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February 8, 2019

Closing Date: Thursday, February 28, 2019 at 6:00 p.m.

FROM: Vice President and Corporate Secretary

Tajikistan - Rural Water Supply and Sanitation Project

Project Appraisal Document

Attached is the Program Appraisal Document regarding a proposed grant to Tajikistan for a Rural Water Supply and Sanitation Project (IDA/R2019-0015), which is being processed on an absence-of-objection basis.

Distribution:
Executive Directors and Alternates
President
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Report No: PAD3028

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED GRANT

IN THE AMOUNT OF SDR 41.80 MILLION
(US$ 58 MILLION EQUIVALENT)

TO THE

REPUBLIC OF TAJIKISTAN

FOR A

RURAL WATER SUPPLY AND SANITATION PROJECT

February 4, 2019

Water Global Practice
Europe And Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2018)

Currency Unit =	
SDR 0.719 =	US$1
US$ 1.391 =	SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Cyril E Muller
Country Director:	Lilia Burunciuc
Senior Global Practice Director:	Jennifer Sara
Practice Manager:	David Michaud
Task Team Leader(s):	Sana Kh.H. Agha Al Nimer, Farzona Mukhitdinova

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AF	Additional Financing
APA	Alternate Procurement Arrangements
CERC	Contingent Emergency Response Component
CPF	Country Partnership Strategy
CSC	Community Scorecard
DA	Designated Account
DFIL	Disbursement and Financial Information Letter
EBRD	European Bank for Reconstruction and Development
ESMF	Environmental and Social Management Framework
ESMPs	Environmental and Social Management Plans
FCV	Fragility, Conflict and Violence
FI	Financial Intermediaries
FM	Financial Management
GBAO	Gorno-Badakhshan Autonomous Oblast
GDP	Gross Domestic Product
GRS	Grievance Redress Service
GRM	Grievance Redress Mechanism
IDA	International Development Association
IFRs	Interim Financial Report
IPF	Investment Project Financing
JICA	Japanese Investment Cooperation Agency
M&E	Monitoring and Evaluation
MEWR	Ministry of Energy and Water Resources
MHM	Menstrual Hygiene Management
MIDP	Municipal Infrastructure Development Project
NDS	National Development Strategy
PDO	Project Development Objectives
POM	Project Operating Manual
PPSD	The Project Procurement Strategy for Development
RAPs	Resettlement Action Plans
RPF	Resettlement Policy Framework
RWSSP	Rural Water Supply and Sanitation Project
SBCC	Social and Behavior Change and Communications
SDC	Swiss Agency for Development and Cooperation
SERP	Socio-Economic Resilience Project
SUE “KMK”	State Unitary Enterprise “Khojagii Manziliyu Kommunali”
Tajikgosstandart	Agency for Standardization
VBNAS	Vakhsh Basin Needs Assessment Studies
VGWP	Vakhsh Group Water Pipeline
WASH	Water Access, Sanitation and Hygiene
WB	World Bank

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Tajikistan	Rural Water Supply and Sanitation Project	
Project ID	**Financing Instrument**	**Environmental Assessment Category**
P162637	Investment Project Financing	B-Partial Assessment

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
28-Feb-2019	30-Jun-2025

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The project development objectives (PDO) are to (i) improve access to basic water supply and sanitation services in selected districts; and (ii) strengthen the capacity of institutions in the water supply and sanitation sector.

Components

Component Name	Cost (US$, millions)
Water Supply and Sanitation Infrastructure Investments.	52.00

Institutional Strengthening and Capacity-Building of Water Sector Institutions	5.00
Project Management and Implementation Support.	2.00

Organizations

Borrower:	Ministry of Finance
Implementing Agency:	State Unitary Entity "Khojagii Manziliyu Kommunali" Municipal Infrastructure Development Project Management Unit under the Government of the RT

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	59.00
Total Financing	59.00
of which IBRD/IDA	58.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	58.00
IDA Grant	58.00

Non-World Bank Group Financing

Counterpart Funding	1.00
Borrower/Recipient	1.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
National PBA	0.00	58.00	0.00	58.00
Total	**0.00**	**58.00**	**0.00**	**58.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Annual	0.30	7.68	10.60	10.64	10.74	10.79	7.25
Cumulative	0.30	7.98	18.58	29.22	39.96	50.75	58.00

