[15] ADB. 2005. *Financial Management and Analysis of Projects,* Manila.

[16] Decree 306—On measures to implement the main directions of development of the organizations of water supply and sanitation—enacted by the Cabinet of Ministers on 30 October 2015.

C. Project-Level Financial Management Assessment and Improvements

19. At the project level, the FMA was undertaken through a series of activities involving TN. They consisted of the following: (i) an interview with the senior management and chief accountant of the company, (ii) an assessment of their accounting and reporting systems and resources, internal and external auditing, fund disbursement, and information systems, and (iii) a review of their 2012-2016 audit reports.[17]

1. Assessment Findings and Conclusions

20. The FMA concluded that in general, adequate knowledge and skills in project management, financial management, financial analysis, management accounting, and construction supervision are prevalent among the officers and staff of the TN. The company's financial policies and procedures, monitored through MOF auditors, were deemed appropriate for the financial management of the project. Its finance and accounting department is adequately staffed and its accounting system allows for adequate recording of financial transactions, strictly adhering to national decrees and MOF circulars. Within the accounting office, functional responsibilities are allocated.[18] The functions of ordering, receiving, accounting for and paying for goods and services are also allocated, within the limitations of the small number of personnel. The FMA also concludes that the capacity of CSA and TN is suitable and appropriate to administer the advance account procedure with a 6-month expenditure limit. CSA and TN also have the capacity to administer the proposed SOE procedures with the $100,000 ceiling for individual transactions limit as described in the disbursement procedure.

21. The TN uses the latest version of the standard '1C' Russian accounting software program which is regularly updated at their request. Transactions are properly controlled, prepared by the accounting staff and countersigned by the chief accountant and director. Cost allocations are accurate and consistent with established agreements. Ledgers, both general and subsidiary are reconciled monthly, and action is taken to resolve differences. Documents are stored on site for up to five years, after which they are archived and readily accessible. The audit reports for 2012–2016 do not state any significant or unresolved findings.

22. The chief accountant and director are the only authorized bank account signatories, and an up-to-date cashbook is maintained. Branch offices collect tariffs, which are deposited into their bank accounts, with the balance subsequently transferred to TN through bank transfer. Balances are checked daily, and all reconciling items are approved and recorded. Controls are in place for unused checks, USB keys and passwords, official receipts and invoices.

23. Measures are in place to protect assets from abuse, fraud and waste. A fixed asset register is maintained and updated monthly, subsidiary records of assets are maintained, and periodic inventories implemented. Assets are only rarely disposed of. Apart from compulsory insurance for employees and vehicles, insurance is not provided. All assets are included in an asset register, which shows the original purchase price, book value, accumulated depreciation and depreciation rate.

2. Financial Management Risk Rating

[17] The FMA was based on ADB's Guidelines for the Financial Governance and Management of Projects Financed by the Bank (2002) and Financial Management Guidelines Technical Note, ADB, May 2015. The instrument used for assessment was ADB's standard financial management assessment questionnaire (FMAQ).

[18] Including (i) authorization to execute a transaction; (ii) recording of the transaction; (iii) custody of assets involved in the transaction; and (iv) reconciliation of bank accounts and subsidiary ledgers.

24. Nonetheless, the overall financial management risk of TN is rated moderate for the following reasons: (i) it has implemented ADB projects but has no prior experience as an implementing agency with financial management responsibilities for project funds; (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. The TN does not have experience in the management of disbursements from ADB, or adequate administrative or accounting stock knowledge to manage an advance fund and statement of expenditure (SOE) procedures in accordance with ADB's Loan Disbursement Handbook. Although TN's financial statements and reports are available quarterly,[19] these reports will have to be modified for the reporting requirements of the project.[20] However, the TN has experience with ADB and other development partners and donors. Its audit reports reflect loans granted by the Government of France, KFAED, World Bank, and ADB.

3. Risk Mitigation Strategy and Action Plan

25. The moderate financial management risk will be mitigated under the project with the CSA providing supervision and guidance to the TN. The CSA has the necessary experience in implementing water supply and sanitation projects funded by ADB, World Bank, and other international financial institutions. CSA has amassed considerable experience in rehabilitation, upgrading, and management of water supply infrastructure facilities and projects since its inception in 2008. Currently, three PCUs are operated by CSA, one of which is dedicated to the implementation of ADB-funded projects.

26. State agencies are not required to undergo external auditing but because of its role as the executing agency of foreign funded projects, the CSA is audited annually by an independent external auditor as a requirement of the ADB loan. External auditors are hired through a selection process that is in accordance with ADB requirements. The external auditors should be licensed by the state authorities and required to apply international auditing standards. The external audit reports of CSA for the last three years (2013 – 2015) did not highlight any major issues and in the auditors opinion the financial statements of CSA are a true and fair view of its financial situation. Its financial and business transactions meet the requirements of accounting legislation of the Republic of Uzbekistan.[21]

27. Under the overall supervision of the CSA, financial management consultants and training will be made available to the TN to support its project financial management activities. The action plan for TN and CSA comprising time-bound initiatives to mitigate the financial management risks identified by the FMA is summarized in Table 4 below.

[19] Some of these reports are prepared utilizing information from the 1C accounting program, while some are preparing manually in Excel. They compare actual expenditures with budgeted and programmed allocations, and are utilized by management.

[20] Capacity development will be provided to cover the needs for report preparation. It is also possible to include the report generation function in the updating of the electronic C1 accounting system used by TN.

[21] However, a recent assessment by ADB of the audit process for the consolidated entity and project financial statements relating to the disbursement of funds from earlier MFF tranches highlighted some deficiencies which are currently being addressed.

Table 4: Financial Management Improvement Plan

	Risk Description	Risk	Action Item	Period	Responsibility
1	Implementing Entity. Failure to report suspected fraud, waste or misuse of project resources or asset	Low	Monitor compliance with financial management policies and procedures.	During implementation	Ministry of Finance through mandatory external audits
			Monitor report on suspected fraud, waste or misuse of project resources or assets.	During implementation	Compliance Unit within TN and the PCU
2	Funds Flow. Misunderstanding of ADB guidelines on disbursement and withdrawal of loan proceeds	Moderate	Closely coordinate with ADB and the project consultants to ensure that ADB guidelines are followed.	During implementation	CSA/PCU/TN
	Inability to set up and manage the project advance account in accordance with ADB policies	Moderate	Provide relevant training on financial management and handling of ADB disbursements as well on the use and management of project advance accounts and sub-accounts.	Immediately upon commencement of project implementation, with the necessary follow up training	ADB/ TN/CSA/PCU
3	Staffing. Inadequate staff at the Project Finance and Accounting Department of TN and lack of training on ADB procedures	Moderate	Engage PCU consultants knowledgeable on ADB financial management systems and procedures	During the first year of project implementation	ADB/TN/CSA/PCU
4	Accounting. Inability to record financial transactions properly and to submit reports promptly	Moderate	Develop, with the help of project consultants, a project accounting system that meets the requirements of the government and ADB.	During implementation	ADB/MOF/CSA/TN
5	Budgeting. Poor budget preparation leading to significant variations between planned and actual utilization of project resources	Low	Prepare project budget and financial targets in accordance with the relevant government and ADB guidelines	During implementation	CSA/PCU

	Risk Description	Risk	Action Item	Period	Responsibility
			Monitor physical and financial progress and report significant deviations from the budget promptly	During implementation	CSA/PCU/TN
6	Payments. Significant payment delays due to a lack of understanding of the policies and procedures governing direct payments and payments through the advance account	Moderate	Implement a capacity building program for TN/ PCU to help them develop an efficient payment and disbursement system.	During the first year of project implementation	ADB/CSA
7	Internal audit. Delays in the preparation and submission of accurate and well prepared project financial statements and audit reports	Moderate	Engage a project consultant who can develop an automated project accounting system that links with TN's accounting system and who can effectively train TN personnel on the system	During the first year of project implementation	ADB/CSA/TN
8	Reporting and monitoring. Audited financial reports are not prepared accurately and promptly in accordance with the requirements of the government and ADB	Moderate	Prepare financial reports through an automated accounting system to be developed with the project consultants	During the first year of project implementation	TN/CSA/PCU
			Monitor compliance with loan covenants, including submission of audited project accounts	Throughout project implementation	ADB
9	Information systems. Information systems lack appropriate safeguards and confidentiality.	Low	Produce reports through a computerized financial management system	During implementation	TN/PCU/CSA
			Provide regular backups to all accounting systems and put up security measures to	During implementation	TN/PCU/CSA

Risk Description	Risk	Action Item	Period	Responsibility
		ensure confidentiality and integrity of data in the systems.		

A. Disbursement

28. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (June 2017, as amended from time to time)[22], and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available[23]. Project staff members are encouraged to avail themselves of this training to help ensure efficient disbursement and fiduciary control.

29. **Disbursement Arrangements for ADB.** The fund flow diagram is provided in Item I above. The various procedures to be used are briefly summarized below:

i. **Direct payment.** For civil works, equipment and consulting services, subject to the minimum value per withdrawal application described in the *Loan Disbursement Handbook*.

ii. **Commitment Procedure.** For the financing of imported goods and equipment.

iii. **Advance Fund.** For individual payments below the minimum value per withdrawal application described in the *Loan Disbursement Handbook* including the incremental recurrent costs for the PCU, etc. The Statement of Expenditure procedure will be followed for the liquidation of advances under the advance account, subject to a ceiling of $100,000 per payment.

30. The PCU will be responsible in preparing contract awards and disbursement projections, requesting budgetary allocations for counterpart funds, collecting supporting documents and preparing all withdrawal applications to ADB.

31. **Advance Fund Procedure.** To facilitate project implementation through the timely release of loan proceeds, TN will establish an advance account promptly after loan effectiveness. The advance account will be established, managed, and liquidated in accordance with ADB's *Loan Disbursement Handbook* and detailed arrangements agreed by the government and ADB. The advance account is to be used exclusively for the ADB's share of eligible expenditures. The currency of the advance account will be in USD. TN, which established the advance account in its name, is accountable and responsible for the proper use of advances to the advance account including advances to the sub-accounts. TN will be responsible for managing, replenishing, and liquidating the advance account. All withdrawals from the advance account will require signatures from CSA and TN.

32. The outstanding advance of the advance account will not at any time exceed the estimated ADB financed expenditures to be paid from the advance account for the forthcoming 6 months. TN may request for the initial and additional advances to the respective advance account based

[22] Available at: www.adb.org/documents/loan-disbursement-handbook
[23] Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning

on an Estimate of Expenditure Sheet[24] setting out the estimated expenditures to be financed through the respective advance account for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by the borrower (TN) in accordance with ADB's *Loan Disbursement Handbook* when liquidating or replenishing the advance accounts.

33. **Sub-account under the Advance Account.** A separate sub-account will be established in local currency, and maintained by PCU, to finance the land acquisition resettlement costs (if necessary), incremental recurrent costs of PCU's operations (including PCU staff salaries, withholding tax and social charges on PCU staff salaries). The sub-account is to be used exclusively for ADB's share of eligible expenditures. PCU should ensure that every liquidation and replenishment of each sub-account is supported by sufficient documentation in accordance with ADB's *Loan Disbursement Handbook*. The outstanding advance of the sub-account shall not exceed the equivalent of the PCU's 3 months estimated expenditure.

i. The PCU shall submit full documentation to the TN for monthly liquidations, together with a bank statement (within 7 days after the month end);
ii. The request for replenishment should be accompanied by an estimate of 3 months expenditure.

34. **Statement of Expenditures (SOE)** [25]. The SOE procedure may be used for the reimbursement of eligible expenditures or the liquidation of advances to the advance accounts. The ceiling of the SOE procedure is the equivalent of $100,000 per individual payment. Supporting documents and records for expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB. TN and the borrower will be responsible for ensuring that SOEs are operated in accordance with ADB's requirement.

35. Before the submission of the first withdrawal application, the MOF should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is set in accordance with the *Loan Disbursement Handbook*. Individual payments below this amount should be paid (i) by the EA/IA and subsequently claimed from ADB through reimbursement; or (ii) by advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements.

C. Accounting

36. The TN will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following accrual-based accounting following the equivalent national accounting standards. The TN will prepare project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

[24] Estimate of Expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),

[25] SOE forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

D. Auditing and Public Disclosure

37. The TN will cause the detailed project financial statements to be audited in accordance with International Standards on Auditing by an independent auditor acceptable to ADB. The audited project financial statements together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of each fiscal year by the TN.

38. The audited entity financial statements of TN, together with the auditor's report and management letter, will be submitted in the English language to ADB within 1 month after their approval by the relevant authority for each financial year. The audit report for the entity financial statements shall include an auditors' opinion on whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements.

39. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan were used only for the purpose(s) of the project.

40. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

41. The government and TN have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.[26] ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

42. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.[27] After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their

[26] ADB's approach and procedures regarding delayed submission of audited project financial statements:

(i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.

(ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.

(iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

[27] Public Communications Policy: http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications

acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.[28]

[28] This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

VI. PROCUREMENT AND CONSULTING SERVICES

43. Procurement capacity assessment of the CSA has been undertaken. Based on the findings of the assessment, the thresholds for procurement of goods and works as well as consulting services have been defined, and the degree of ADB oversight (prior and post review) has been recommended. These are reflected in the procurement plan, Section C.

44. The overall risk assessment is *High*. The project arrangements with appropriate mitigation measures are considered satisfactory. ADB and the government will jointly undertake reviews of the project at least once a year. The reviews will assess progress in the project activities, including implementation of the mitigation measures, procurement transactions, performance of contractors and suppliers, monitoring and reporting of project assets, identify issues and constraints, and determine necessary remedial actions and adjustments.

A. Advance Contracting

45. All advance contracting will be undertaken in conformity with ADB's Procurement Guidelines (April 2015, as amended from time to time)[29] and ADB's Guidelines on the Use of Consultants (March 2013, as amended from time to time).[30] The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, CSA and the PCU have been advised that approval of advance contracting does not commit ADB to finance the Project.

46. **Advance contracting**. It is envisaged to undertake advance actions for the procurement of project development consultants and detailed design consultants. This will include the preparation of a request for proposal documents and advertisement via the consulting services recruitment notices for ADB's prior review and approval. The borrower and CSA have been advised that approval of advance contracting does not commit ADB to finance the Project.

B. Procurement of Goods, Works and Consulting Services

47. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (April 2015, as amended from time to time). International competitive bidding procedures will be used for civil works contracts estimated to cost $5,000,000 or more, and supply contracts valued at $2,000,000 or higher. Shopping will be used for contracts for procurement of works and equipment worth less than $100,000.

48. ADB standard bidding documents for procurement of works dated December 2016 shall be used for the procurement of works. For the procurement of works costing less than $5,000,000, ADB standard bidding documents for works, small contracts, dated December 2016 shall be used. For the procurement of goods, the ADB standard bidding documents for the procurement of goods dated December 2016 or later edition shall be used.

49. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

[29] Available at: http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf
[30] Available at: http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf

50. All consultants will be recruited according to the *Guidelines on the Use of Consultants by the Asian Development Bank and Its Borrowers* dated March 2013 as amended from time to time. Consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality cost ratio of 90:10 to give more weight to quality of proposals. Also, the following consultants selection procedures will be used, LCS, CQS and ICS. The terms of reference for all consulting services are detailed in Section D.

C. Procurement Plan

Basic Data

<table>
<tr><td colspan="2">Project Name: Western Uzbekistan Water Supply System Development Plan</td></tr>
<tr><td>Project Number: 50259</td><td>Approval Number:</td></tr>
<tr><td>Country: Uzbekistan</td><td>Executing Agency: Communal Services Agency (CSA)</td></tr>
<tr><td>Project Procurement Classification: B
Procurement Risk: Moderate</td><td>Implementing Agency: State Unitary Enterprise Department for Operation of the Interregional Water Supply Tuyamuyun-Nukus (TN)</td></tr>
<tr><td>Project Financing Amount: $172.3 million
ADB Financing: $145 million
Cofinancing:
Non-ADB Financing: US$ 27.3 million</td><td>Project Closing Date: 31 July 2024</td></tr>
<tr><td>Date of First Procurement Plan 22 June 2017</td><td>Date of this Procurement Plan: 16 March 2018</td></tr>
</table>

A. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works

Procurement of Goods and Works		
Method	**Threshold**	**Comments**
International Competitive Bidding (ICB) for Works	$5,000,000	
International Competitive Bidding for Goods	$2,000,000	
National Competitive Bidding (NCB) for Works	Beneath that stated for ICB, Works	
National Competitive Bidding for Goods	Beneath that stated for ICB, Goods	
Shopping for Works	Below $100,000	
Shopping for Goods	Below $100,000	

Consulting Services	
Method	**Comments**
Quality and Cost Based Selection (QCBS)	90:10
Quality Based Selection	
Consultants' Qualifications Selection[3]	

Least-Cost Selection[4]	
Fixed Budget Selection	
Individual Consultant Selection	

2. Goods and Works Contracts Estimated to Cost $1 Million or More

The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	**General Description**	**Estimated Value**	**Procurement Method**	**Review** [Prior / Post/Post (Sampling)]	**Bidding Procedure**	**Advertisement Date** (quarter/year)	**Comments**
WU-CW-01	WSS improvement in Amudarya district	24,933,247	ICB	Prior	1S1E	Q2/2019	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-02	WSS improvement in Beruniy district	29,352,289	ICB	Prior	1S1E	Q2/2019	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-03	WSS improvement in Nukus district	18,968,620	ICB	Prior	1S1E	Q3/2019	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-04	WSS improvement in Karauzak district	16,498,537	ICB	Prior	1S1E	Q1/2020	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-05	WSS improvement in Kungrad district	27,614,033	ICB	Prior	1S1E	Q1/2020	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-06	WSS improvement in Muynak district	12,314,889	ICB	Prior	1S1E	Q2/2019	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works

Package Number	General Description	Estimated Value	Procurement Method	Review [Prior / Post/Post (Sampling)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
WU-CW-07	Construction of Mangit WTP	10,479,538	ICB	Prior	1S1E	Q2/2020	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-08	Rehabilitation of Tuyamuyun PS	3,222,133	ICB	Prior	1S1E	Q1/2019	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-09	Extension of Takiatash WTP	10,382,742	ICB	Prior	1S1E	Q1/2020	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works
WU-CW-10	NRW Equipment and OCS	1,796,203	NCB	Prior	1S1E	Q1/2019	Prequalification of Bidders: N Domestic Preference Applicable: N MDB Harmonized Bidding Document: SBD Design& Build

NRW: Non-revenue Water; OCS: Operational Control System.