INSTITUTIONAL DATA

Practice Area (Lead)

Water

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?	
a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	High

7. Environment and Social	Moderate
8. Stakeholders	Substantial
9. Other	Substantial
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04		✓
Forests OP/BP 4.36		✓
Pest Management OP 4.09		✓
Physical Cultural Resources OP/BP 4.11		✓
Indigenous Peoples OP/BP 4.10		✓
Involuntary Resettlement OP/BP 4.12	✓	
Safety of Dams OP/BP 4.37		✓
Projects on International Waterways OP/BP 7.50	✓	
Projects in Disputed Areas OP/BP 7.60		✓

Legal Covenants

Sections and Description

Not later than June 30, 2021, the Recipient shall (i) establish, and thereafter maintain, water utilities, for the Selected Districts under the Project, in a manner acceptable to the Association, and as further described in the

Project Operating Manual, all equipped with adequate operational and financial systems, acceptable to the Association; and (ii) develop a plan, satisfactory to the Association, to support the sustainability of the said water utilities.

Conditions

Type	Description
Effectiveness	The Project Implementing Entity has adopted the POM, in form and substance satisfactory to the Association;
Type	Description
Effectiveness	The Project Implementation Agreement, satisfactory to the Association, has been entered into between the Project Implementing Entity and the PMU.

I. STRATEGIC CONTEXT

A. Country Context

1. **Tajikistan has geographically and climatologically diverse conditions and a landscape ranging from 100 m and 7,500 m above the sea level.** Tajikistan is a landlocked low-income country[1] with mountains covering over 90 percent of its surface. About 73 percent of the population is rural, heavily reliant on agriculture for livelihoods. While the mountainous areas of the country are sparsely populated, approximately 8 million of Tajikistan's 9 million[2] population resides in the valleys. These densely populated areas divide the country into four regions (*viloyat*) and 58 districts (*nohiya*)[3]. The Khatlon region is the most populated area of Tajikistan after Dushanbe, largely spread across the Vakhsh and Kofarnihon river basins.

2. **In the last decade Tajikistan's economy has sustained robust growth rates despite its heightened vulnerability to uncertain external environment, shrinking fiscal space, and rising debt service obligations.** Official statistics suggest that the economy grew on average by 7.7 percent per year between 2000 and 2017, and monetary poverty declined from 83 percent[4] to an estimated 29.5 percent[5] over the same period. In absolute terms, poverty in Tajikistan remains a largely rural phenomenon with about 2.2 million of rural population living below the national poverty line. Despite the impressive poverty reduction results observed before 2008–2009, the poverty growth elasticity has declined[6] since, as gains have not been inclusive, and the growth has been mainly sustained due to recovery in remittances and domination of public investments. The economy continues to face downside risks, as observed in the sharp decline in domestic private investments and foreign direct investments and increasing fiscal constraints.[7]

3. **The country's progress in reducing multidimensional poverty, malnutrition, and stunting has still a long way to go.** Recent progress on poverty reduction has varied for urban and rural areas and across the regions with the Gorno-Badakhshan Autonomous Oblast (GBAO), Khatlon, and Districts of Republican Subordination (DRS), typically having poverty rates above the national average (39.4 percent in GBAO, 35.8 percent in Khatlon, and 37.3 percent in DRS).[8] Limited access to water and sanitation is one of the main contributors to nonmonetary poverty in the country. Inadequate water and sanitation conditions also represent a key problem in micronutrients absorption and better nutrition. More than 20 percent of children

[1] With a per capita GNI at US$990 in 2017, Tajikistan is an IDA-only country that, in FY19, has been just below the IDA threshold for low income. World Bank Development Indicators accessed at *https://datacatalog.worldbank.org/dataset/world-development-indicators*.
[2] Official data of the Agency on Statistics under the Government of Tajikistan (GoT), 2017.
[3] There are in total 62 districts in total in the country, including 4 districts of Dushanbe city. Official data of the Agency on Statistics under the GoT, 2017.
[4] Official data of the Agency on Statistics under the GoT, 2017.
[5] Gyulumyan, Gohar, and Bakhrom Ziyaev. 2018. *Changing Regional Environment: Critical to Capitalize*. Washington, DC: World Bank Group.
https://hubs.worldbank.org/docs/imagebank/Pages/docProfile.aspx?nodeid=30275861
[6] Gyulumyan, Gohar, Bakhrom Ziyaev. 2018. *Changing Regional Environment: Critical to Capitalize*. Washington, DC: World Bank Group. *https://hubs.worldbank.org/docs/imagebank/Pages/docProfile.aspx?nodeid=30275861*. During the years of 2004–2007, each percentage point of economic growth led to a 0.7 percent reduction in poverty, while during recent years (2014–2017), each percentage point of economic growth resulted in a reduction of poverty of only 0.4 percent.
[7] Gyulumyan, Gohar, Bakhrom Ziyaev. 2018. *Changing Regional Environment: Critical to Capitalize*. Washington, DC: World Bank Group. *https://hubs.worldbank.org/docs/imagebank/Pages/docProfile.aspx?nodeid=30275861*.
[8] Tas, Emcet Oktay, Robertus A. Swinkels, Alisher Rajabov, Sana Kh.H. Agha Al Nimer, and William Hutchins Seitz. 2017. *Glass Half Full: Poverty Diagnostic of Water Supply, Sanitation, and Hygiene Conditions in Tajikistan*. Washington, DC: World Bank Group.

under age five are stunted.[9] Findings of the recent World Bank study on potential drivers of stunting risk in Tajikistan indicate that the dangers are concentrated in the poorer, rural parts of the country and are the highest among the children with several overlapping risk factors, identified as inadequate availability and diversity of food, poor access to clean water and sanitation, and suboptimal maternal and child caring practices.[10]

4. **Tajikistan is exposed to climate change hazards such as extreme temperature and droughts as well as earthquakes, posing the greater risk of high impact of a low-probability event.**[11] Only 5.6 percent of the annual water withdrawals are used for domestic consumption, with the irrigation sector being the largest water user at 91 percent. Reliable availability of water resources per capita may be jeopardized in the long term as climate change projections assume increased risks of higher temperatures, droughts, and floods and in, overall, less predictable climate patterns. The temperatures are projected to further increase by 2°C by 2050, especially in the lower altitudes, with winters expected to be drier and summers wetter, which could result in both increased floods and droughts due to changes in the snow cover and accelerated snowmelt. In such circumstances, any interventions aimed at improving water efficiency will increase adaptive capacity and resilience to these risks in the targeted areas.

B. Sectoral and Institutional Context

5. **Observed gains in water access have been largely a consequence of expansion and improvement of services in urban areas.** Tajikistan has made progress in increasing access to improved water services from 55 percent of the population in 2000 to 74 percent in 2015, which, however, was insufficient for the country to meet the Millennium Development Goals (MDGs) on drinking water.[12] However, findings of the Poverty Diagnostic of Water Access, Sanitation, and Hygiene (WASH) Conditions in Tajikistan (WASH Poverty Diagnostic) reveal that the urban areas have benefitted disproportionately from this progress. In 2016, 87 percent of urban households had access to an improved water source on premises, as opposed to only 36 percent of rural households.[13] The diagnostic also showed that 21 percent of the rural population still rely on surface water as their main drinking water source. Inadequate and unequal access to water supply and sanitation is estimated to cost the country about US$275 million per year (or 3.9 percent of GDP).[14]

6. **The progress in access to improved water sources has also been geographically uneven.** Access to improved drinking water sources and to sanitation are among the most severe and unequally distributed services in the country. The WASH Poverty Diagnostic found access to improved water sources was the lowest in the GBAO and Khatlon regions and the highest in Dushanbe. The quality and continuity of WASH services