3. Consulting Services Contracts Estimated to Cost $100,000 or More

The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
WU-CS-01	Project Management Consultant (including EMP, GDP & SD)	3,526,224	QCBS (90:10)	Prior	Q2/2018	FTP	Advance Contracting Assignment: International
WU-CS-02	Detailed Engineering Design (including preparation of BD)	1,470,700	QCBS (90:10)	Prior	Q2/2018	FTP	Advance Contracting Assignment: National
WU-CS-03	Financial Audit	144,000	LCS	Prior	Q3/2018	BTP	Assignment: National
WU-CS-04	O&M Capacity Development	840,000	QCBS (90:10)	Prior	Q2/2020	FTP	Assignment: International

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
WU-CS-05	Corporate Development Program	888,000	QCBS (90:10)	Prior	Q2/2020	FTP	Assignment: International
WU-CS-06	Rural Sanitation and Hygiene Improvement Program	600,000	QCBS (90:10)	Prior	Q3/2018	STP	Assignment: International
WU-CS-07	Procurement of GIS	493,160	QCBS (90:10)	Prior	Q3/2020	STP	Assignment: International

FTP: Full Technical Proposal; QCBS: Quality and Cost-Based selection; BTP: Biodata Technical Proposal; LCS: Least Cost selection; EMP: Environmental Management Plan; GDP: Gender Development Plan; SD: Social Development; BD-Bidding Documents

4. Goods and Works Contracts Estimated to Cost Less than $1 Million and Consulting Services Contracts Less than $100,000 (Smaller Value Contracts)

The following table groups smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Goods and Works								
Package Number[5]	**General Description**	**Estimated Value**	**Number of Contracts**	**Procurement Method**	**Review** Prior / Post	**Bidding Procedure**[6]	**Advertisement Date** (quarter/ year)	**Comments**[7]
WU-G-01	Procurement of machineries and O&M tools	1,692,692	9	NCB / Shopping	Prior	1S1E	Q4/2018	

Consulting Services								
Package Number	**General Description**	**Estimated Value**	**Number of Contracts**	**Recruitment Method**	**Review** (Prior / Post)	**Advertisement Date** (quarter/ year)	**Type of Proposal**[8]	**Comments**[9]

B. Indicative List of Packages Required Under the Project

The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number[5]	**General Description**	**Estimated Value (cumulative)**	**Estimated Number of Contracts**	**Procurement Method**	**Review** [Prior / Post/Post (Sampling)]	**Bidding Procedure**[6]	**Comments**[7]

Consulting Services							
Package Number	**General Description**	**Estimated Value (cumulative)**	**Estimated Number of Contracts**	**Recruitment Method**	**Review** (Prior / Post)	**Type of Proposal**[8]	**Comments**[9]

D. Non-ADB Financing

The following table lists goods, works and consulting services contracts over the life of the project, financed by Non-ADB sources.

Goods and Works				
General Description	**Estimated Value (cumulative)**	**Estimated Number of Contracts**	**Procurement Method**	**Comments**

Consulting Services				
General Description	**Estimated Value (cumulative)**	**Estimated Number of Contracts**	**Recruitment Method**	**Comments**

E. National Competitive Bidding

1. General

The procedures to be followed for national competitive bidding shall be those set forth in the applicable resolutions of the cabinet of ministers (COM) of Republic of Uzbekistan with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the ADB *Procurement*.

2. Eligibility

The eligibility of bidders shall be as defined under section I of the *Procurement Guidelines*; accordingly, no bidder or potential bidder should be declared ineligible for reasons other than those stated in section I of the *Procurement Guidelines*. Bidders must be nationals of member countries of ADB, and offered goods, services, and works must be produced in and supplied from member countries of ADB.

3. Prequalification

Normally, post-qualification shall be used unless explicitly provided for in the loan agreement/procurement plan. Irrespective of whether post qualification or prequalification is used, eligible bidders (both national and foreign) shall be allowed to participate.

4. Registration and Licensing

(i) Bidding shall not be restricted to pre-registered/licensed firms.

(ii) Where registration or licensing is required, bidders (i) shall be allowed a reasonable time to complete the registration or licensing process; and (ii) shall not be denied registration/licensing for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.

(iii) Foreign bidders shall not be precluded from bidding. If a registration or licensing

process is required, a foreign bidder declared the lowest evaluated bidder shall be given a reasonable opportunity to register or to obtain a license.

5. Bidding Period

The minimum bidding period is 28 days prior to the deadline for the submission of bids.

6. Bidding Documents

Procuring entities should use standard bidding documents for the procurement of goods, works and services acceptable to ADB.

7. Preferences

No domestic preference shall be given for domestic bidders and for domestically manufactured goods.

8. Advertising

Invitations to bid shall be advertised in at least one widely circulated national daily newspaper or freely accessible, nationally known website allowing a minimum of 28 days for the preparation and submission of bids.

Bidding of NCB contracts estimated at $500,000 equivalent or more for goods and related services of $1,000,000 equivalent or more for civil works shall be advertised on ADB's website via the posting of the procurement plan.

9. Bid Security

Where required, bid security shall be in the form of a bank guarantee from a reputable bank.

10. Bid Opening and Bid Evaluation

(i) Immediately after the date and time set for the deadline for bid submission, bids shall be opened in public. A record of bid opening shall be prepared by the executing agency, or implementing agency, or the contracting authority, and such record shall be distributed to all bidders.

(ii) Evaluation of bids shall be made in strict adherence to the criteria declared in the bidding documents and contracts shall be awarded to the lowest evaluated bidder.

(iii) Bidders shall not be eliminated from detailed evaluation on the basis of minor, non-substantial deviations.

(iv) No bidder shall be rejected on the basis of a comparison with the contract cost estimate(s) and budget ceiling(s) set by the borrower/executing agency without ADB's prior concurrence.

(v) A contract shall be awarded to the technically responsive bidder that offers the lowest evaluated price, and meets the qualifying requirements. Negotiations shall not be permitted.

(vi) Price verification shall not be applied.

11. Rejection of All Bids and Rebidding

Bids shall not be rejected and new bids solicited without ADB's prior concurrence.

12. Participation by Government-Owned Enterprises

Government-owned enterprises in Uzbekistan shall be eligible to participate as bidders only if they can establish that they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the contracting authority/executing agency/implementing agency. Furthermore, they will be subject to the same bid and performance security requirements as other bidders.

13. Right to Inspect/Audit

A provision shall be included in all NCB works and goods contracts financed by ADB requiring suppliers and contractors to permit ADB to inspect their accounts and records and other documents relating to the bid submission and the performance of the contract, and to have them audited by auditors appointed by ADB.

14. Fraud and Corruption

(i) The Borrower shall reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contract in question.

(ii) The Asian Development Bank (ADB) will declare a firm or individual ineligible, either indefinitely or for a stated period, to be awarded a contract financed by ADB, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, ADB-financed contract.

15. Pre-Shipment Inspections

Pre-shipment inspections, if necessary, shall be carried out by an independent reputable testing authority/surveyor in the supplier's country for reasons of sound engineering practice and economy and efficiency in project implementation.

16. Disclosure of Decision on Contract Awards

At the same time that notification on award of contract is given to the successful bidder, the results of bid evaluation shall be published in a local newspaper or a well-known freely accessible website identifying the bid and lot numbers and providing information on (i) name of each bidder who submitted a bid, (ii) bid prices as read out at bid opening; (iii) name of bidders whose bids were rejected and the reasons for their rejection, and (iv) name of the winning bidder, and the price it offered, as well as duration and summary scope of the contract awarded. The executing agency/implementing agency/contracting authority shall respond in writing to unsuccessful bidders who seek explanations on the grounds on which their bids are not selected.

D. Consultant's Terms of Reference

51. Two large consulting support packages will be provided under the ADB Loan, as detailed below:

1. PROJECT MANAGEMENT CONSULANTS

52. An international consulting firm with national experts experienced in water supply projects is required to provide assistance on tendering, evaluation and contract award to the successful Bidder, project management and supervision including review and audit the detailed engineering design, procurement, construction, erection, testing and commissioning, environmental safeguards monitoring, issue of necessary progress reports, and improve the agency's project management capacity. The Consultants will also be responsible for the financial management of Project-related activities including establishing a management information system, assistance in accounting, and issuance of payments certificates, etc. The Consultants will ensure that the Project is built on schedule in a satisfactory manner to the required standards within budget.

53. The consulting firm will be recruited using quality-and-cost-based selection (90:10) with full technical proposal in accordance with ADB's *Guidelines on the Use of Consultants (*2013, as amended from time to time. For all international positions, Russian language skills are desirable and English language skills are compulsory. For national experts, English language skills are desirable.

54. The services to be provided by the Consultants include but are not limited to, the following:

i. Provide day-to-day support to the PCU and TN in overall management of project implementation, involving coordination of activities, monitoring, maintenance of records, certification of works, and progress reporting to relevant authorities.;
ii. Provide assistance to the PCU in managing procurement activities for Works, Goods, and Service contracts under the project;
iii. Provide construction supervision, involving supervision of contractors to control quality of construction and installation of equipment, implementation time, and cost, from inception to completion. The PMC shall be responsible for the supervision of the Works during course of construction. The Consultant will also provide services during the Defects Liability Period of one year following the taking-over of the works and up to the issuance of the Certificate of Completion. The Consultants shall perform all duties that may be required pursuant to Contracts entered into between the Client and the Contractor where Consultants are designated as "the Project Manager" in such Contracts;
iv. Develop a Project Management Information System (PMIS) including PPMS, project financial information and accounting system and carry out its operation;
v. Prepare terms of reference, technical specifications, bidding documents and invitation for bidders for the procurement of a Design-and-Build (DB) Contract for the design and construction of the new Water Treatment Plan (WTP); and the capacity expansion at two existing WTPs;
vi. Provide assistance to the PCU/TN for the implementation of the Resettlement Plan;
vii. Supervise the activities of the Detailed design consultant (Design Institute) which will be in charge of the development of design and bidding documents for the rehabilitation and the new construction of the water supply networks and pumping stations;

viii. Provide assistance to the PCU/TN to procure utility vehicles and maintenance machineries through national/international shopping and national competitive bidding procedures;

ix. Provide inputs to PCU/TN to procure design-and-build type contract works for the implementation of a remote-controlled operation control center (OCC) monitored via a SCADA system and NRW control system;

x. Elaborate methodologies for construction supervision, assessment of contractor performance and reporting to the attention of the national design team and the PCU/TN construction supervisors;

xi. Review and approve the training materials and supervise the implementation of training programs to be provided by contractors and suppliers to the TN technical personnel in charge of the operation and maintenance (O&M) of the newly constructed regional water supply system;

xii. Plan and review the final commissioning tests being conducted upon completion of each construction package, namely network, pumping stations, WTP; approve acceptance of performance in accordance with the targets set in the tender documents; approve the content of the O&M manuals and advise the PCU/TN on delivery of certificate of performance;

xiii. Plan the monitoring activities to be carried out during the damages and liability period and advise the PCU for delivery of certificates of final acceptance of the newly constructed and rehabilitated infrastructure;

xiv. Provide assistance to the PCU to elaborate TORs and subsequently select a specialized consultant for the provision of trainings foreseen under the capacity building program;

xv. Provide guidance for the implementation of the EMP during the pre-construction and construction periods;

xvi. Manage and supervise the implementation of the NRW Program and provide assistance to the PCU in the preparation of reports on NRW Program.

xvii. Coordinate the implementation of the Capacity Building Program and provide assistance to the PCU preparation of reports on Capacity Building Program;

xviii. Provide guidance and support to the PCU/TN to implement the EMP and to further carry out monitoring of the effectiveness of the EMP;

xix. Provide support and guidance to PCU/TN to implement the Gender Action Plan (GAP) and to further conduct monitoring on possible social repercussions of the GAP:

xx. Organize and supervise the implementation of the LARP.

xxi. Prepare additional studies including social-economic, technical and environmental surveys as needs arise;

xxii. Review all contractual documents, drawings and warn the Executing and Implementing Agencies for inconsistencies/deficiencies and take necessary corrective action with Client’s approvals;

xxiii. Convene and/or attend all meetings required to manage and carry out the services necessary for project activities, including periodic meetings with contractors to review progress, and prepare and distribute copies of the agenda and the meeting records.

xxiv. Provide on the job training and guidance to the PCU/TN staff in the areas such as, Project Management, Customer Management, Social Safeguards, Gender Mainstreaming, PPMS Reporting and Evaluation, Sanitation Awareness & Hygiene Program, Communication & Participation Component and others as needed to ensure successful project implementation.

QUALIFICATION OF THE FIRM

55. The Consultant must demonstrate that it has the following experience be within the last 15 years:

i. extensive project management experience in water supply sector including technical design engineering, finance, procurement, contract management (FIDIC) and construction supervision;
ii. experience with donor (ADB, World Bank, etc.) funded projects and corresponding conditions of contract, particularly FIDIC;
iii. environmental and social improvement projects;
iv. institutional strengthening at agency and governmental level; and
v. capacity building for utility management, O&M, and non-revenue water (NRW)

STAFFING

56. The Consultants shall provide sufficient qualified and experienced staff to ensure proper project management, procurement services, and construction supervision of the works and engineering services both during the construction period and during the Defects Liability/Maintenance Period. To guarantee a timely implementation of the Works and efficient use of financial resources, the Consultants shall maintain a continuous presence of its Key Personnel on the site of the Works until construction is completed and all major facilities are commissioned. The Consultant personnel shall consist of key and supporting staff.

57. The personnel requirement for the consulting works as outlined above is estimated to be as follows:

Professional Staff	**Type**	**Quantity**	**Total Person months**
Key Personnel			
International			
K1- Project Manager/ Water Supply Engineer	International	1	30
K2- Water Supply Engineer /Distribution System Specialist	International	1	14
K3- Water Supply Engineer /Water Treatment Specialist	International	1	7
K4- Electromechanical Engineer	International	1	4
K5- Mechanical Engineer	International	1	3
K6- Financial Specialist	International	1	6
K7- Procurement Specialist	International	1	4
K8- Environmental Specialist	International	1	4
Sub-total		**8**	**72**
National			
K9- Deputy Team Leader/ Water Supply Engineer	National	1	51
K10- Procurement expert	National	1	26

K11- Social, gender and resettlement Specialist	National	1	12
K12- Finance specialist	National	1	16
K13- Environmental Specialist	National	1	18
K14- Construction Supervision Engineer	National	9	159
Sub-total		**14**	**282**
Total		**22**	**354**

PREFERRED QUALIFICATIONS, ROLES AND RESPONSIBILITIES

K1 - Project manager / Water Supply Engineer (1 International)

58. Preferred Qualifications and Experience: The international project manager (PM) shall have more than 15 years of solid international experience in the organization and implementation of water supply projects in Central Asian countries, and in working with international experts and national authorities; and have good experience with donor (ADB, World Bank, etc.) funded projects. Working experience in Uzbekistan and accessory working records in water supply infrastructure is regarded as a supplementary asset. The candidate PM will have a master degree in civil or hydraulic engineering or equivalent. Experience in procurement and construction supervision is also required. He/she must have strong leadership and team building competencies. He/she should have excellent project management and interpersonal skills, sound experience in project management of a team composed of international and local experts. He/she should be able to demonstrate that he/she has occupied similar position on at least three similar projects. He/she should have proven knowledge of FIDIC based and/or ADB conditions of contract. He/She must be fluent in spoken and written English and with Russian or Uzbek language skills as supplementary asset. He/she must have strong analytical, writing and communication skills, MS Office literacy, and professional application of construction management related software.

59. General Roles and Responsibilities: He/she will work in close coordination with the PCU Director and will undertake the following main tasks:

i. Provide support to the PCU and ensure liaison with the TN and RK, CSA, the Project Steering Committee (PSC), ADB, the Ministry of Finance (MOF) and other relevant stakeholders;
ii. Provide overall guidance and direction for all aspects of PCU activity regarding project preparation, implementation, operations and maintenance training, monitoring, and evaluation, land management, social issues, as well as related capacity development;
iii. Review procurement plans updated by the procurement experts and ensure the timely preparation of design and tender documents relative to all civil works contracts;
iv. Provide guidance and technical direction to the Design Institute undertaking the preparation of detailed designs and tender documents for the procurement of works and goods;
v. Make sure that all design documents are consistent with national and international norms as applicable;

vi. With the advice of procurement experts make sure that all tender documents, procurements procedures and modes of procurement are in accordance with the relevant ADB guidelines on procurement under ADB financed Projects;
vii. Assist the PCU and the tender evaluation commission in the process of evaluating tender documents and awarding contracts to contractors and suppliers, as needed;
viii. Ensure the timely fielding of contractors and implementation of all contract packages in accordance with agreements entered into in the course of the project;
ix. Receive comments and copies of field reports by construction supervisors; review work reports and claims for payments prepared by contractors and suppliers and formulate relevant recommendations to the PCU before submission for payment;
x. Assisted by the procurement specialists, provide advice to the PCU on Contractor claims for time extension, change orders, and other critical decisions in the course of the Project;
xi. Take the lead in the preparation of tender documents for the procurement of the design and Build Contractors for the construction of the new Mangit WTP and assist the PCU throughout the process of tender evaluation and awarding of the contract;
xii. Provide advice and support for the preparation of TOR for the selection of consultants for the implementation of the Capacity-building program;
xiii. Provide support for the preparation of workshops and other on-the-job type of training related to the Capacity building program; supervise the preparation and the delivery of on-the-job training and workshops by contractors and suppliers;
xiv. Develop, with the input of the various sector engineering specialists, a set of performance indicators and relevant simple templates to be further used to monitor the performance of the newly constructed water supply infrastructure;
xv. Supervise the preparation and the implementation of commissioning tests; review the Operation and Maintenance (O&M) manuals and the commissioning tests reports; Provide advice to the PCU on delivery of certificate of completions;
xvi. Review reports of construction supervisors during the liability period; coordinate the instructions to Contractors for additional works; provide advice to the PCU for delivery of certificates of final acceptance and release of Performance warranty bonds;
xvii. Supervise the implementation of the EMP and appropriate reporting;
xviii. Manage the implementation of the NRW program.
xix. Prepare quarterly reports and program implementation review and revised implementation plan;
xx. prepare annual project progress report including reviews of the investment plan and on this basis, provide advice and assistance to PCU, TN and ADB for the review of the overall Project implementation;
xxi. Assist the PCU in the preparation of the an overall Project completion report and provide relevant inputs concerning needs for O&M;
xxii. Assist the PCU and ADB project officer and staff members during fact-finding and other missions; and
i. For the civil work contracts act as an Engineer/Project Manager appointed by the Client to oversee the execution of the Work contracts on his behalf. The FIDIC form of contract specifies a large number of duties and responsibilities which are assigned to the Engineer/Project Manager relating to the execution of the contract. For these purposes he shall organize his presence in the project districts.

K2 - Water supply engineer/ Distribution System Specialist (1 International)

60. Preferred Qualifications and Experience: The international water supply and Distribution System Specialist shall have at least a minimum university degree in civil engineering or hydraulic engineering or equivalent and no less than 10 years referred experience in the implementation of water supply projects in general. Work experience in Central Asia and in Uzbekistan would be regarded as a supplementary asset.