[9] Lavado, Rouselle F., William Hutchins Seitz, and Alessia Thiebaud. 2017. *Childhood Stunting in Tajikistan: Quantifying the Association with Wash, Food Security, Health and Care Practices*. HNP Discussion Paper. Washington, DC.
[10] Lavado, Rouselle F., William Hutchins Seitz, and Alessia Thiebaud. 2017. *Childhood Stunting in Tajikistan: Quantifying the Association with Wash, Food Security, Health and Care Practices*. HNP Discussion Paper. Washington, DC.
[11] Tajikistan Climate Country Profile. World Bank Open Data. Accessed at *http://pubdocs.worldbank.org/en/871081485186894798/tajikistan-low-res.pdf*.
[12] World Health Organization (WHO) Monitoring Data
[13] Tas, Emcet Oktay, Robertus A. Swinkels, Alisher Rajabov, Sana Kh.H. Agha Al Nimer, and William Hutchins Seitz. 2017. *Glass Half Full: Poverty Diagnostic of Water Supply, Sanitation, and Hygiene Conditions in Tajikistan*. Washington, DC: World Bank Group. *https://hubs.worldbank.org/docs/imagebank/Pages/docProfile.aspx?nodeid=27992107*
[14] *Central Asia Water Series – Volume 2: Economic Impact Assessment of Inadequate Water Supply and Sanitation Services in Central Asia*, World Bank, June 2016 (draft analytical report). Comparable costs of poor access to WASH services in other countries in the region are significantly lower: 0.38 percent of GDP in Kazakhstan, 1.79 percent in Kyrgyz Republic, 0.94 percent in Turkmenistan, and 1.24 percent in Uzbekistan.

outside Dushanbe remain poor; the population with the poorest WASH conditions is largely concentrated in the districts with high poverty rates, particularly in Khatlon in the southwest and the Sugd region in the north of the country.

7. **Progress in access to water supply has been largely driven by improvements in lower tiers of service levels.** Even when households have access to an improved water source, they often face problems with the reliability, quality, and continuity of the service. One in four households in Tajikistan reported to be unable to access water from the main drinking water source in sufficient quantities when needed. The quality of water is also often a problem with only 31 percent of the rural households having access to safely managed water supplies. The Sustainable Development Goal (SDG) framework also calls for attention to drinking water, sanitation, and hygiene (WASH) beyond the household, and particularly in the school setting, which is crucial to the health and education of children.[15] Hence, the shift from the MDGs to the much more demanding SDGs poses a real challenge for the country (Box 1.1).

Box 1.1. Definition of drinking water services under the SDG framework

The new SDG indicators established by the WHO/UNICEF Joint Monitoring Program (JMP) build on the established, MDG-era improved/unimproved facility type classification ladder, thereby providing continuity with past monitoring, and introduce new rungs with additional criteria relating to service levels.

Improved drinking water sources are those which, by nature of their design and construction, have the potential to deliver safe water. include piped water, boreholes or tubewells, protected dug wells, protected springs, and packaged or delivered water.

The JMP subdivides the population using improved sources into three groups according to the level of service provided – limited, basic and safely managed. If water collection from an improved source exceeds 30 minutes, it will be categorized as a limited service. Basic drinking water services is defined as drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip. In order to meet the criteria for a safely managed drinking water service, people must use improved source meeting three criteria: (i) it should be accessible on premises, (ii) water should be available when needed, and (iii) the water supplied should be free from contamination.

Source: WHO/UNICEF Joint Monitoring Program (JMP) for Water Supply, Sanitation and Hygiene (washdata.org).

8. **Women and children disproportionally carry the responsibility for water collection, drinking water management, and caretaking of the sick (as poor access and unreliable water supply and sanitation conditions are associated with higher risk of diarrhea, stunting, and wasting).** The WASH Poverty Diagnostic survey indicated that households spent an average of more than 1 hour per day to fetch water from sources located outside of their homes. In 75 percent of the households, women and girls are responsible for water collection. This is a physically challenging exercise, particularly in winter time, as over 80 percent of water collection trips take place on foot. The survey also indicated that about 90 percent of the rural population was reliant exclusively on outdoor pit latrines.[16] Unsafe WASH conditions enable the transmission of enteric

[15] Core questions and indicators for monitoring WASH in schools in the SDGs. United Nations Children's Fund (UNICEF) and WHO, 2016

[16] Tas, Emcet Oktay, Robertus A. Swinkels, Alisher Rajabov, Sana Kh.H. Agha Al Nimer, and William Hutchins Seitz. 2017. *Glass Half*

pathogens that can cause diarrhea and lead to chronic problems in absorbing nutrients.[17] In the harsh climatic realities of the country, these conditions represent significant health risks for the rural population, especially for children, as evidenced by diarrhea being the second leading cause of death in children ages 1–59 months, accounting for 16 percent of all deaths in this age group.[18] The WASH Poverty Diagnostic survey also found the prevalence of health problems related to carrying heavy water buckets, with 33 percent of the respondents reporting lower back pain and musculoskeletal problems.