65. General Roles and Responsibilities: He/she will work in close connection with and report to the PM, and undertake the following main tasks:

i. Prepare technical specifications and coordinate the preparation of tender documents for the procurement of the Design and Build Contractor for the construction of the new Mangit WTP;
ii. Provide the necessary inputs for the elaboration of the guide drawings to be included in the tender documents as well as for the preparation of the Owner's cost estimates;
iii. prepare bills of quantities to be included in the tender documents based on the engineering design;
iv. In collaboration with the Procurement specialist make sure that the tender documents are prepared to national standards and in accordance with ADB procurement guidelines and contract documents;
v. prepare a list and specification of tools, equipment, and materials for maintenance and repair, kits to be included in the bill of quantities;
vi. Provide technical advice to the tender evaluation commission during the evaluation of the bids as well as inputs to the bid evaluation report as needed;
vii. Provide timely inputs during the construction of the distribution system; elaborate a methodology to be followed by the construction supervisors in order to secure appropriate monitoring of the construction of the distribution systems;
viii. Provide inputs for the preparation of on-the-job training in O&M of distribution systems; review the training schedules prepared by the Contractor and propose amendments as appropriate; supervise the implementation of the training sessions;
ix. Elaborate a set of performance parameters to be used for monitoring the performance of the distribution systems during the commissioning and further during the operation of the distribution systems;
x. Assist during the commissioning of the newly constructed distribution systems; provide advice on acceptance, review the O&M manuals provided by contractors and suppliers;
xi. Provide instructions to the PCU to conduct supervision during the damage and liability period and to report accordingly;
xii. Provide inputs and assist with the implementation of NRW program; and
xiii. Provide timely inputs to periodical and final reports as required.

K3 - Water supply engineer/ water treatment specialist (1 International)

61. Preferred Qualifications and Experience: The international water supply and water treatment specialist shall have at least a minimum university degree in civil or hydraulics or environmental engineering or other equivalent master degree and no less than 10 years referred experience in the implementation of water treatment plants (WTP) and water supply projects in general. Work experience in Central Asia and in Uzbekistan would be regarded as a supplementary asset.

62. General Roles and Responsibilities: He/she will work in close connection with and report to the PM, and undertake the following main tasks:

i. Prepare technical specifications and coordinate the preparation of tender documents for the procurement of the Design and Build Contractor for the construction of the new Mangit WTP;
ii. Provide the necessary inputs for the elaboration of the guide drawings to be included in the tender documents as well as for the preparation of the Owner's cost estimates;
iii. prepare bills of quantities to be included in the tender documents based on the engineering design;
iv. In collaboration with the Procurement specialist make sure that the tender documents are prepared to national standards and in accordance with ADB procurement guidelines and contract documents;
v. prepare a list and specification of tools, equipment, and materials for maintenance and repair, kits to be included in the bill of quantities;
vi. Provide technical advice to the tender evaluation commission during the evaluation of the bids relative to the construction of the new Mangit WTP as well as inputs to the bid evaluation report as needed;
vii. Provide timely inputs during the construction of the WTP; elaborate a methodology to be followed by the construction supervisors in order to secure appropriate monitoring of the construction of the new WTP;
viii. Provide inputs for the preparation of on-the-job training in O&M of future WTP operators; review the training schedules prepared by the Contractor and propose amendments as appropriate; supervise the implementation of the training sessions;
ix. Elaborate a set of performance parameters to be used for monitoring the performance of the WTP during the commissioning and further during the operation of the WTP;
x. Assist during the commissioning of the newly constructed WTP; provide advice on acceptance, review the O&M manuals provided by contractors and suppliers;
xi. Provide instructions to the PCU to conduct supervision during the damage and liability period and to report accordingly;
xii. Provide timely inputs to periodical and final reports as required.

K4 - Electromechanical engineer (1 International)

63. Preferred Qualifications and Experience: The International electromechanical engineer shall have at least a minimum university degree in electromechanical engineering and a minimum of 10 years practical experience in the design and implementation of industrial electromechanical installations and electronic controls.

64. General Roles and Responsibilities: During his/her assignment with the national electrical engineer will:

i. Assess the requirement of electrical supply for the operation of boilers and all hot water plants, hot and cold water pumping equipment and the water pumping station in project districts;
ii. Provide inputs to technical specifications and for the supply and installation of electromechanical equipment all pumping stations including for electronic controls

and make that the equipment to be delivered and installed is in accordance with national and norms as per requirements;

iii. Provide assistance for the preparation of technical specifications of the electromechanical components of the new Mangit WTP, Takiatashk WTP extension, and the 2nd Lift station to be included in the tender documents;

iv. Provide technical assistance and advice to the tender evaluation committee during the evaluation of tender documents;

v. Provide inputs to the establishment of a set of performance indicators; assist during commissioning pumping stations and other equipment to be delivered an installed under all contracts and further during the damage liability period;

vi. Review operation and maintenance manuals of control systems delivered by contractors and suppliers pumps and other electro-mechanic equipment and provide comments or inputs as required to maintenance plans, and their application;

vii. Assist and provide support as required during the delivery of on-the-job training by contractors and suppliers to the district heating distribution operators;

viii. Provide inputs to periodical reports as required.

K5 - Mechanical engineer (1 International)

65. Preferred Qualifications and Experience: The international Mechanical Engineer shall have at least a minimum university degree in mechanical engineering and 10 years referred international experience in the design and supervision of construction of water supply systems, pipe network optimization and pumping facilities. He/she is expected to be conversational with pressure pipe modeling software.

66. General Roles and Responsibilities: He/she will work closely with the PM and the water treatment specialist. In the Project he/she will:

i. Provide inputs for the design, and the technical specifications of the water supply network and the pumping equipment.

ii. Carry out the hydraulic calculations and determine the dimensions of pipelines and hydraulic characteristics of the pumps to be procured and installed in the newly constructed or rehabilitated pump station;

iii. Provide inputs to draft layouts of the new pumping stations buildings;

iv. Provide inputs for the preparation of technical specifications and performance schedules of pipelines, pumps and related appurtenances;

v. Review tender documents for the design-and-build contract and ensure that equipment specified in tender documents is compatible with national norms and requirements;

vi. Elaborate draft guide drawings illustrating the assembly and housing of the pumps in the new and rehabilitated pump stations;

vii. Provide inputs for the preparation of BOQs for pumps and controls equipment to be included in the tender documents;

viii. Provide assistance as required during on-the–job trainings and workshops delivered by the design-and-Build contractor and suppliers regarding water pipe construction, testing and maintenance;

ix. Provide guidance to the construction supervisors on best procedures in carrying out conducting supervision and reporting;

x. Review operation and maintenance manuals relative system operation and water pipe maintenance delivered by the contractors and suppliers and provide comments or inputs as required to maintenance plans, and their application;

xi. Assist during commissioning tests and further during the damage liability period and formulate pertinent comments to the attention of the PCU;
xii. Provide inputs and assist with the implementation of NRW program; and
xiii. Provide inputs to quarterly, semi-annual and annual reports as needed.

K6 - Financial expert (1 International)

67. Preferred Qualifications and Experience: The international finance expert shall have a master degree in finance and/or economics, or be a chartered accountant. He/she will have at least 10 years of proven experience of working in program/project finance, accounting and financial reporting under ADB and/or other International Donor assisted programs and is expected to be conversational with Financial Management Systems (FMS).

68. General Roles and Responsibilities: He/she will report to the PM and work closely with PCU finance management specialist and the accountant. Under the Project the international Finance specialist will:

i. work closely with the PM to develop the project annual work plans and budget;
ii. Identify, procure and set up a financial management system (FMS) to be procured and used during the implementation of the Project and further transferred to the TN;
iii. elaborate and propose procedures for setting-up and maintaining consolidated project accounts throughout the implementation of the project;
iv. Provide assistance for the preparation of the first annual work plan and budget and of work plan and budget for the subsequent Project's years as well as in updating of detailed cash flow projections;
v. Provide assistance for the periodical review of the work plan and budget of the Program;
vi. Provide assistance to prepare draft Loan withdrawal applications for the payment of eligible Program costs;
vii. Provide assistance to PCU in preparing terms of reference for auditing all project accounts, recruit project auditor, and following up on the comments/recommendations of the auditor;
viii. Assist the PCU in preparing the Project financial progress reports as required by ADB; provide required inputs and information necessary for the preparation of periodical progress reports and completion report;
ix. Provide advice on capacity building needs of PCU and TN staff, review financial management capacity building programs proposed by the suppliers of the FMS software, and provide assistance during the delivery of training sessions;
x. Liaise with the financial specialists selected for the delivery of training in financial management under the Capacity Building Program and provide relevant inputs and material for training preparation as required;
xi. Provide inputs as needed for the preparation of the TOR for the recruitment of consulting services for the implementation Capacity Building Program;
xii. Monitor program expenditures, and supervise the quarterly and annual financial reports during the first Program' year;
xiii. Provide input to PCU on carrying out review and consolidating monthly financial statements and requests for payment by contractors and service providers and assist the PCU in the process of approval for payment release;
xiv. Carry out a review and update the Financial Management Assessment of the EA and IA after a 24-month period of project implementation.

K7 - Procurement expert (1 International)

69. Preferred Qualifications and Experience: The Procurement Expert shall be a qualified engineer or quantity surveyor or procurement specialist with extensive demonstrated knowledge of procurement systems and processes. He/she will have at least 10 years of experience in procurement of civil works, goods and services in donor funded water supply or other infrastructure development projects and demonstrate strong familiarity with ADB's procurement guidelines and procedures. He/she will have specific experience in preparing, evaluating and managing tender for design, supply and installation of plant.

70. General Roles and Responsibilities: Under the project the procurement expert will:

i. Review all bidding documents prepared by the design institute for the procurement of goods and works and make sure that such documents are in accordance with ADB Procurement Guidelines (April 2015 and as updated from time to time);
ii. Provide support in the process of selecting consultants and other service providers; review the TORs and make sure that the procedures of selection are in accordance with the *Guidelines on the Use of Consultants by Asian Development Bank and Its Borrowers* (March 20153and as updated from time to time);
iii. Liaise with the Expert responsible for Procurement under the "Capacity Building" component of the Project and provide project related support for the preparation of the training modules;
iv. Assist the PCU to carry out annual review of the Procurement Plan;
v. Assist the PCU in all phases of selecting international and national consultants, including: a) request for expression of interest, b) shortlisting and invitation to submit proposals, c) evaluation of proposals and selection of consultants, d) negotiations and contract award;
vi. Review all bid documents for procurement of works and goods prepared by Consultants, particularly in relation to possible National Competitive Bidding procedures and to the conditions of contract and provide relevant advice as needed;
vii. Assist the PCU procurement specialist and the tender evaluation committee in the tendering process for the procurement of works and goods; assist for; (a) the preparation and publication of invitations to bid, (b) answers to bidders queries, (c) evaluation of tenders; (d) preparation of tender evaluation reports;
viii. Assist in organizing, bidder site visits, if applicable;
ix. Work together with the international and the PCU procurement specialists to coordinate the processes of non-objection by the ADB, during the procedures of evaluations of tenders and consultant's proposals;
x. Work together with the international procurements specialist to support the PCU project manager for the preparation of the necessary documentation for contract signing and consultant and contractor mobilization; and
xi. Provide inputs to periodical and annual reports as required.

K8 - Environmental Specialist (1 International)

71. Preferred Qualifications and Experience: The Environmental Specialist shall at least have a minimum degree in natural or environmental sciences and no less than 10 years of experience in dealing with similar tasks under international donor financed development projects in Uzbekistan. Knowledge of ADB environmental policy and experience with the application of ADB environmental guidelines is regarded as an important asset.

72. General Roles and Responsibilities: The environmental specialist will work in close collaboration with the PCU, the Social and resettlement Specialist and will be under the leadership of the PM. The environmental specialist will, inter alia, carry out the following activities:

i. Provide the necessary inputs for the implementation of the EMP using the compliance monitoring checklist included in the project IEE;
ii. Provide inputs to the national Social and Environmental Specialist to supervise the pre-commissioning baseline monitoring following the Mitigation and Monitoring guidelines provided in the IEE;
iii. Organize analysis of water, air and soils as specified in the EMP;
iv. Monitor and report on effectiveness of management of waste proceeding from the dismantling of components of the existing WTP in Mangit and of the water distribution centres (WDC) being rehabilitated paying particular attention to the handling of removed debris until disposal or recycling and landscaping;
v. Propose and elaborate reporting formats to be further used by the national Social and Environmental Specialist make sure that results of monitoring are reported in quarterly, bi-annual, annual reports and in the Project completion report for submission to the PCU, CSA and ADB as required;
vi. Provide inputs to the PCU in dealing with contractors for the implementation of the EMP and supervise the compliance of the Contractor in implementing the Environmental mitigation measures;
vii. Prepare specifications to be included in the Bills of quantities (BOQ) for Contractors which will be in charge of: i) carrying out the EMP as specified in the IEE, and ii) conduct environmental monitoring including measurements and observations on dust and air pollution during construction in accordance with the Quarterly Compliance Monitoring Checklist for Contractor;
viii. Assist the PCU in dealing with the road Police Department for the preparation of traffic emergency plans and temporary deviations of traffic during construction;
ix. Provide guidance to the design and build contractor to prepare a sludge management plan of the new WTP 6 months before commissioning of the Plant; open a dialog with and involve TN to endorse due responsibility for environmentally compatible management of the sludge during the long term operation of the WTP;
x. Prepare a methodology and a checklist review for supervision of the EMP completion and relevant report to be prepared by Contractors and assist PCU and TN to obtain timely such reports;
xi. Provide inputs and methodology to PCU and TN to: i) prepare and maintain a grievance redress mechanism, ii) establish a grievance redress committee (GRC), and iii) carry out monitoring on effectiveness; make sure that: i) GRC will have strong female representation, and ii) the grievance process is implemented effectively, according to the plan and schedule in the IEE;
xii. Provide inputs to periodic and annual reports as applicable.

K9 - Deputy Project Manager/Water Supply Engineer (1 National)

73. Preferred Qualifications and Experience: The Deputy Project Manager shall have a minimum degree in civil engineering or hydraulic engineering or equivalent. He/she must have at least 10 years of professional experience in the water supply sector in Uzbekistan; strong experience in working with international experts and national authorities; good experience with donor (ADB, World Bank, etc.) funded projects and corresponding conditions of contract, particularly FIDIC. He/she must be fluent in spoken and written Russian and Uzbek, and with English proficiency level. He/she must have ability to work in a remote location and in challenging environments. It is essential that he/she must have strong management, project planning and

organizational skills. Leadership and team-building competencies are considered as a supplementary asset. He/she must have strong analytical, writing and communication skills, MS Office literacy, and professional application of construction management related software.

74. General Roles and Responsibilities: The deputy project manager will work in close collaboration with and report directly to the PMC project manager and will be mainly in charge of the following tasks:

i. Assist the PM in the preparation and review of sub-project implementation schedule, training programs:
ii. Represent the Consultant in the absence of the PM: participate to official meetings and carry out day-to-day transactions with the PCU, TN, CSA and other relevant stakeholders;
iii. Assist the PM in coordinating the activities of the Design Institute; review design and tender documents, make sure that all documents are in accordance with required national standards and ADB requirements;
iv. Provide assistance to the procurement experts to review and update procurement plans;
v. Review construction drawings and technical specifications prepared by the design institute and formulate comments to the PM and the PCU project manager as applicable;
vi. Review the as-built drawings prepared by the contractors, formulate comments and requests for amendments as applicable;
vii. Review the construction drawings, technical specifications and work plans proposed by the design and build contractor in charge of the construction of the new WTP as well the relevant as-built drawings and advise the PM and the PCU project manager accordingly;
viii. Provide the necessary information and other support as needed to the PCU in the processes of obtaining clearances and access to land as well as during submission of project documents to the State expertise commission;
ix. Provide as required, technical assistance to the tender evaluation commission during tender evaluation and reporting;
x. Assist the PM in the preparation of construction supervision programs to be implemented by construction supervisors; conduct training and coordinate activities of construction supervisors and supervise testing of materials and quantities of work performed; review and improve as needed the reporting formats;
xi. Coordinate the consolidation of daily, weekly and monthly works and equipment delivery reports submitted by contractors and suppliers; control and approve certificates of origin of delivered equipment;
xii. Contribute to supervision of the preparation and the delivery of on-the-job training and workshops by contractors and suppliers;
xiii. Supervise the commissioning testis; review Operation and Maintenance (O&M) manuals and the commissioning tests reports;
xiv. Conduct inspections during the damage liability period and provide to the PM and to the PCU project manager;
xv. Assist during the preparation and delivery of practical trainings organized by contractors and suppliers; review the O&M manuals;
xvi. Assist during meetings and workshops with stakeholders;
xvii. Provide as needed inputs for the quarterly, annual and project completion reports.

K10 - Procurement Specialist (1 National)

75. Preferred Qualifications and Experience: The national procurement specialist will be a qualified expert with a university degree in civil engineering or finance-economics. He/she shall have no less than 5 years of experience in procurement of civil works, goods and services under infrastructure projects. He/she shall have specific experience in preparing, evaluating and managing tender for design, supply and installation of plant. In addition to being well acquainted with National procurement procedures and regulations, knowledge of ADB or other international donor organization procurement guidelines and procedures is deemed essential.

76. General Roles and Responsibilities: The Procurement expert and will report directly to the TL and will work in close contact with the engineering team. Responsibilities of the International procurement expert will include:

i. Assist the design institute in the preparation of tender document for the procurement of goods, works, in accordance with *ADB Procurement Guidelines* (April 2015 and as amended from time to time);
ii. Assist the PCU and the PM to procure services and consultancies; review TOR and make sure that the procedure of selection is in accordance with the *Guidelines on the use of Consultants by the ADB and its borrowers* of March 2013 or as updated from time to time.
iii. Assist the PCU to carry out annual review of the Procurement Plan;
iv. Coordinate with the PCU and PMC to insure that procurement activities are scheduled to support procurement requirements, and that the relevant documents are completed;
v. Assist the PCU in all phases of selecting international and national consultants, including: (a) request for expression of interest, (b) shortlisting and invitation to submit proposals, (c) evaluation of proposals and selection of consultants, and (d) negotiations and contract award;
vi. Review all bid documents for procurement of works and goods prepared by the engineering team, in relation to possible International Competitive Bidding (ICB) and National Competitive Bidding (NCB) and other modes of procurement and to the conditions of contract and provide relevant advice as needed;
vii. Provide assistance to the PCU and to the tender evaluation committee in the tendering process for the procurement of works and goods in accordance with ADB procurement guidelines, including: (a) preparation and publication of invitations to bid, (b) coordinate answers to bidders queries, (c) evaluation of tenders, and (d) preparation of tender evaluation reports;
viii. Provide necessary inputs to PCU, the TL and the engineering team in preparing the TORs for the procurement of the Design-and-Build contractor to be engaged for the construction of WTP;
ix. Coordinate the processes of non-objection by the ADB, during the procedures of evaluations of tenders and consultant's proposals.
x. Assist the PCU in preparing the necessary documentation for contract signing and consultant and contractor mobilization;
xi. Provide inputs to progress reports as required.

K11 – Social, gender and resettlement Specialist (1 National)

77. Preferred Qualifications and Experience: The national Social, Gender and Resettlement Specialist in the PMC shall have a master degree in sociology or anthropology or any other social science with a minimum of 5 years of work experience in the field of projects' gender mainstreaming, land acquisition and involuntary resettlement. The specialist should have up- to-date knowledge of laws and regulations of Uzbekistan pertaining to land acquisition and

compensation etc. The specialist shall be familiar with Safeguard Policy Statement of ADB. Experience in implementation of LARP of ADB or any other donor agency funded projects in Uzbekistan or any other Central Asian Country would be desirable.

78. General Roles and Responsibilities: As consultants under the PMC team He/she will undertake the following activities in the project as follows:

During Detailed Design

i. Collection of technical information and input from the engineering team responsible for detailed design on the final alignment and project sites;
ii. Collection of necessary cadastral and property rights registration details and documents (cadastral plans etc.) from the concerned departments;
iii. Carry out census and sample socio-economic survey of the affected households in order to update the data gathered during feasibility study;
iv. Carry out necessary consultation with stakeholders;
v. Providing support for the valuation of assets;
vi. Finalizing and Updating the draft LARP prepared during PPTA;
vii. Submission of final LARP to the PCU and its social and resettlement specialist; and
viii. Together with PCU, disclosure of the final LARP.

During Implementation and Supervision

i. Review gender action plan (GAP), social poverty reduction and sector strategy, C&P plan, and other social development documents prepared during the project preparatory technical assistance.
ii. Orient PCU, TN in assuring clear understanding of project schedule and respective roles and responsibilities in GAP implementation and other social development activities.
iii. Establish an effective monitoring and reporting system based on sex-disaggregated data collected during public consultation and obtained from implementation team, TN and its district branches, contractors and other parties, including training providers who will provide capacity building and training programs.
iv. ensure the collection of gender-disaggregated baseline and end-line information and conduct a comparison to reveal the trends in time poverty reduction and consumers' satisfaction;
v. Implement timely monitoring and reporting on the progress toward meeting the gender indicators and targets;
i. Preparation of data base of all the affected households and their eligibility and entitlement based on the final LARP
ii. Assist in disbursement of compensation and assistance and ensure that affected persons are compensated as per the LARP before commencement of civil works in relevant section.
iii. Review, monitor and evaluate the effectiveness with which the LARP is implemented, and recommend necessary corrective actions to be taken. Advise on corrective measures where necessary to the PCU.
iv. Work with the PCU to establish a system to monitor social safeguards of the project and prepare indicators for monitoring important parameters of safeguards.
v. Take proactive action to anticipate the potential resettlement requirements of the project to avoid delays in implementation.

vi. Prepare procedures to document and record the grievances and sensitize the PCU on the grievance redress mechanism which includes the notification, arranging the GRC meetings and recording the grievance in a data base.
vii. Assist PCU in monitoring the implementation of land acquisition in the Project
viii. Design a LARP monitoring report template and develop monitoring indicators; and
ix. Consolidate/ prepare, with assistance from PCU and semi-annual social monitoring reports.

K12 - Finance specialist (1 National)

79. Preferred Qualifications and Experience: The national finance specialist shall have a minimum university degree in economics and finance, or business administration or equivalent and shall have no less than 5 years of professional experience in urban water supply and sanitation of donor-funded projects. The specialist shall have a strong background in financial analysis and reporting of public utility, particularly in the water supply and sanitation sector.

80. General Roles and Responsibilities: He/she will work in close collaboration with the international Financial Expert and under the supervision of the PM and will carry out the following main tasks:

i. Maintain close working relationships with the PCU Financial Management Specialist and the Accountant as well as with the MOF;
ii. Assist the international Finance Specialist to develop the first project annual work plans and budget and carry out the subsequent annual work plans and budget;
iii. Assist during the procurement of the FMS by providing assistance to the training program provided by the supplier and apply as needed for financial management procedures and reporting;
iv. Update cash flow forecasts and other financial reports;
v. Assist the PCU Financial Management Specialist and the Accountant to ensure correct approval processes and authorizations are followed for all financial transaction;
vi. Review and consolidate contractors, suppliers and service providers invoices as process payment procedures;
vii. Ensure that approved contractors invoices are timely paid;
viii. Assist the PCU in preparing the Project financial progress reports;
ix. Assist with any specific financial investigations and preparation of associated reports;
x. Provide assistance and information input as required to the Financial management training module under the Capacity building program; and
xi. Assist the auditors if and when required.

K13 - Environment Specialist (1 National)

81. Preferred Qualifications and Experience: The national environment specialist shall have a minimum degree in natural or environmental sciences and no less than 5 years of experience in dealing with similar tasks under international donor financed development projects in Uzbekistan. Knowledge of ADB environmental policy and experience with the application of ADB environmental guidelines is regarded as an important asset.

82. General Roles and Responsibilities: He/she will work in close collaboration with the PCU Environment & Social Safeguards Specialist and under the leadership of the International Environment Specialist and will, inter alia, carry out the following activities:

i. Using the steps defined in the EMP, monitor the implementation of the EMP using the compliance monitoring checklist included in the project IEE (prepared for the construction period);
ii. Elaborate specifications and relevant TOR for the implementation of the water, air and soil analysis and field inspections in accordance with the EMP;
iii. Supervise the pre-commissioning baseline monitoring following the EMP provided in the IEE;
iv. Monitor and report on handling of waste during the decommissioning of the obsolete buildings of the old WTP as well as of all other water distribution centers being rehabilitated or reconstructed
v. Provide assistance to contractors and TN to elaborate a waste management plan including options and guidelines for disposal or recycling and landscaping;
vi. Provide assistance to the TN to prepare a final clean-up report and make sure that the TN will duly file a completion report specifying who was contacted and when and that the site restoration was done satisfactorily;
vii. Assist the international environmental specialist to elaborate and propose reporting formats; make sure that results of monitoring are reported in quarterly, bi-annual, annual reports and in the Project completion reports;
viii. Assist the PCU in dealing with contractors for the implementation of the EMP and supervise the compliance of the contractors in implementing the environmental mitigation measures;
ix. Make sure that the Contractors will: i) carry out the EMP as specified in the IEE and further required in the Contractor's Bill of Quantities (BOQ), and i) conduct environmental monitoring including measurements and observations on dust and air pollution during construction in accordance with the Quarterly Compliance Monitoring Checklist for Contractor;
x. Assist the PCU in dealing with the road Police Department in preparing traffic emergency plans and temporary deviations of traffic during construction;
xi. In collaboration with the PCU Environment & Social Safeguards Specialist supervise the implementation of the sludge management plan for the new WTP and report to PCU, PM and TN accordingly;
xii. Supervise the EMP completion report to be prepared by Contractors and assist PCU and TN in timely obtaining such reports;
xiii. Assist PCU and TN to: i) prepare and maintain a grievance redress mechanism, ii) establish a grievance redress committee (GRC), and iii) carry out monitoring on effectiveness; make sure that: i) GRC will have strong female representation, and ii) the grievance process is implemented effectively, according to the plan and schedule in the IEE;
xiv. Assist the international environmental specialist to provide support and inputs to the Environmental Management training module being implemented under the Capacity Building program; and
xv. Provide inputs to the Project outputs/reports as required.

K14 - Construction Supervisors (9 Nationals)

83. Preferred Qualifications and Experience: The Construction Supervisors shall have at minimum a technical in civil works or similar level of degree. A university degree in civil construction engineering is considered as a supplementary asset. He/she shall have a minimum 10 years' proven experience in construction management, supervision and quality control of Programs related to water supply. He/she shall have at least 5 years working experience with donor funded infrastructure development projects.

84. General Roles and Responsibilities: The Construction Supervision Specialist will be mainly in charge of ensuring that all works performed and materials used as indicated in the contractor's daily and weekly reports are conform with approved construction drawings, standards and norms They will report to the PCU and undertake the following tasks:

i. Supervise all civil works related water supply network construction, pumping stations and WTP, and verify that all works and related equipment are according to the design documents and the accepted standards; in particular make sure that depth of lying of pipes, levelling of bottom ditches and sand beds are set in place in conformity with construction design and required standards and norms;
ii. Approve and confirm delivery of material, mechanical and electromechanical equipment, and workmanship in accordance with the requirements of the contracts;
iii. Monitor and check the day-to-day quality and quantity of works carried out under the contract and report to the PM and his deputy;
iv. Provide assistance to the consulting engineer during the inspections for quality control of works and materials and report to the PM and his deputy;
v. In collaboration with the PCU's water supply and sanitation engineer and the consulting engineers review the detailed construction plans submitted by the contractors;
vi. Supervise water network pressure tests and verify the compliance of such tests with required performance indicators and standards before pipes are covered; make sure that the water network cleaning and disinfection operations are conducted according to planned schedules;
vii. Collect and approve daily and monthly progress reports prepared by Contractors and Suppliers and provide needed inputs for preparation and submission of monthly progress reports to the PCU;
viii. Provide assistance during training workshops as needed and participate to the conduction of training including control, leak tests, new pipework disinfection, pipe repair, bulk water meter reading, and pressure monitoring;
ix. Provide assistance to the PM as well as to the water supply experts for the coordination and supervision of training in system O&M to be prepared and delivered by contractors and suppliers;
x. Review and make sure that the as-built plans reflect effectively the changes in the design, dimensions/ specification and actual work done at the site; and
xi. Provide inputs as needed to monthly, quarterly and annual reports as well as for the preparation of project completion reports.

FACILITIES TO BE PROVIDED BY THE CLIENT

85. The Client will provide the PMC with access to all relevant reports, studies and other documents, required to carry out project implementation, including but not limited to the Loan Agreement, the Project Agreements, the RRP, the Environmental Management Plan and related studies, the Pre-feasibility and Feasibility Studies for the project.

FACILITIES TO BE PROVIDED BY THE PMC

86. The PMC shall arrange for all of its own office spaces in Nukus city/RK, office hardware, such as vehicles, office furniture, communications equipment, photocopying equipment, fax machines, and computers and printers, including their software needs. All documents, equipment,

vehicles, facilities related to the Works are, and will remain the Client's property after completion of works.

REPORTS REQUIREMENTS

87. The following reports are to be supplied by the Consultant at the following periods:

Table 2

No.	Report name	Report content	Frequency	Date of submission
1	Inception Report	Brief report after mobilization including action plan	Once	Within 2 weeks after mobilization
2	Interim Report	Detailed report on the progress of project implementation, status of achievement of project goals and outputs in accordance with ADB's format	Every quarter	Within 2 weeks after the reporting period
3	Draft Final Report	Draft detailed report on the project completion, outcome of the project in accordance with ADB's format	Once	1 months prior to project completion
4	Final Report	Revised final detailed report on the project completion, outcome of the project in accordance with ADB's format	Once	Within 1 months after project completion

2. DETAILED DESIGN CONSULTANTS

SCOPE OF CONSULTING SERVICES

88. The following are the main activities expected to be covered by this TOR:

i. Consultant shall be responsible for performing all detailed design and engineering necessary for completion of the Work;

ii. The Consultant shall obtain a positive conclusion (Expert Opinion) of State Expert Organization and permissions for the detail design developed, and from all other governmental and municipal bodies and the consultant shall provide coordination between various structures and departments. In case of necessity, TN shall help the consultant in obtaining approvals from different bodies and organizations;

iii. Consultant shall advise of any design alternatives that may offer better techno-economic solutions;

iv. Consultant shall base his design on proven technology and on established design and construction techniques. All relevant backup shall be provided by the Consultant;

v. Consultant shall ensure that all design aspects of the project shall be in compliance with Uzbek legislation and international codes and standards as well as Uzbek specifications and guidelines;

vi. Consultant shall ensure that only the latest, up-to-date versions of preliminary design documents and drawings are used in the execution of the detailed design documents;

vii. Consultant shall be responsible for correcting any drawings or documents that are found to be incorrect due to insufficient site checks, errors, or omissions on the part of Consultant;

viii. Consultant shall liaise with TN and other parties to finalize all tie-in points with existing facilities and incorporate them in drawings and documents related to this Project;

ix. Consultant shall carry out all necessary calculations and conduct all appropriate design procedures and analyses as required to optimize the sizing and selection of equipment if any and the specification of materials;

x. Consultant shall produce all necessary engineering drawings, data sheets, specifications, bill of quantities, cost estimate and method statements for the completion of the Work;

xi. Consultant shall produce and update equipment lists;

xii. Consultant shall produce all necessary engineering drawings, data sheets and specifications;

xiii. Consultant shall submit a list of proposed design software concerning the water networks;

xiv. Detailed Design shall be prepared in 4 copies on each facility and digital version on a CD to be handed to TN. The explanatory note shall be in MS Word format, estimate tables shall be made in MS Excel format, and drawings in AutoCAD format. TN shall review and confirm the work performed by Consultant;

xv. Consultant shall be guided by local rules of construction and norms of design (standards of design) approved by State Committee of Architecture and Construction of the Republic of Uzbekistan (State agency, which governs norms and rules of construction works in Uzbekistan) and Government Decisions in the field of construction and other normative documents. The standards show contents and execution of drawings. Detailed documents shall be prepared by Consultant. The contents of drawings shall include the following:

a. Common data on design drawings;
b. Drawings (plans, profiles and elements) of water supply systems;
c. Bill of quantities;
d. Specifications of equipment and structures;
e. Schemes of water supply networks and other existing engineering networks.

xvi. Design drawings of water supply networks shall be made in a scale such as horizontal 1:500, vertical 1:100. All facilities installed in designed water supply network (water manholes and chambers) will be designed in detail and showed in the drawings.

xvii. The Consultant will provide detailed scopes of construction and erection works and make calculation “Starting cost of construction in current prices”.

xviii. The consultant shall submit all the required technical documents for the detail design works which shall include but not limited to the following:
a. Calculation Sheets
b. Detailed design drawings
c. Technical Specification
d. Detailed Bill of quantities
e. Material List
f. Detailed Cost estimate

xix. The Consultant will be responsible for his designs/documents until construction period completion.

SCOPE OF CONSTRUCTION WORKS

89. The scope of construction works is given in detail in the Annex 1 to this ToR:

COUNTERPART ASSISTANCE

90. Consultant shall get access to all legal and technical documentation related to the Project and the required work.

91. Due to importance of the work, the PCU supports the idea of formation of joint enterprises for selection procedure of the consultant.

92. It should be assumed that no direct support is available from the PCU for the provision of office space or other administrative support activities for the implementation of these TOR.

PROJECT DURATION

93. All the scope of works must be performed within 20 months after signing the contract. However, the Consultant shall be responsible for any change regarding the design supervision till the completion and commissioning of the construction sites.

94. Project detailed design documentation shall be considered accepted by the PCU after elimination and correction of all remarks of related establishments in established order.

REPORTS AND SCHEDULE OF DELIVERABLE

95. The Consultant shall prepare and submit the following reports and documents in both hard copy and digital version to the PCU, TN and ADB.

Table 3

No	Output/Report	Time due
1	Inception report	1 month after the start of the assignment
Draft Detailed Designs: Technical Report, Detailed Designs, Specifications, Drawings, and Cost Estimation of:		Current documents should be acceptable for the Client
2	Package-1	1.5 months after the start of the assignment
3	Package-2	2 months after the start of the assignment
4	Package-3	3 months after the start of the assignment
5	Final Detailed Designs: Technical Report, Detailed Designs, Specifications, Drawings, and Cost Estimation	2 weeks after reception of comments on draft detailed design
6	Final Report	1 month after submission of Final Detailed Designs
7	Design Supervision Report	1 month after completion of the Project

DRAWING REQUIREMENTS

96. Submission of design related reports is to be in written format in MS Office 2010 compatible format, with drawings in a format compatible with AutoCAD 2010, and submitted on a CD-ROM or DVD. For each design report with associated drawings hard copies are to be presented as follows:

i. English language – two sets with one CDROM/DVD
ii. Russian language – three sets with one CDROM/DVD
iii. Drawings shall be presented as paper copies as follows:
iv. Preliminary Designs: A3
v. Detailed Design: A2
vi. Construction Drawings: A3
vii. Reports, BOQ and technical specifications, etc A4
viii. Drawing scales shall be according to the following guidelines:
- Site Plans: 1:1000 to 1:2500
- Detail drawings: 1:100 to 1:500
- Cross-sections and Elementals (structures): 1:50 to 1:100
- Pipeline sections: The L/S shall be plotted at 1:1000 horizontal and 1:100 vertical scale; the plans shall be plotted at 1:1000 scale; and the C/S shall be plotted at 1:200 horizontal and 1:100 vertical scale.

REQUIREMENTS TO CONSULTANT'S COMPETENCE

97. Consultants are required to have license of State Architecture Committee of the Republic of Uzbekistan for design activities (by the state body regulating norms and rules of construction works in Uzbekistan), otherwise the consultant shall be given sufficient time for obtaining the license. Subcontracting or entering into joint venture with the licensed design firms another option to meet the licensing requirement.

98. Consultant must have professional experience in special disciplines such as civil works, specifically knowledge of appropriate local construction rules and design norms (design standards), approved by State Architecture Committee of the Republic of Uzbekistan (state authority which regulates norms and rules of construction works in Uzbekistan) and other Government Decrees in the area of civil works. The design documents prepared by Consultant are required to comply with the local design standards stated above.

99. Must have at least 10 years of experience for a consulting company in designing of water supply networks, pumping stations and other water facilities.

STAFFING

100. The personnel requirement for the detailed design works as outlined above is estimated to be as follows:

Table 4

Professional Staff	Type	Quantity	Total Person-Months
Key Personnel			
National			
K1-Team Leader/ Water Supply Engineer	National	1	46
K2- Water Treatment Engineer	National	1	46
K3- Water Supply Engineer	National	1	46
K4-Civil / Structural Engineer	National	1	45
K6-Electro-Mechanical Engineer	National	1	16
K7-Mechanical Engineer	National	1	16
K8-Quantity Surveyor	National	1	25
K9-AutoCAD Specialist	National	2	62
Total		**9**	**302**

PREFERRED QUALIFICATIONS, ROLES AND RESPONSIBILITIES

K1 - Team Leader/ Water Supply Engineer (1 National)

101. Preferred Qualifications and Experience: He/She shall have: (i) MSc degree in civil/hydro technical-engineering or similar; (ii) at least 15 years of general experience with including 10 years of experience in design, planning and construction of large water supply projects; (iii) The expert is expected to know well construction norms and standards of water supply in Uzbekistan; (iv) 5 years of experience with WSS projects financed by ADB or other IFI; (v) advanced computer literacy and local language proficiency is preferred.

102. General Roles and Responsibilities: His/her main activities in the project will be:

i. Provide guidance to the engineering team in detailed design;

ii. Provide guidance to the engineering team in all phases of the preparation of design, technical specifications for civil works and for special subcontractor or sub-consultants works;
iii. Review the assumptions, water production projections and the implementation scheme adopted in the FS and propose improvements as needed;
iv. Review hydraulic calculations and the optimization of the water supply pipe diameters taking into account the production of water at the horizon 2043; optimize capacity of pumping equipment, size of reservoirs and pipe diameters;
v. Work in close collaboration with the PMC manager in order to harmonize design dimensions and standards;
vi. Provide input to and review the works of the AutoCad specialists; ensure that drawings are in accordance with required national standards and norms; and suggest amendments as required; assist the PCU during the submission of the project documents to the State Expertise;
vii. Provide adequate feedback to the quantity survey specialist for the specifications of characteristics of material and equipment and relative cost estimates;
viii. Provide guidance to engineers in reviewing, as applicable, the procurement packages proposed in the FS;
ix. Provide assistance to PCU during the process of tendering for the procurement of civil works contractors and advise as needed the tender evaluation committee during the evaluation of tenders;
x. Review and approve the Contractor's construction and as-built drawings;
xi. Review the preliminary engineering design and guide drawings to be annexed to the tender documents for the procurement of the Design-and-build Contractors which will be engaged for the: i) construction of the new WTP, if requested;
xii. Supervise the commissioning tests of the constructed/reconstructed water supply system upon completion of each contract package;
xiii. Coordinate with the national government and district offices regarding collection and validation of technical information; and
xiv. Provide inputs to the Project outputs/reports as required.

K2 – Water Treatment Engineer

103. Preferred Qualifications and Experience: He/She shall have: (i) at least bachelor's degree in civil/hydro technical-engineering or similar; (ii) at least 15 years of general experience with including 10 years of experience in design, planning and construction of large water supply projects; (iii) be conversant with construction norms and standards of water supply in Uzbekistan; (iv) referred experience in design or/and construction supervision of water treatment systems; (v) 3 years of experience in WSS projects financed by ADB or other IFI; (v) working level computer literacy is required.

104. General Roles and Responsibilities: As the Water Treatment Engineer he/she will work closely with the TL and undertake the following tasks:

i. Assist the PMC Water Supply Engineer Water Treatment Specialist in the preparation of technical specifications and bidding documents for the procurement of a design and build contractor which will be in charge of the construction of the new Mangit WTP; review the documents in regard to national standard requirements for civil works;

ii. Provide advice to the PMC Water Supply Engineer Water Treatment Specialist for the preparation of the guide drawings to be included in the tender documents for the new Mangit WTP, particularly in regard to national standards requirements;
iii. Liaise with the PCU and the PMC engineering team and provide support throughout the process of procurement and selection of the DB contractor;
iv. Participate to all phases of the design and construction of the new Mangit WTP and provide advices to PCU and PMC engineering teams regarding national norms and construction methodologies;
v. In collaboration with the PMC Water Supply Engineer Water Treatment Specialist review the construction drawings submitted by the DB contractor in order to ensure harmonization with national norms and procedures, and suggest amendments as required;
vi. Provide if required, assistance to the PCU during the submission of the new Mangit WTP project documents to the State Expertise;
vii. In collaboration with the PMC Water Supply Engineer Water Treatment Specialist review the construction drawings submitted by the DB contractor review Contractor's as-built drawings;
viii. Carry out technical research work which is necessary to complete the design of the water and water supply system as required by the international water supply design engineer; and
ix. Participate to the WTP commissioning tests and procedures.

K4 - Water Supply Engineer (4 Nationals)

105. Preferred Qualifications and Experience: He/She shall have: (i) at least bachelor's degree in civil/hydro technical-engineering or similar; (ii) at least 10 years of general experience with including 5 years of experience in design, planning and construction of large water supply projects; (iii) good knowledge of construction norms and standards of water supply systems in Uzbekistan; (iv) 3 years of experience with WSS projects financed by ADB or other IFI; (v) working level computer literacy is required. Experience with water supply pipework simulation software is regarded as a certain supplementary asset.

106. General Roles and Responsibilities: During his/her assignment he/she will undertake the following tasks:

i. Elaborate construction drawings consisting of: (i) layouts and longitudinal sections of water supply networks; (ii) typical drawings for (a) inspection and connection manholes for water supply systems, (b) bulk meter manhole or other type of installation; (c) customer water meter installation;
ii. Prepare technical specifications and other documents required for the preparation of tender documents; estimate quantities and prepare draft bills of quantities to be further analyzed and used by the quantity survey expert;
iii. Provide inputs for the preparation of technical specifications, drawings, bill of quantities and cost estimates to be included in the tender documents for the procurement of the DB contractor for the construction of the WTP, if requested;
iv. Supervise and review the works of the AutoCad specialists; make sure that drawings are in accordance with required national standards and norms; and propose amendments as required;
v. Review and approve the as-build drawings submitted by the contractors;
vi. Assist the PCU during the submission of the project documents to the State Expertise;

vii. Provide required inputs and assist in the preparation of drawings and other documents needed for the delivery of workshops to the future operators of TN as applicable; and
viii. Provide inputs to the Project outputs/reports as required.

K5 - Civil / Structural Engineer (1 National)

107. Preferred Qualifications and Experience: He/She shall have: (i) at least bachelor's degree in civil/structural engineering or similar; (ii) at least 10 years of general experience including 5 years of demonstrated experience in design and implementation of industrial and infrastructure service buildings; (iii) 3 years of experience with WSS projects financed by ADB or other IFI; (iv) working level computer literacy is required.

108. General Roles and Responsibilities: He/she will work in close contact with the water supply engineers and other sector engineering experts and will carry out the following main activities:

i. Carry out structural calculations of all structures related to the rehabilitation and construction of the water supply system, namely: pump houses, reservoirs, guardhouses, warehouse shelters;
ii. Develop methodologies and provide competent advice to the water supply engineers for the optimization of entrenchment profiles for lying the water supply pipes;
iii. Carry out preliminary structural calculations and guide drawings and of the pump houses, and other sheltering infrastructure as well of all buildings included in the various water distribution centers;
iv. Review construction drawings and as-build drawings prepared by Contractors, and provide and competent advice to make sure that all structural works are in accordance with national norms and construction regulations;
v. Provide support and inputs as required during the optimization of particular structures and the preparation of technical specifications for the procurement of civil works for the construction of water supply pipelines and other related civil infrastructure;
vi. Provide technical support and advice as needed during the evaluation of tender documents;
vii. Assist the PCU during commissioning of pump stations and the WTP and further during the damage liability period; and
viii. Provide inputs to the Project outputs/reports as required.

K6 - Electromechanical Engineer (1 National)

109. Preferred Qualifications and Experience: He/She shall have: (i) at least bachelor's degree in electrical/electromechanical engineering or similar; (ii) at least 10 years of general experience with including 5 years of practical experience in the design and implementation of industrial electromechanical installations and electronic controls; (iii) 3 years of experience with WSS projects financed by ADB or other IFI; (iv) working level computer literacy is required.

110. General Roles and Responsibilities: During his/her assignment under the Project He/she will:

i. Assess the requirement of electrical supply for the of the water supply system as well as the water pumping equipment, office buildings, lightening and all other equipment requiting electrical power;

ii. Carry out the hydraulic calculations and determine the hydraulic characteristics of the water pumps to be procured and installed in the pumping stations;
iii. Provide inputs to the Civil Engineer to draft layouts of the pump station buildings;
iv. Provide inputs to technical specifications and for the supply and installation of electromechanical equipment as well as for electronic controls and make that the equipment to be delivered and installed is in accordance with national norms;
v. Provide preliminary inputs on energy requirement to the technical specifications to be included in the tender documents including the performance schedules for pumps, switches, controls and other electrically drivel equipment;
vi. Provide as needed, technical assistance and advice to the tender evaluation committee during the evaluation of tender documents;
vii. Review operation and maintenance manuals delivered by contractors and suppliers of suppliers of pumps, controls and other electromechanical equipment, and provide comments as needed to maintenance plan; and
viii. Provide inputs to the Project outputs/reports as required.

K7 - Mechanical Engineer (1 National)

111. Preferred Qualifications and Experience: He/She shall have: (i) at least bachelor's degree in mechanical engineering or similar; (ii) at least 10 years of general experience with including 5 years of practical experience in the design and implementation of pumped or gravity hydraulic systems; (iii) 3 years of experience with WSS projects financed by ADB or other IFI; (iv) working level computer literacy is required.

112. General Roles and Responsibilities: During his/her assignment under the Project He/she will:

i. Review the hydraulic calculations of the water supply system as proposed in the FS and propose improvements as needed;
ii. Carry out or review as needed hydraulic calculations for the water supply network;
iii. Provide inputs as needed for the preparation of the tender documents with particular concern to requirements and performance schedules for pipe characteristics and material and characteristics; in particular review the technical specifications and guide drawings;
iv. Review the tender documents and technical specifications for the procurement of pipes and appurtenances and make sure that characteristics of the materials are in accordance with the national standards;
v. Review the guide and construction drawings prepared by the AutoCAD specialist and propose amendments as needed; and
vi. Provide inputs to the Project outputs/reports as required.

K8 - Quantity Surveyor (1 National)

113. Preferred Qualifications and Experience: He/She shall have: (i) at least bachelor's degree in civil engineering or similar; (ii) at least 10 years of general experience with including 5 years of documented experience in material testing and cost estimates; (iii) knowledge and references in procurement practices are a certain supplementary asset; (iv) 3 years of experience with WSS projects financed by ADB or other IFI; (v) working level computer literacy is required.

114. General Roles and Responsibilities: He/she will work in close collaboration with the TL and all components of the engineering team and will undertake the following activities in the Project:

i. Review technical specifications to be included in the tender documents and provide relevant advice to specialist engineers;
ii. Conduct research to update the cost of materials, equipment, civil works, pipes and fittings, pumps, electro-mechanic components and related civil works;
iii. Advise as needed the design engineers regarding clarification of technical specifications of water supply system components according to national standards;
iv. Complete the detailed costing and specifications of the water supply networks based and ensure the consistency with the technical drawings elaborated by the design teams;
v. Review cost of local materials; quality of materials, and relevant specifications; keep inventories of local suppliers;
vi. Provide the water supply, civil, electromechanical and mechanical design engineers with guidelines and suitable templates for the preparation of detailed bills of quantities;
vii. Provide overall assistance, quality control as well as necessary support attachment/documents to ensure completeness of bid documents and coherence with ADB requirements; and
viii. Provide inputs to the Project outputs/reports as required.

K9 -AutoCAD Specialist (2 Nationals)

115. Preferred Qualifications and Experience: He/She shall have: (i) at least a recognized high school diploma or license as civil engineering constructor or equivalent; (ii) at least 10 years of general experience with including 5 years of demonstrated experience in construction and design of water supply systems and industrial buildings; (iii) an academic profile will be a supplementary asset; (iv) 1 year of experience with WSS projects financed by ADB or other IFI; (v) advanced level computer literacy is required.

116. General Roles and Responsibilities: He/she will work in close collaboration with the design engineers and will undertake the following main tasks:

i. Carry out detailed layouts and construction drawings of the water supply networks including details of inspection and connection manholes, and customer connections;
ii. Ensure that all drawing details related to water supply networks, pumps, and other water supply components are consistent with national standards and norms;
iii. Provide to the design engineers and the quantity survey engineers details on quantities of works, material and goods to be included in the bills of quantities for the tender documents;
iv. Carry out layouts of the water supply pumping stations to be procured and installed according to a Design-and-Build contract, if requested;
v. Carry out layouts of the main components of the WTP to be procured and installed according to a Design-and-Build contract, if requested;
vi. Provide support for the preparation of drawings and layouts required for carrying out workshops with stakeholders and water supply operators; and
vii. Ensure systematic keeping of files of technical drawing that are easily retrievable and accessible to other components of the engineering consulting team.

3. OPERATIONS AND MAINTENANCE CAPACITY DEVELOPMENT ASSISTANCE

A. Objectives and Approach

117. The operations and maintenance capacity development technical assistance (OMTA) supports and forms an integral part of the Western Uzbekistan Water Supply System Development Project (WUWSDP)[31], which is designed to provide priority water supply sector improvements to selected areas of the Republic of Karakalpakstan (RKP). The OMTA will provide targeted capacity support to the State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus, hereinafter referred to as TN, which is the utility responsible for water supply and sanitation (WSS) services for the entire population of the RKP. The OMTA comprises of the following six broadly themed components, (i) diagnostic assessment of TN's practices and systems on operations and maintenance (O&M) of facilities and networks; (ii) conducting training needs assessment in terms of O&M practices and methodology; (iii) advising on improving practices and systems towards greater efficacy and sustainability of operations; (iv) preparation of the O&M Manual; (v) conducting domestic training on national and international best practices in O&M applicable to TN circumstances; (vi) conducting study abroad with certification of key TN officers on O&M.

B. Consultant Team and Tasks

118. A team of six consultants assigned for a total of 99 person-months will complete the OMTA intermittently over a three-year period. The consultant team includes: (i) a Team Leader, Water Utilities O&M Optimization Expert (international, 16 person-months, intermittent), (ii) Supporting Water Utilities O&M Optimization Expert (international, 5 person-months, intermittent), (iii) Leakage Detection and Control Specialist (international, 5 person-months, intermittent), (iv) Water Supply Specialist (national, 22 person-months, intermittent), (v) Training and Capacity Building Specialist (national, 15 person-months, intermittent), (vi) Translator – Administrative Assistant (national, 36 person-months).

119. **Specialist 1: Team Leader, Water Utilities O&M Optimization Expert** (international, 16 person-months, intermittent). This specialist will complete the following tasks:

(i) Manage the consulting team on O&M optimization.
(ii) Lead the O&M team in review of all operating processes and procedures of the utility, especially at treatment facilities, and recommendation of optimized regimes and protocols of operations.
(iii) Lead preparation of O&M protocols and schedules for each equipment, facility, and network zone based on international and national best practices. Consolidating such schedules and protocols into a software instrument enabling effective control over timely, diligent and efficient handling of O&M procedures.
(iv) Lead preparation of the O&M Manual and comprehensive O&M Schedule;
(v) Advise on internal control systems and procedures for safeguarding integrity and efficacy of O&M activities.

[31] The WUWSS includes two key components: (i) construction works, including rehabilitation and construction of least cost water treatment plants and water supply systems, (ii) project management and implementation capacity strengthening initiatives.

(vi) Lead the O&M team in organizing training with professional certification of key water utility officers in O&M in qualified training facilities abroad[32]. Costs of all trainings abroad, including O&M training are included into a separate Capacity Building Compoment.
(vii) Conduct training of the utility's personnel on TN premises on best practices in O&M procedures and protocols.
(viii) Advise on Active Leakage Detection and Control Crew (ALDCC) operations in the utility, including hardware procurement, assistance to the utility with establishment and organizing work of the designate crew for active leakage detection and control.
(ix) Advise on optimization and orderly organization of work of Repair and Maintenance Crews (RMC) with establishing efficient channels for communication and work coordination of GIS team, ALDCC, customer relations personnel, SCADA team and other relevant operational units.
(x) Assist the utility with integration of SCADA, GIS/Hydraulic Modeling, Leakage Detection and Control System and other system improvements of the project into a common operating framework.

120. The Team Leader, Institutional Development Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in Engineering or related discipline, (ii) professional certification on operation of water treatment facilities and/or distribution networks, (iii) at least 15 years of related international project experience in water supply and sanitation, (iv) at least 5 years of experience of consulting on O&M optimization, (v) a proven track record as an expert on ADB or other international financial assignments, (vi) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (vii) fluency in written and spoken English, (viii) the ability to deliver high quality written outputs.

121. **Specialist 2: Supporting Water Utilities O&M Optimization Expert(s)** (international, 5 person-months, intermittent). This position could be filled by one or several specialists with various specialization. This position(s) will complete the following tasks:

(i) Support the Team Leader and supplement her/him with specialized O&M expertise and skills;
(ii) Participate in key capacity in review of all operating processes and procedures of the utility, especially at treatment facilities, and recommendation of optimized regimes and protocols of operations.
(iii) Participate in key capacity in preparation of O&M protocols and schedules for each equipment, facility, and network zone based on international and national best practices.
(iv) Participate in key capacity in preparation of the O&M Manual and comprehensive O&M Schedule;
(v) Advise on internal control systems and procedures for safeguarding integrity and efficacy of O&M activities.
(vi) Conduct training of the utility's personnel on TN premises on best practices in O&M procedures and protocols.
(vii) Advise on Active Leakage Detection and Control Crew (ALDCC) operations in the utility, including hardware procurement, assistance to the utility with establishment and organizing work of the designate crew for active leakage detection and control.
(viii) Advise on optimization and orderly organization of work of Repair and Maintenance Crews (RMC) with establishing efficient channels for communication and work

[32] No such facilities are currently available in Uzbekistan

coordination of GIS team, ALDCC, customer relations personnel, SCADA team and other relevant operational units.

(ix) Assist the utility with integration of SCADA, GIS/Hydraulic Modeling, Leakage Detection and Control System and other system improvements of the project into a common operating framework.

122. The Supporting Water Utilities O&M Optimization Expert(s) is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in Engineering or related discipline, (ii) professional certification on operation of water treatment facilities and/or distribution networks, (iii) at least 15 years of related international project experience in water supply and sanitation, (iv) at least 5 years of experience of consulting on O&M optimization, (v) a proven track record as a team leader on ADB or other international financial assignments, (vi) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (vii) fluency in written and spoken English, (viii) the ability to deliver high quality written outputs. Qualifications of the Supporting Water Utilities O&M Optimization Expert(s) should be supplementary to qualifications of the Team Leader. If this position is filled by several experts, each of such experts should meet the qualifying criteria.

123. **Specialist 3: Leakage Detection and Control Specialist** (international, 5 person-months, intermittent). This specialist will complete the following tasks:

(i) Conduct training of the utility's personnel on TN premises on best practices in leakage detection and control procedures and protocols.

(ii) Advise on Active Leakage Detection and Control Crew (ALDCC) operations in the utility, including hardware procurement, assistance to the utility with establishment and organizing work of the designate crew for active leakage detection and control.

(iii) Advise on optimization and orderly organization of work of Repair and Maintenance Crews (RMC) with establishing efficient channels for communication and work coordination of GIS team, ALDCC, customer relations personnel, SCADA team and other relevant operational units.

(iv) Assist the utility with integration of SCADA, GIS/Hydraulic Modeling, Leakage Detection and Control System and other system improvements of the project into a common operating framework.

124. The Leakage Detection and Control Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in Engineering or related discipline, (ii) professional certification on operation of water treatment facilities and/or distribution networks, (iii) at least 15 years of related international project experience in water supply and sanitation, (iv) at least 5 years of experience of consulting on O&M optimization, (v) a proven track record as an expert on ADB or other international financial assignments, (vi) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (vii) fluency in written and spoken English, (viii) the ability to deliver high quality written outputs. Qualifications of the Supporting Water Utilities O&M Optimization Expert(s) should be supplementary to qualifications of the Team Leader.

125. **Specialist 4: Water Supply Specialist** (national, 22 person-months, intermittent). This specialist will complete the following tasks:

(i) Support the Team Leader and supplement her/him with O&M expertise and skills arising from national practices and regulations;

(ii) Participate in key capacity in review of all operating processes and procedures of the utility, especially at treatment facilities, and recommendation of optimized regimes and protocols of operations.
(iii) Participate in key capacity in preparation of O&M protocols and schedules for each equipment, facility, and network zone based on international and national best practices. Leading consolidation of such schedules and protocols into a software instrument enabling effective control over timely, diligent and efficient handling of O&M procedures.
(iv) Participate in key capacity in preparation of the O&M Manual and comprehensive O&M Schedule;
(v) Advise on internal control systems and procedures for safeguarding integrity and efficacy of O&M activities.
(vi) Conduct training of the utility's personnel on TN premises on best practices in O&M procedures and protocols.
(vii) Advise on Active Leakage Detection and Control Crew (ALDCC) operations in the utility, including hardware procurement, assistance to the utility with establishment and organizing work of the designate crew for active leakage detection and control.
(viii) Advise on optimization and orderly organization of work of Repair and Maintenance Crews (RMC) with establishing efficient channels for communication and work coordination of GIS team, ALDCC, customer relations personnel, SCADA team and other relevant operational units.
(ix) Assist the utility with integration of SCADA, GIS/Hydraulic Modeling, Leakage Detection and Control System and other system improvements of the project into a common operating framework.

126. The Water Supply Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in Engineering or related discipline, (ii) at least 10 years of related international project experience in water supply and sanitation, (iii) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (vii) fluency in written and spoken English and Russian, (viii) the ability to deliver high quality written outputs.

127. **Specialist 5: Training and Capacity Building Specialist** (national, 15 person-months, intermittent). This specialist will complete the following tasks:

(i) Support the Team Leader and supplement her/him with expertise and skills on human resource management and capacity development;
(ii) Conduct a training needs assessment, and develop and implement a TN training program on O&M.
(iii) Participate in key capacity in review of all operating processes and procedures of the utility, especially at treatment facilities, from the point of view of human resources management and capabilities.
(iv) Participate in key capacity in preparation of the O&M Manual and comprehensive O&M Schedule;
(v) Advise on internal control systems and procedures for safeguarding integrity and efficacy of O&M activities.
(vi) Participate in key capacity in training of the utility's personnel on TN premises on best practices in O&M procedures and protocols.
(vii) Advise on Active Leakage Detection and Control Crew (ALDCC) operations in the utility, including hardware procurement, assistance to the utility with establishment and organizing work of the designate crew for active leakage detection and control.

(viii) Advise on optimization and orderly organization of work of Repair and Maintenance Crews (RMC) with establishing efficient channels for communication and work coordination of GIS team, ALDCC, customer relations personnel, SCADA team and other relevant operational units.

128. The Training and Capacity Building Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in management, economics or related discipline, (ii) at least 10 years of related international project experience in Central Asia, (iii) at least five years of experience in the water supply and sanitation sector, (iv) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (v) fluency in written and spoken Russian, and (vi) the ability to deliver high quality written outputs.

129. **Specialist 6: Administrator and Translator** (national, 36 person-months). This specialist will complete the following tasks:

(i) Provide overall administration and coordination of project activities.
(ii) Provide oral and written translations of project communications.

130. The Administrator and Translator is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in international relations or foreign languages or related discipline, (ii) at least five years of related international project experience in Central Asia, (iii) at least five years of experience in the water supply and sanitation sector, (iv) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (v) fluency in written and spoken English, Uzbek and Russian languages, (vi) the ability to deliver high quality written outputs.

4. CORPORATE DEVELOPMENT PROGRAM CONSULTANTS

A. Objectives and Approach

131. The corporate development program consulting services supports and forms an integral part of the Western Uzbekistan Water Supply System Development Project (WUWSDP)[33], which is designed to provide priority water supply sector improvements to selected areas of the Republic of Karakalpakstan (RK). The consulting services will provide targeted capacity support to the State Unitary Enterprise Department for Operation of Interregional Water Supply Tuyamuyun-Nukus, hereinafter referred to as TN, which is the utility responsible for water supply and sanitation (WSS) services for the entire population of the RK. The consulting services comprise of the following six broadly themed components, (i) instituting public accountability mechanisms, (ii) developing a performance management system, (iii) enhancing asset management capabilities, (iv) improving financial management and control systems, (v) improving human resource management, and (vi) strengthening corporate governance systems.

B. Consultant Team and Tasks

132. A team of five consultants assigned for a total of 103 person-months will complete the services intermittently over a three-year period. The consultant team includes: (i) a Team Leader, Institutional Development Specialist (international, 9 person-months, intermittent), (ii) a Deputy Team Leader - an Accounting and Financial Management Specialist (national, 24 person-months, intermittent), (iii) an Information Technologies, Databases and Management Information Systems Specialist (national, 16 person-months, intermittent), (iv) a Training and Capacity Building Specialist (national, 18 person-months, intermittent), and (v) an Administrator and Translator (national, 36 person-months).

133. **Specialist 1: Team Leader, Institutional Development Specialist** (international, 9 person-months, intermittent). This specialist will complete the following tasks:

(i) Manage the corporate development program.
(ii) Design and supervise implementation of the public accountability mechanism. This includes:
    a. Populating and updating the TN website to allow full public disclosure of relevant information relating to TN performance, tariffs, billings, applicable regulatory norms, and grievance redress mechanisms,
    b. Developing protocols, norms and standards for information campaigns,
    c. Facilitating open and inclusive quarterly public hearings on TN performance, and
    d. Designing and implementing efficacious grievance redress mechanisms based on modern ITC solutions.
(iii) Design and supervise implementation of the performance management system. This includes:
    a. Demarcation and optimization of TN service zones, as appropriate.

[33] The WUWSS includes two key components: (i) construction works, including rehabilitation and construction of least cost water treatment plants and water supply systems, (ii) project management and implementation capacity strengthening initiatives.

b. Performance definition to align with best practice methodologies[34], including (a) identification of institutional objectives, (b) identification and analysis of critical success factors (CSF) for each of the objectives, with formulation of a respective work program, and (c) selection of key performance indicators (KPIs) to define and monitor performance.
c. Instituting systems and protocols to report and validate TN performance reports.
d. Verifying reported performance values throughout project implementation, and
e. Facilitating a stakeholder platform for deliberation, analysis, and improvement of TN performance following respective performance reporting periods.

(iv) Assist TN to enhance asset management capabilities.
(v) Advise on financial management and control system improvements.
(vi) Recommend human resource management improvements, including:
a. Advice on organizational structure optimization, and improving remuneration and work allocation practices towards a sustainable mode of operations, and
b. Recommending other capacity building measures towards a more efficacious, transparent and sustainable mode of operations in managing human resources.

(vii) Strengthening corporate governance systems, including:
a. Designing and instituting a public service contract to be signed between the TN and the Government of the RK, specifying *inter alia* roles and responsibilities of the government and TN in terms of (a) asset management and development, (b) performance standards and targets, (c) public reporting standards and mechanisms, and (d) financial management and debt service,
b. Designing and instituting management contracts to be signed between TN and the management of each of the urban networks and other major facilities, specifying *inter alia* performance standards and targets,
c. Proposing and arranging an independent professional audit of public reports of TN regarding its performance after project completion,
d. Identifying ISO standards applicable to utility operations[35], and
e. Assisting to implement applicable ISO systems towards certification by internationally accredited auditors.

(viii) Assisting to strengthen planning and management capacity, including:
a. Planning for climate change and extreme weather conditions in terms of strengthening system resilience,
b. Investment planning in line with the municipalities' and TN's development objectives and available financing options,
c. Performance improvement planning in terms of targeted KPI values and related action plans, and
d. Preparing and updating a TN business plan, covering at least a ten-year time horizon, to be reviewed and approved by relevant stakeholders, including government institutions and financing organizations.

134. The Team Leader, Institutional Development Specialist is preferred to have the following qualifications and experience: (i) at least a Master's degree in Business Administration or related discipline, (ii) at least 10 years of related international project experience in water supply and

[34] As prescribed by the International Water Association.
[35] Including (a) ISO 9001:2015 on quality controls, (b) ISO 10002 on grievances systems, (c) ISO 55000 on asset management, (d) ISO 24510:2007, ISO 24518:2015, ISO 24521:2016, and ISO 24523:2017 relating to water supply and wastewater services, and (e) the family of ISO 14000 standards on environmental management.

sanitation, (iii) effective understanding of ISO 9001 and other ISO standards applicable to water utility operations. (iv) a proven track record as a team leader on ADB or other international financial assignments, (v) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (vi) fluency in written and spoken English and Russian, (vii) the ability to deliver high quality written outputs.

135. **Specialist 2: Deputy Team Leader - Accounting and Financial Management Specialist** (national, 24 person-months, intermittent). This specialist will complete the following tasks:

i. Assist TN to enhance its asset management capabilities in terms of related internal control procedures and systems.
ii. Recommend financial management and control system improvements relating to TN's (a) billing system and practices, (b) financial statement preparation capabilities[36] and (c) budgeting and financial controlling system and practices.
iii. Develop a team of internal controllers to be responsible for the detection, sanctioning and eradicating of behavioral patterns that are incompatible with efficient and sustainable mode of operations, including theft and corrupt opportunism.
iv. Recommend remuneration and work allocation practice improvements.
v. Strengthen TN's planning and management capacity relating to (a) climate change resilience, (b) investment planning in accordance with the municipalities' and TN's development objectives and available financing options, and (c) performance improvement planning in terms of targeted KPI values and related action plans.
vi. Prepare and update TN's business plan, covering at least a ten-year time horizon, to be reviewed and approved by relevant stakeholders, including government institutions and financing organizations.

136. The Accounting and Financial Management Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in accounting, finance, economics or related discipline, (ii) a Certified Accountant Practitioner (CAP) certificate or higher professional accounting certification, (iii) at least 10 years of accounting experience, (iv) at least five years of experience in financial management and accounting systems per International Financial Reporting Standards (IFRS) and/or procedural norms and requirements of ADB or other international financial institution, (v) at least five years of experience in the water supply and sanitation sector, (vi) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (vii) fluency in written and spoken English and Russian, and (viii) the ability to deliver high quality written outputs.

137. **Specialist 3: Information Technologies, Databases and Management Information Systems Specialist** (national, 16 person-months, intermittent). This specialist will complete the following tasks:

i. Design, construction and maintenance of the TN website, designed to provide full public disclosure of relevant information TN's performance, tariffs, billings, applicable regulatory norms, and grievance redress system.
ii. Improving TN's billing system and practices.
iii. Improving TN's accounting system and practices, enabling TN to prepare financial statements in accordance with International Financial Reporting Standards (IFRS),

[36] In accordance with International Financial Reporting Standards (IFRS), which could be audited per International Standards of Auditing (ISA) by auditors acceptable to ADB,

which could be audited per International Standards of Auditing (ISA) by auditors acceptable to ADB.
iv. Designing and implementing the grievance redress system based on modern management information system (MIS) standards.
v. Advising TN in the preparation and formal adoption of the corporate MIS strategy.
vi. Training TN's officers to maintain and update TN's website.
vii. Training TN's officers to manage databases and information technologies (IT).

138. The Information Technologies, Databases and Management Information Systems Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in management information systems or related discipline, (ii) at least 10 years of related project experience in implementing MIS solutions, (iii) at least 5 years of experience in the water supply and sanitation sector, (iv) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (v) fluency in written and spoken Russian, (vi) the ability to deliver high quality written outputs.

139. **Specialist 4: Training and Capacity Building Specialist** (national, 18 person-months, intermittent). This specialist will complete the following tasks:

i. Advise and recommend human resource management enhancements relating to (a) organizational structure optimization, (b) improved remuneration and work allocation practices, and (c) other capacity building measures towards a more efficacious, transparent and sustainable mode of operations in managing human resources.
ii. Conduct a training needs assessment, and develop and implement a TN training program throughout the duration of the project.
iii. Advise on ISO standards applicable to the utilities operations, including (a) ISO 9001:2015 on quality controls, (b) ISO 10002 on grievances systems, (c) ISO 55000 on asset management, (d) ISO 24510:2007, ISO 24518:2015, ISO 24521:2016, and ISO 24523:2017 relating to water supply and wastewater services, and (e) the family of ISO 14000 standards on environmental management.
iv. Assisting to implement applicable ISO systems, leading towards certification by internationally accredited auditors.

140. The Training and Capacity Building Specialist is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in management, economics or related discipline, (ii) at least 10 years of related international project experience in Central Asia, (iii) at least five years of experience in the water supply and sanitation sector, (iv) demonstrated ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (v) fluency in written and spoken Russian, and (vi) the ability to deliver high quality written outputs.

141. **Specialist 5: Administrator and Translator** (national, 36 person-months). This specialist will complete the following tasks:

i. Provide overall administration and coordination of project activities.
ii. Provide oral and written translations of project communications.

142. The Administrator and Translator is preferred to have the following qualifications and experience: (i) at least a Bachelor's degree in international relations or foreign languages or related discipline, (ii) at least five years of related international project experience in Central Asia, (iii) at least five years of experience in the water supply and sanitation sector, (iv) demonstrated

ability to work congenially and productively with a consultant team, counterparts, and other project stakeholders, (v) fluency in written and spoken English, Uzbek and Russian languages, (vi) the ability to deliver high quality written outputs.

VII. SAFEGUARDS

143. The Government through CSA will ensure that all safeguard requirements prescribed for the Project that have been prepared are implemented. The Project, in accordance to ADB SPS 2009, is categorized as "B" category for Environment and Involuntary Resettlement, and as "C" category for Indigenous People impacts. Therefore, the following safeguard documents were prepared during the project preparation:

(i) Initial Environmental Examination (IEE) including an Environmental Management Plan (EMP) was prepared. This report identified potential impacts that would be generated from the Project, and proposed EMP consisting of mitigation measures, monitoring plan, and arrangements for EMP implementation.

(i) A Resettlement Due Diligence (RDD) report was prepared for construction of new facilities, route alignments of trunk mains and distribution lines. Assessment was done based on a walkover survey. This RDD will be updated and finalized based on results of the detailed design.

144. CSA and TN are obliged to prepare EMP and LARP (if required) as proposed in these two safeguard documents.

145. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009). [37]

A. Environment

146. Impacts from the Project are expected to be limited in magnitude of a short-time nature, mostly related to construction and rehabilitation of the trunk main, distribution centers and distribution networks. These including dust, noise, vibration, hazardous solid wastes (asbestos-containing materials, scrap metals and oils from old equipment), labor and public safety, temporary blockage of household access, traffic disturbance, production and transportation of construction materials. Environmental impacts during operation phase include the increase of water use from the water sources, disposal of sludge from the WTP and borehole sites, accidental leakage from chlorination, noise from WTP and pumping stations, and increase in production of sewage compared to the capabilities of community facilities.

147. The PCU at CSA and TN will be responsible for implementation of EMP to comply with ADB's safeguards requirements and environmental national regulations. For this, PCU will be required to designate a qualified full-time safeguard position who will be assisted by the environmental specialists of the PMC in overseeing the implementation of EMP. The cost for implementing EMP will be financed by the project, specifically: The cost for implementing EMP will be financed by the project, specifically: the costs of mitigation measures and environmental monitoring will be included in the construction contracts, and the cost for environmental supervision will be included in the consulting service of the PMC. PCU is responsible for overall environmental compliance with SPS 2009. A grievance redress mechanism to handle both environmental and social safeguard issues will be established after the project effectiveness. TN will also designate its environment staff responsible for EMP implementation, in close coordination with CSA.

[37] Available at: http://www.adb.org/sites/default/files/pub/2009/Safeguard-Policy-Statement-June2009.pdf

148. It is mandatory that ZVOS (Uzbekistan EIA) be prepared and relevant approvals be obtained from Glavgosecoexpertiza of Goskompriroda prior to the commencement of the project activities.

149. EMP will form part of the bidding documents. To ensure that mitigation actions are implemented in accordance with the requirements of the EMP, monitoring shall be undertaken as follows:

- Instrumental Monitoring for environmental quality such as air, noise, vibration, water – This shall be performed monthly by a certified laboratory to be hired under the contractors' contract with guidance and approval from the PMC. Schedules, parameters, locations are indicated by the Project EMP and shall be endorsed by the PMC.
- Observational Monitoring – Throughout the Projects Construction phase PMC shall continually monitor the Contractors actions. This will be achieved through weekly inspections of the Contractors environmental performance by PMC's national environmental specialist throughout the construction period. PMC shall have the right to suspend works or payments if the Contractor is in violation of any of his obligations under the EMP and SSEMPs.

150. Contractors will be responsible for implementing mitigation measures. Within 30 days after contract award and prior to commencing any physical works, Site-specific Environmental Management plans (SSEMPs) will be developed by the Contractors under the guidance of the PMC, and be endorsed by PMC before submission to PCU for approval. The SSEMP is the document that the Contractors shall prepare outlining how he intends to implement the EMP and ensure that all of the mitigation and monitoring is completed according to the implementation arrangements specified in this EMP. SSEMPs will be needed for major environmental issues and most critical sites relating to sensitive receptors. During construction, the Contractors must retain the expertise of a full-time Environmental Officer (EO) to implement and continually update the SSEMPs, and to report on the implementation of mitigation measures throughout the contract period.

151. The PMC is tasked with specific responsibility to assist PCU in ensuring safeguard compliance of civil works – with particular emphasis on the monitoring of implementation of EMP through the Contractors SSEMP and related aspects of the project. PMC shall retain the use of Environmental Specialist, both national (NES) and international (IES), to ensure that the Contractor is compliant with his environmental obligations. It is required that the IES provides a short training program to the PCU safeguard person and Contractors EO prior to the start of construction to develop their knowledge and understanding of the environmental, social, health and safety aspects of the Project. The IES will also be responsible for developing a comprehensive proposal for establishment and operations of the Environmental awareness centers. Training EHS for contractors need to be conducted throughout project implementation, at every visit of the IES. TORs for IES and NES can be found in the PMC contract.

152. In addition to the Contractor's full-time EO and the PMC's part-time NES backed up with an IES, it is required that PCU designate a full-time safeguard position to manage and coordinate the contractors and PMC in reporting to EA and ADB on safeguard performance of the project. PCU is responsible for overall EMP implementation and will be assisted by the PMC. The PCU's responsibilities include the following, but not limited to:

- Ensure the bidding documents of PMC and Contractors include all tasks as described in the approved EMP
- Supervise the PMC and Contractors in EMP implementation for overall compliance with SPS 2009 requirements and project environment-related legal covenants
- Ensure all necessary government permits and license, including ecological expertise opinion, for all civil works will be obtained.
- Approve SSEMPs which will be prepared by the Contractors and endorsed by the PMC
- With assistance of the PMC, prepare, submit to the EA and ADB, and disclose semi-annual environmental monitoring reports on ADB website and in UZB
- Report in a timely manner to ADB of any non-compliance or breaches with ADB safeguard requirements and take corrective actions promptly.
- Update the IEE in case of technical design changes or unanticipated impacts
- Establish a Grievance Redress Mechanism (GRM) after the project effectivity and act as the GRM secretary to make sure that the GRM is operational to effectively handle environmental and social concerns of project affected persons
- Build up and sustain institutional capacity in environmental management

153. The PCU will be responsible for implementation of EMP to comply with ADB's safeguards requirements and environmental national regulations. Present unit has Environmental and Social Specialist (ESS). The PCU's ESS will be assisted by the environmental specialists of the project management consultant (PMC) in overseeing the implementation of EMP. The cost for implementing EMP will be financed by the project, specifically: the costs of mitigation measures and environmental monitoring will be included in the construction contracts, and the cost for environmental supervision will be included in the consulting service of the PMC. PCU is responsible for overall environmental compliance with SPS 2009.

154. TN will hire full-time environmental Specialist who will be in charge for implementation of EMP and ensure compliance with national environmental requirements. Along with implementation mitigation measures indicated in EMP, he/she will responsible for in-time development and submission environmental reports to Statistical Committee of Uzbekistan and State Nature Protection Committee; obtaining and timely updating permissions on discharge waste water, exhausted gases in air and disposal of solid wastes; special permission on water use.

155. State Committee of the Republic of Karakalpakstan on the Ecology and Environment Protection will be also involved in the process of project implementation and further operation. The Committee will review local Environmental Assessment (ZVOS) and approve it if the ZVOS complies with national requirements. Moreover, requirements indicated in Environmental Appraisal will be mandatory for implementation and it will be monitored by inspectors from district branches of the Committee. Representatives of the Committee will also participate into the hand-over process as member of State Acceptance Commission.

Cost estimates for EMP implementation

Item	Quantity	Unit cost, USD	Total Cost, USD	Remarks
Instrumental Monitoring				
Water quality	144	50	7200	To be conducted by Contractor on the monthly base as indicated in EMP
Air quality NO_2, CO	74	20	1480	Analysis will be conducted by external laboratory (SES). Cost is included in Contractors budget
Noise measurement devices	12[38]	300	3600	Devices could be purchased for long-term use
Environmental Mitigation Measures/Permissions				
Cutting trees/bushes	3 ha	900[39]	2700	Cost will be included into the Contractors budget
Asbestos Management	8	250[40]	2000	This mitigation measure will be implemented in case of identification asbestos materials during rehabilitation works at WDCs. Expenses will be included in Contractor contracts
Dust and noise control barriers	6[41]	10000	60000	To be installed by Contractor at listed in EMP sites WDC
Environmental awareness program				
Training	5	3000	15000	As indicated in table 20. Budget is included in PMC contracts
Subtotal			**91980**	
Miscellaneous			**9198**	10% of subtotal
Contingency			11038 9198	12 % of subtotal + Miscellaneous
Total			**112216**	
Staffing				

[38] 12 devices for 12 contractors in six districts.
[39] Cost for trees was accepted as average with diameter 16-20 cm, per RCM of RUz#290 dated 20 October 2014 and converted into the USD based on rate of Central Bank of Uzbekistan.
[40] Calculation based on Asbestos materials management plan developed for Kyrgyz Republic: Issyk-Kul Sustainable Development Project (2015).
[41] Six screens will be needed for 6 contractors which will work on construction/rehabilitation of WDCs.

Item	Quantity	Unit cost, USD	Total Cost, USD	Remarks
PMC Environmental Specialist				
International, p/m	4	18000	72000	Cost is included in PMC budget
National	18	4000	72000	
PCU National Environmental Specialist,	24	1100	26400	Cost is included in PCU budget
TN environmental staff				TN budget
Total for staffing			**282615**	

156. Expenses related to staffing of PCU, PMC and Contractors with Environmental Specialists are included into their budget, therefore they are excluded from total budget for EMP.

B. Land Acquisition and Resettlement

157. The project is categorized as C for IR impacts. The resettlement due diligence conducted for the project based on preliminary design and walk over surveys suggests that there will be no land acquisition and resettlement impacts, as the construction works will be located within the boundaries of existing facilities owned by the vodokanals, on municipal land, State Land Reserve and within the right-of-way assigned to municipal roads and municipal infrastructure. Certification on land ownership was provided by the water supply company. However, in compliance with ADB's requirements the Land Acquisition and Resettlement Framework (LARF) was prepared to ensure that unanticipated impacts will be considered during detailed design. If any changes, land acquisition and involuntary resettlement impacts or related unanticipated impacts are identified, then a LARP will be prepared in accordance with ADB's SPS and submitted to ADB for review before any contracts are awarded and implemented prior civil works commencement. A due diligence report on resettlement has been prepared and disclosed in the ADB website.

158. PCU has a dedicated safeguard specialist who will ensure that all the activities related to involuntary land acquisition and resettlement are being followed and implemented in accordance with Uzbekistan's legislation and policies and ADB's SPS 2009 requirements. The safeguards specialist of the PCU will ensure that this LARF is updated after completion of detailed design. If any LAR is identified at that moment, then a LARP will be prepared and implemented prior to start of civil works. The PCU will be supported by Project Management Consultant.

159. CSA will ensure that final LARP (i) adequately addresses all involuntary resettlement issues pertaining to the project, (ii) describes specific mitigation measures that will be taken to address the issues, (iii) ensures the availability of sufficient resources to address the issues satisfactorily. No physical and economic displacement will occur until compensation in full at replacement cost if paid to the DP's and all other entitlements are paid to the DP's in accordance with the final LARP.

160. **Grievance Redress:** CSA and PCU shall ensure; (i) efficient grievance redress mechanisms are in place and functional to assist the affected persons resolve queries and complaints, if any, in a timely manner; (ii) all complaints are registered, investigated and resolved in a manner consistent with the provisions of Grievance Redress Mechanism; iii) the

Complainants/aggrieved persons are kept informed about status of their grievances and remedies available to them; and (iv) adequate staff and resources are available for supervising and monitoring the mechanism.

161. **Information Disclosure:** Information sharing and disclosure are tools to engage with local communities and the project affected population during project planning, development and implementation aimed to promote understanding about project activities and discuss way forward for fruitful solutions for various local needs, problems and prospects of resettlement. CSA and PCU shall ensure that all the safeguards documents including monitoring reports are disclosed by: (i) uploading the draft and ADB approved final safeguards documents to CSA, PCU and ADB websites, (ii) information pamphlet containing summary of the projects impacts final LARP, if required in local language is distributed amongst the DPs.

162. **Meaningful consultations**: Since consultations were carried out at preparatory stage of the project and during resettlement due diligence preparation, however for continued information sharing, CSA and PCU shall ensure that: (i) additional consultations during updating and implementation of the safeguards documents; (ii) the displaced persons if any are informed about: (a) resettlement pacts, asset valuation, entitlements and compensation payment modalities with time lines, (b) Rehabilitation and income restoration measures suggested for the project displaced persons, and (c) grievance redress mechanism put in place with status of redress of grievances; and (iii) Liaison is maintained with affected persons and community, and consultation meetings are held regularly with surrounding communities and project displaced persons including women and vulnerable groups to share project related information during project implementation period.

163. **Monitoring and Reporting:** During detailed design stage the draft resettlement due diligence report will be updated. If there are any changes, additional land requirements or resettlement impacts are identified LARP will be prepared by PMC in close coordination with PCU and CSA. The LARP will be reviewed by ADB prior to award of civil works and implemented before implementation of civil works. **I**mplementation shall be monitored internally by CSA and PCU with support of PMU. During LARP implementation phase, the monitoring results shall be consolidated into semiannual monitoring reports and shared with ADB for review, clearance and disclosure. Once LARP implementation is completed, bi-annual monitoring reports will be prepared and submitted to ADB for review and clearance. Upon clearance of monitoring reports by ADB, these will be disclosed by uploading on CSA, PCU and ADB websites. PMC will be adequately staffed with social safeguards and resettlement specialists.

C. Indigenous Peoples

164. The project will not impact any indigenous people as defined in ADB's SPS and is categorized as C for IP impacts. The project areas are homogeneous in ethnic composition with 55% Uzbeks, 26% Karakalpaks and 16% Kazakhs. The communities will largely benefit from piped water supply. And if during detailed design or implementation, any change to the scope, location with prior approval of ADB, causes to have any such impacts, EA/IA shall take all steps required to ensure that the Project complies with the applicable laws and regulations of Uzbekistan and the ADB's Safeguard Policy Statement 2009.

D. Risks and Mitigating Measures

165. Major risks and mitigating measures are summarized in Table 10.

Table 10: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Prolonged government approval procedure by oversight agencies	Close coordination is to be maintained with concerned government agencies to minimize delays in international contractor and/or supplier registration. PCU and implementing agency staff will participate in ADB procurement training.
The institutional capacity of the TN is limited.	Project capacity support programs will strengthen TN's institutional capacity to improve consumer accountability and service sustainability.
Declining revenues resulting from insufficient billing and collection.	Recent sector reforms are enhancing the financial capacity of the TN by mandating tariff and cost recovery improvements. Project activities will assist the TN to strengthen financial management capacity, improve billing and collection systems, implement consumer metering, and closely monitor O&M costs and new investments.

ADB = Asian Development Bank, PCU = Project Coordination Unit, TN = State Unitary Enterprise Department for Operation of the Interregional Water Supply Tuyamuyun-Nukus.
Source: Asian Development Bank.

VIII. GENDER AND SOCIAL DIMENSIONS

166. The project has an “effective gender mainstreaming” (EGM) category. As per ADB requirements, a gender action plan (GAP) has been prepared and project design incorporates measures to promote gender equality and women’s empowerment, including sewerage system rehabilitation and expansion, sanitation awareness and hygiene promotion activities, improved customer service, capacity building, enhanced participation, and increased access to employment. Medium levels of civil society organization participation are envisaged during project implementation, including information gathering and sharing, consultation, and collaboration. On this basis, as per ADB requirements, a project-level communication and participation (C&P) plan has been prepared to ensure adequate participation of civil society, communities, and the poor and vulnerable in project implementation. This action plans, as detailed in the project’s summary poverty reduction and social strategy (SPRSS) and described below, will be implemented and monitored by the PCU; and progress, achievements, and issues will be reported to ADB in quarterly project reports. The project will also comply with the minimum requirements of ADB’s Public Communications Policy (2011). The project’s communication strategy and associated C&P plan are summarized in Table 4 of the PAM, Preliminary Communication and Participation Plan. Table 5 of the PAM provides the applicable ADB Public Communications Strategy.

167. The PSA results for 2017 indicate that all households in the project areas take water from several sources at a time and use it for drinking and household needs and only 37% of households in the project area have access to piped water. Majority of project area households (63%) use a hand pumped water as main source of water for drinking and living needs. Almost 80% of kindergartens, schools, rural medical posts in 6 districts are not connected to the piped water, which limits their potential in providing quality services to the population. In these institutions, the main source of water is hand pumps Water supply and sanitation constraints in households negatively affect the quality of life of all family members and women especially who are primarily responsible for water delivery, cooking, cleaning, and caring for children, the sick and disabled members. The implementation of the project will reduce unproductive labor costs, sparing at a minimum, three working days for women in each household for each month, which is bound to stimulate women’s economic activities. It is women and children who are responsible solely for the carrying drinking water in 70% of the surveyed households. Women have to spend about 3 hours per day on average to collect a limited amount of water from water sources located some 1 to 4 kilometers from their houses. Due to limited access to water 21% of HHs have a bathroom with buckets water supply, and only 2% have a flushed toilet. Women and girls suffer from absence of bathrooms and bathe more badly compared with men and boys who, unlike females, are able to bathe publicly at yards or even in rivers and canals. 13% of HHs have a washing machine, but in most of cases the women cannot use the devices because of the water shortages and low pressure, which causes additional 8-12 hours of hand work of women per HH a month. Women living in apartment blocks point out that water shortages negatively affect the work of the centralized sewerage system. As a result of the situation, it is the women who need to take away excrement when there are small children or people with disabilities in the apartment, and to accompany children to the outdoor toilet, especially in night time.

168. The project’s GAP has been developed and resources are allocated to enhance project impacts on women and to mitigate any project-related risks. The GAP includes performance targets, measurable indicators, and a timetable. 50% of outputs in the project DMF are gender-oriented. The GAP will be implemented by PCU under MHCS and supported by PMC, districts’ WSS operators and project contractors as well as by regional districts’ khokimiyats, including deputy khokims on women’s issues, local NGOs and regional and districts departments of health and education. Key features of the project’s GAP include (i) the recruitment of a full-time PCU

Social specialist and a full time National Social Development and Gender Specialist in the Project Management Consultancy (PMC) with combined assignments, (ii) facilitation of women's participation in project-associated activities, (iii) employment opportunities for women in areas such as laboratory and customer care operations (at least 30% of new laboratory staff and 30% of customer care workers for the TN and two branches), (iv) equitable pay for women employed in the project management and implementation team, (v) 50% of education establishments staff in schools, kindergartens and colleges (495 establishments) received information toolkit on hygiene promotion and sanitation awareness trainings that will be primarily focused on women (at least 30% of participants are women), (vi) equal opportunity/access to training for the female staff of the TN and its branches, (vii) establishment of a gender sensitive customer care/complaints unit, and (viii) gender-sensitive outreach activities, including television, radio spots and newspaper articles.

169. The project is bound to secure an increase in incomes, poverty reduction, mitigation of Aral Sea disaster risks and improvements of living standards for the population in the area. The expected social benefits of the proposed project activities include population' stable access to potable water of good quality, which will reduce the incidence of water borne infection diseases and lower expenses on healthcare for the households. Providing an adequate water supply for social infrastructure (kindergartens, schools, healthcare institutions) and for private enterprises in the service and food-catering sectors will also reduce the risk of epidemics. The biggest benefits upon the realization of the Project are expected for poor households which have to reduce their consumption of potable water by replacing it with water from unsafe sources. A significant indirect effect for the population is envisaged in terms of widened employment and self-employment opportunities in such sectors of the economy as catering, service and the processing of agricultural produce. The projects will result in the reduction in the use of domestic child and female labor and reduce unproductive labor costs, sparing at a minimum, three working days for women in each HH for each month, which is bound to stimulate women's economic activities. Implementation of the Project will also contribute to the recovery and enhancement of the makhallas' social capital, by reducing the number of water supply related conflicts. Implementation of sanitation awareness and hygiene promotion activities will also assist to reduce the incidence of inflectional diseases. All public education materials and training will use gender-specific designs and gender sensitive approaches and will involve regional and districts' Women's Committees, local NGOs and other makhalla representatives.

170. Project success requires acceptance and active participation of communities - necessitating development of a Communication and Participation (C&P) plan for project implementation. Project design and implementation approach embrace participation, assure information dissemination to and communication with the public, and provide for comprehensive involvement and strategic engagement of key stakeholders in detailed design, construction, and operation of improved sanitation facilities. Integral in planned implementation are consultative, capacity-building, and collaborative measures that strengthen inclusiveness and foster empowerment of consumers, especially women and the poor and vulnerable.

171. Project implementation relies on civil society engagement; first, to help tailor project outputs to community needs and aspirations and facilitate responsive implementation, and, second, to intermediate between the project and communities, extending the reach and reception of project impacts and benefits. As introduced above, makhalla women's advisors as civil society representatives and other community leaders have a strategic role in this dual interface. The project ensures adequate participation by incorporating capacity building program modules and by direct measures in gender mainstreaming, sanitation awareness and hygiene promotion; and

communication and participation components supported by training, provision of materials, and a program of regular public consultation.

172. The project level C&P plan is comprised of participatory elements and activities lodged in the gender mainstreaming; project performance monitoring system; and social and environmental safeguards modules of the project's capacity building component and in its water efficiency use and conservation, sanitation awareness and hygiene promotion and communication and participation components. Implementation responsibilities are vested in the PCU supported by project consultants and the capacity building program contractor. Support for participation plan implementation, including training, workshops, consultations, community-level activities, and city-level awareness campaigns is incorporated in the project budget. Implementation of key participation plan measures is also reflected in several DMF output indicators.

173. MHCS will also include specific provisions in bidding documents to ensure that civil works contractors (i) comply with core labor standards and applicable laws and regulations in Uzbekistan and incorporate applicable workplace occupational safety norms, (ii) do not differentiate payment between men and women for work of equal value, (iii) do not employ child labor in the construction and maintenance activities, (iv) eliminate forced or compulsory labor, (v) eliminate employment discrimination, (vi) to the extent possible, maximize employment of local poor and disadvantaged persons for project construction purposes, provided that the requirements for job and efficiency are adequately met, and (vii) disseminate information on the risks of sexually transmitted diseases, including human immunodeficiency virus/acquired immunodeficiency syndrome, to the employees of the contractors under the project and to members of the local communities near the project.

GENDER ACTION PLAN (GAP)

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

- 178,739 women and girls benefited from improved water supply services in 6 district centers and 116 rural settlements, including 69,388 new household connections
- 14,559 female-headed households have access to 24-hour potable water supply.

Objective	Activities	Indicators	Remarks
Output 1. Water supply infrastructure rehabilitated, expanded and upgraded			
Ensure that women participate and benefit from the project implementation	Employ women in project civil works construction and ensure safe working conditions	1.1.1. Liaise with the district employment bureau and construction companies to help inform women of the availability of jobs (direct and indirect) during construction (Year 1-3) 1.1.2. All job advertisements for civil works and for utility agency include sentence on "Applications by women are encouraged (Year 1-3) 1.1.3 At least 10% women employed in project civil works construction with safe work working conditions (Year 1-3) 1.1.4 Ensure availability of water and sanitation facilities and occupational health and safety measures for women workers at all construction sites. (Year 1-3)	**Responsibility:** PCU and PIU in collaboration with Council of Ministers of Karakalpakstan and khokimiyats, CBO, Women Committee, BWA
	Employ staff with priority to women for 6 newly equipped laboratories	1.2.1 Gender responsive recruitment in newly equipped laboratories via adequate communication channels. (Year 1-3) 1.2.2 A least 30% of the staff of laboratories are women 1.2.3 At least 30% of female representation in all capacity building activities (training programs, study tours) ensured (Year 1-5) 1.2.4 Sex disaggregated human resource database developed (Year 2) 1.2.5 Sex disaggregated annual HR report submitted (Year 1-5)	
	Construct new O&M facilities with inclusive gender designs	1.3.1. 6 O&M warehouses with central maintenance workshops constructed in accordance with the sanitary norms, gender sensitive sanitary facilities are available for for men and women; (Year 1- 3) 1.3.2 At least 10% women employed during the construction works and post project O&M activities.	
	Provide men and women headed households with the access to centralised water supply system	1.4.1 In total 69,000 households are connected to the the piped water supply system, including 13,800 women-headed households. (Year 5) 1.4.2 178,739 women and girls have 24/7 access to potable water. (Year 5) 1.4.3 Customers satisfaction survey implemented at the beginning and the end of the project (Year 1 and 5) 1.4.4 Men and women beneficiaries' satisfaction with the quality of water supply increased to 90% (baseline 35%) (Year 5) 4.2. Sex-disaggregated baseline/end-line information collected/analysed to monitor and evaluate positive trends of women' time poverty (Year 1-5)	

Output 2. Institutional capacity strengthened			
Strengthened TN management with special focus on women needs	3.1. Integrate gender approaches in WSS policy documents and procedures	3.1.1. Gender analysis of HR policy conducted (gender responsive recruitment, job descriptions, orientation, professional development, promotion) (Year 1) 3.1.2. 50% (out of 1653) of TN staff (including districts) participated in gender capacity building program (gender analysis, gender-responsive planning, gender budgeting, and GAP compliance) (Year 1-3)	**Responsibility**: Ministry for Housing and Communal Services, TN, PCU, and PIU
	3.2. Create Employment opportunities for women in water operation and maintenance (controllers, technical laboratory staff)	3.2.1. Gender responsive recruitment in TN via adequate communication channels. A least 30% of women hired for new field-based positions (Year 1-3) 3.2.2. At least 30% of female representation in all capacity building activities (training programs, study tours) ensured (Year 1-5) 3.2.3. Sex disaggregated human resource database developed (Year 2) 3.2.4. Sex disaggregated annual HR report submitted (Year 1-5)	**Responsibility**: TN, PCU, PIU
	3.3. Establish Gender sensitive customer care units /customer grievance redress system	3.3.1. 7 gender-balanced customer care/complaints units (including call center) are established in TN and six districts (Year 1-3) 3.3.2. Sex-disaggregated annual report on customer complaints produced and analyzed (Year 1-5) 3.3.3. Sex-disaggregated complaints database developed (Year 2-5) 3.3.4. Annual sex-disaggregated customer satisfaction survey conducted(Year1-5) 3.3.5 All Customer service officers trained in gender responsive customer care technics and use of the complaints data-base (30% women)	**Responsibility:** PCU, PIU, TN and districts utilities
	3.5 Construct new Training facilities, with focus on women needs	3.4.1 Liaise with the district employment bureau and construction companies to help inform women of the availability of jobs (direct and indirect) during construction (Year 1-3) 3.4.2. All job advertisements for civil works include sentence on “Applications by women are encouraged (Year 1-3) 3.4.3 At least 10% women employed in construction works with safe work working conditions (Year 1-3) 3.4.4 Ensure availability of water and sanitation facilities and occupational health and safety measures for women workers at the construction site. (Year 1-3) 3.4.5 New Training center building constructed in accordance with the sanitary norms, gender sensitive sanitary facilities are available for men and women; (Year 1- 3)	**Responsibility**: TN, PCU, PIU

Project implementation, monitoring and reporting			
Ensure active participation of women in Project implementation, monitoring and reporting	4. Gender inclusive project monitoring and GAP implementation	4.1 National social/gender development specialist hired on a full-time basis in PCU and gender focal points for each relevant partner agency identified (Year 1) 4.3. Annual gender awareness training conducted for TN, PCU, and PIU staff to ensure successful GAP implementation (Year 1-5) 4.4. Semi-annual GAP progress report and sex-disaggregated project performance benchmarking system developed/submitted to URM (Year 1-5) 4.5. At least 30% of female staff in PCU and PIU (Year 1-5) 4.6. Gender-inclusive project M&E system developed and operational. (Year 1-5)	**Responsibility**: PCU/PIU and Social /Gender specialist, TN gender focal points

ADB = Asian Development Bank, BWA = Business Women's Association, CBO = community based organization, EGM = effective gender mainstreaming, FGD = focus group discussions, GAD = gender and development, GAP = gender action plan, HH = households, HR = human resources, Mahalla = local community, M&E = monitoring and evaluation, NGO = nongovernment organization, O&M = operation and maintenance; PIU = project implementation unit, PCU = project coordination unit, TN = Tuyamuyun-Nukus, URM = Uzbekistan Resident Mission, WCU = Women's Committee of Uzbekistan, WCU = Water Consumer Association.

*Note: Preliminary costs for the planned public awareness campaign = $60,000; training and workshop = $55,000 and promo materials/printing = $35,000. Preliminary costs of focus groups and client satisfaction surveys = $50,000

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project 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)	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
	1e. About 900 km of distribution pipelines constructed or rehabilitated (2017 baseline: about 600 km in poor condition) 1f. 24 rehabilitated and 4 constructed WDCs (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	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
	2e. Nonrevenue water control system, including SCADA, implemented and commissioned (2017 baseline: not applicable) 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.

B. Monitoring

174. **Project performance monitoring.** CSA will establish the project performance monitoring and evaluation system within 6 months of loan effectiveness using the targets, indicators, assumptions, and risks in the design and monitoring framework. The midterm review will include an evaluation on whether project implementation accords with the project objectives and scope. The data for output and outcome indicators will be updated and reported through the quarterly progress report and after each ADB review mission.

175. **Compliance monitoring.** CSA will monitor and ensure compliance with applicable covenants of the Loan and Project Agreements. This will be reported through the quarterly progress reports and ADB review missions.

176. **Environment Safeguard Monitoring.** The Contractor(s) Environment Specialist is responsible for the preparation of weekly environmental checklists and environmental section in monthly progress reports that shall be submitted to the PMC for review. Based on site inspection and Contractors' reports, the PMC shall be responsible for preparing an environmental section of detailed Quarterly progress Reports to submit to PCU. The PMC is also responsible for assisting PCU in preparing semi-annual Environmental Monitoring Reports (EMRs) and final EMR including post-construction environmental audits. If there are any changes in the design or alignment or if there are any unanticipated impacts, the IEE/EMP will be updated to account for any additional or new environmental impacts and relevant corrective actions. In January and July every year, PCU will submit semi-annual environmental monitoring reports to ADB and relevant government authorities, and these reports will be disclosed to the public on the CSA (in Uzbek or Russian) and ADB (in English) websites.

177. **LARP monitoring.** The EA, PCU, IA and social safeguards (resettlement) specialist and associate will be responsible for monitoring social safeguards (resettlement) activities. Findings will be incorporated in the quarterly progress reports and reflected in the semi-annual safeguards monitoring reports to ADB.

178. **Gender and social dimensions monitoring.** Implementation of GAP and C&P Action Plan will be overseen and monitored by Environmental and Social Safeguards Specialists with poverty, gender, resettlement and social impact monitoring responsibilities included in PCU staffing and supported by an international and/or national Social Development and Gender Specialist in the PMC with combined assignments on intermittent basis. The PCU Environmental and Social Safeguards Specialists, supported by PMC, will establish an effective monitoring and reporting system based on sex-disaggregated data collected during public consultation and obtained from implementation team, TN and its district branches, contractors and other parties, including advisory trainers who will provide community hygiene promotion and sanitation awareness trainings. The GAP indicates these responsibilities and provides performance indicators/targets for other GAP-associated actions. Monitoring results will be included in the quarterly submitted GAP implementation progress reports. Key activities, outputs, and associated indicators have also been established for C&P plan implementation and will be similarly monitored by the TN, PCU and PMC.

C. Evaluation

179. An ADB inception mission will be fielded after the signing of the Loan and Project Agreements to agree with the EA on implementation requirements of the project as well as to discuss in detail the procedures relating to the procurement of works and goods, recruitment of consultants, and disbursements. ADB and the government will undertake semiannual reviews of the project to consider the (i) scope of the project, (ii) implementation arrangements, (iii) compliance with Loan and Project Agreement covenants, (iv) physical achievements against targets and milestones, and (v) project implementation issues requiring resolution or action.

180. A midterm review will be made to evaluate in detail the implementation progress and project design (institutional, administrative, organizational, technical, environmental, social, poverty reduction, resettlement, economic, and financial aspects), and identify courses of action that would improve project performance, viability, and the achievement of targets and project objectives. All the assumptions and risks noted in the design and monitoring framework will be reviewed.

181. Within 6 months of physical completion of the project, the EA will submit a project completion report to ADB.[42] ADB will undertake a project completion review of the project after 12-24 months from the physical completion date.

D. Reporting

182. CSA through the PCU will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the Project. To ensure projects continue to be both viable and sustainable, project accounts should be adequately reviewed.

E. Stakeholder Communication Strategy

183. The stakeholder communication strategy for the project aims to increase public awareness on project benefits and improve sustainability of water supply and sewerage system improvements and to promote public feedback during the detailed design, construction, and operation phases of the facilities. The project's preliminary C&P plan has been summarized in Table 4 below. The C&P plan will be refined on the basis of hygiene baseline studies and updated during the detailed design phase. Table 5 provides the associated ADB Public Communications Strategy. Project information will be strategically disseminated through media and regular public consultations at main milestones including loan signing, contract awards and project completion and a grievance redress mechanism will be established by the CSA through PCU to respond to concerns of affected persons and the public.

[42] Project completion report format is available at: http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar

Table 4: Preliminary Communication and Participation Plan for the Project

Communications Context: *Public support and sustainability of the improved sanitation system requires increased public awareness of the benefits of these investments to their health and well-being, particularly that of women, and better understanding of proper system use. Transparency during project implementation will lead to improved project quality and provide an effective mechanism for receiving and addressing public feedback.*									
Project Objective: Improved access to reliable, sustainable and affordable water supply services in six districts of the Republic of Karakalpakstan (Amudarya, Beruniy, Nukus, Karauzak, Kungrad and Muynak districts)									
Strategic Elements						**Work Plan Elements**			**Evaluation**
Communication Objective	**Key Risks**	**Audience**	**Current/ desired behavior**	**Messages/ Info Needs**	**Channel Activity**	**Time**	**Responsibility**	**Resource Needs**	**Expected Outcomes**
1. Raised public awareness of the project the health and other benefits of its sanitation system improvements	Inability to reach the entire population /	Households in six districts of Republic of Karakalpakstan	Increase in public practice of, improved hygiene and health sanitation	Health and time-saving benefits, environmental health	Sanitation awareness and hygiene promotion campaign including community-level and outreach program through media-Local TV, radio and newspaper ads and articles Dissemination of project information and public consultations	dissemination of project information, and consultations over remainder of implementation period	PCU (Through Environmental and Social Safeguards Specialist)	Information toolkit hygiene promotion and sanitation developed and disseminated in 50% (out of 495) education establishments public awareness campaign on hygiene and health sanitation will be conducted by 45 trainers. Training module will be based on participatory learning methodology that supports communities in improving hygiene behaviors, reduce	Improved hygiene practices in households and education establishment. Reduced incidence of sanitation-associated disease.

Communications Context: *Public support and sustainability of the improved sanitation system requires increased public awareness of the benefits of these investments to their health and well-being, particularly that of women, and better understanding of proper system use. Transparency during project implementation will lead to improved project quality and provide an effective mechanism for receiving and addressing public feedback.*									
Project Objective: Improved access to reliable, sustainable and affordable water supply services in six districts of the Republic of Karakalpakstan (Amudarya, Beruniy, Nukus, Karauzak, Kungrad and Muynak districts)									
Strategic Elements						**Work Plan Elements**			**Evaluation**
Communication Objective	**Key Risks**	**Audience**	**Current/ desired behavior**	**Messages/ Info Needs**	**Channel Activity**	**Time**	**Responsibility**	**Resource Needs**	**Expected Outcomes**
								diarrheal disease and encourage effective community management of water and sanitation services.	
2. Raised public awareness of water efficiency use and conservation (water metering installation and new tariff system	Inability to reach the entire population /inadequate or inappropriate communication channels	Households in six districts of Republic of Karakalpakstan	willingness to connect to and pay for improved water supply system	informative educational toolkit entitled "Every Drop Counts", safe water meter installation and proper uses a water conservation tips bookmark	Public outreach campaign including community-level and outreach program through media-Local TV, radio and newspaper ads and articles	dissemination of project information, and consultations over remainder of implementation period	PCU (Through Environmental and Social Safeguards Specialist)	Building water conservation awareness and education among households through CBO/ NGOs engagement and training program delivery	Widespread acceptance of water supply improvements, high rate of new connections by potential beneficiaries and willingness to pay for them
3. People affected by LAR are informed of their rights and the plans to compensate	Complaints from APs may cause delay	APs	Maintain support for the project	AP entitlements and schedule of LARP implementation	Visits by PCU, and/or consultant team Distribution of brochures and posting of	Upon approval of final LARP	PCU	Included in project LARP budget	No complaint received from APs on their entitlements and compensation received

Communications Context: *Public support and sustainability of the improved sanitation system requires increased public awareness of the benefits of these investments to their health and well-being, particularly that of women, and better understanding of proper system use. Transparency during project implementation will lead to improved project quality and provide an effective mechanism for receiving and addressing public feedback.*									
Project Objective: Improved access to reliable, sustainable and affordable water supply services in six districts of the Republic of Karakalpakstan (Amudarya, Beruniy, Nukus, Karauzak, Kungrad and Muynak districts)									
Strategic Elements						**Work Plan Elements**			**Evaluation**
Communication Objective	**Key Risks**	**Audience**	**Current/ desired behavior**	**Messages/ Info Needs**	**Channel Activity**	**Time**	**Respon sibility**	**Resource Needs**	**Expected Outcomes**
and assist them					approved LARP (if required) on the ADB and MHCS websites				
4. Stakeholders informed of likely environmental impacts during construction and mitigation measures planned and eventually conducted	Complaints from local communitie s may cause delay	Residents of six districts of the Republic of Karakalpak stan	Maintain support for the project	Info on project environmental impacts and mitigation measures	Visits by PCU, and/or consultant team Posting of updated IEE/EMP and EMRs in the ADB and MHCS websites Explanations by contractors		PCU, and/or consult ant team and contra ctors	Included in project EMP budget	No complaint received from local community on management of environmental impacts from the subprojects
5. Stakeholders/ general public informed of mechanism for providing feedback, improving project quality	Unidentified feedback or unresolved concerns may affect quality of construction and operations of the facilities	Residents of six districts of the Republic of Karakalpak stan	Improved public feedback and support for the construction activities and improved quality of water supply	Info on how stakeholders/b eneficiaries may engage with the project; consumer advocacy, grievance redress	Dissemination of project information, regular public consultations, brochures on RP Visits by PCU and/or consultant team		PCU	Developed and printed out one pager on feedback mechanism	Public feedback/ complaints are received and addressed leading to improved quality of construction and improved water supply

Communications Context: *Public support and sustainability of the improved sanitation system requires increased public awareness of the benefits of these investments to their health and well-being, particularly that of women, and better understanding of proper system use. Transparency during project implementation will lead to improved project quality and provide an effective mechanism for receiving and addressing public feedback.*									
Project Objective: Improved access to reliable, sustainable and affordable water supply services in six districts of the Republic of Karakalpakstan (Amudarya, Beruniy, Nukus, Karauzak, Kungrad and Muynak districts)									
Strategic Elements						**Work Plan Elements**			**Evaluation**
Communication Objective	**Key Risks**	**Audience**	**Current/ desired behavior**	**Messages/ Info Needs**	**Channel Activity**	**Time**	**Respon sibility**	**Resource Needs**	**Expected Outcomes**
			system service		Media				system operations and management
6. Bidders and the public are informed of contract awards	Complaints from bidders or interested parties may delay works	Bidders/ general public	Improved trust in the selection of civil works contractors	Information on results of bid evaluation	MHCS website Publication in local newspaper	Upon signing of bid evaluatio n report	PCU (throug h Procur ement Specia list)		Improved transparency in contracting and procurement, and improved public trust
7. General public is informed of project expenditures	Low public trust on the expenditure	General public	Improved public trust	Audited financial reporting	MHCS website ADB web disclosure	Within 30 days upon receipt	ADB Project Team		Improved transparency and public trust in expenditures related to the project

ADB = Asian Development Bank, AP = affected persons, IEE = initial environmental examination, EMP = environmental management plan, EMR = environmental management report, LAR = land acquisition and resettlement, LARP = land acquisition and resettlement plan, PCU = project coordination unit, CSA= Communal Services Agency

Table 5: ADB Public Communications Strategy

Project Documents	Means of Communication	Responsible Party	Frequency	Audience(s)
Project Data Sheet (PDS)	ADB's website	ADB	initial PDS no later than 30 calendar days of approval of the concept paper; updated twice a year	General Public
Initial Environmental Examination	ADB's website	ADB	at least 7 days prior to Staff Review Meeting	General Public
Resettlement Planning Documents	ADB's website	ADB	post fact-finding mission	General Public, project-affected people in particular
Report and Recommendation of the President	ADB's website	ADB	within 2 weeks of Board approval of the loan	General Public
Legal Agreements	ADB's website	ADB	no later than 14 days of Board approval of the project	General Public
Summary Poverty Reduction and Social Strategy	ADB's website	ADB	within 2 weeks of Board approval of the loan	General Public
Project Administration Manual	ADB's website	ADB	within 2 weeks of Board approval of the loan	General Public
Social and Environmental Monitoring Reports	ADB's website	ADB	routinely disclosed, no specific requirements	General Public, project-affected people in particular
Major Change in Scope	ADB's website	ADB	within 2 weeks of approval of the change	General Public
Completion Report	ADB's website	ADB	within 2 weeks of circulation to the Board for information	General Public
Evaluation Reports	ADB's website	ADB	routinely disclosed, no specific requirements	General Public
Performance of the project with clearly defined information requirements and indicators, policy construction and reconstruction, business opportunities, bidding process and guidelines, results of bidding process, and summary progress reports of ongoing projects.	CSA's website	CSA	per project's quarterly progress report	General Public

X. ANTICORRUPTION POLICY

184. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.[43] All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project.[44]

185. To support these efforts, relevant provisions are included in the loan agreement and the bidding documents for the Project.

[43] Available at: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf
[44] ADB's Integrity Office web site is available at: http://www.adb.org/integrity/unit.asp

XI. ACCOUNTABILITY MECHANISM

186. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.[45]

[45] For further information see: http://www.adb.org/Accountability-Mechanism/default.asp.

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

187. All revisions/updates during the course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.