9. **Water supply and sanitation coverage in social institutions remains low.** The same set of challenges restricting access to water and sanitation services remain relevant for social institutions, for example, schools and healthcare facilities. Only 50 percent of rural schools have access to piped water. A large proportion of schools at the village levels and primary schools use open sources of water (irrigation channels, reservoirs, and ponds with untreated water) for drinking purposes compared to schools in regional centers (oblasts) and basic schools. According to the National School WASH Survey, while the majority of schools reported having an improved toilet facility, most of these improved facilities (59 percent) consist of pit latrines with slabs,[19] and conditions of these facilities also vary significantly. Many schools have no access to funds for sanitation and hygiene activities, resulting in poor maintenance of water supply and sanitation (WSS) facilities[20]. Moreover, many schools in rural areas cannot provide their students with access to separate toilet facilities for boys and girls (19 percent), or special toilets for the youngest (92 percent) or disabled children (98 percent), which may affect school attendance.

10. **Tajikistan's water sector has suffered from a set of challenges in the past decades.** The sector is largely underfunded and dependent on international development support to fill in the existing financing gap in capital investments.[21] Existing infrastructure, predominantly built before the 1980s, is now in poor condition and very inefficient, with technical water losses estimated on average at 60 percent.[22] The high cost of operating and maintaining water supply infrastructure also poses a significant fiscal burden, as revenues cover only a small share of the system's operation and maintenance (O&M) costs, resulting in a vicious circle of low service quality, low willingness to pay, underfunded operating budgets, and lack of investment funding. The institutional framework of the sector is fragmented, and specific responsibilities are often ill-defined. The current structure and definition of roles and responsibilities in the water and wastewater sectors reflects the legacy of Soviet-era institutions combined with newly created institutions that have not transformed or adapted the roles and responsibilities in the sector.

11. **Reform of the water sector has been initiated in the country.** The GoT has adopted the 2016–2025 Water Sector Reform Program that aims to ensure (a) the use of integrated water resources management (IWRM) with river basins as the organizing principle in the sector, (b) regulatory policies to ensure effective coordination between different stakeholders and enable the transition to IWRM, and (c) the establishment of

Full: Poverty Diagnostic of Water Supply, Sanitation, and Hygiene Conditions in Tajikistan. Washington, DC: World Bank Group.

[17] WHO (World Health Organization). 2014. *Preventing Diarrhea through Better Water, Sanitation and Hygiene: Exposures and Impacts in Low- and Middle-income Countries*. Geneva. WHO.

[18] Liu, L., S. Oza Hogan, and J. Perin. 2015. "Global, Regional and National Causes of Child Mortality in 2000–2013 with Projections to Inform Post 2015 Priorities: An Updated Systematic Analysis." *The Lancet* 385 (9966): 430–40.

[19] Liu, L., S. Oza Hogan, and J. Perin. 2015. "Global, Regional and National Causes of Child Mortality in 2000–2013 with Projections to Inform Post 2015 Priorities: An Updated Systematic Analysis." *The Lancet* 385 (9966): 430–40.

[20] Most recent estimates from the Joint Monitoring Program (JMP) 2018 using SDG-definitions show 73 percent of rural schools having basic drinking water, 38 percent with basic sanitation, and 20 percent with basic hygiene

[21] Tajikistan Water Public Environmental Expenditure Review of the United Nations Development Program (UNDP) estimated that in 2014 70 percent of total public expenditure in the water sector was funded through donor funding.

[22] Water Sector Reform Program, 2016–2025.

transparent and accountable water governance institutions responsible for policy and strategic guidance. Establishment of the Ministry of Energy and Water Resources (MEWR) in 2013 was a first step in this reform process.

12. **Institutional setup of the water supply and sanitation sub-sector includes a range of stakeholders with overlapping or conflicting functions:**

- The MEWR is assigned as a leading institution in the water sector and the authorized organization for the implementation of the water sector reform in the country. The ministry is responsible for the preparation of the National Water Strategy; development of national objectives for water resources development, planning, protection, and conservation; and setting the limits for water allocation to different users.
- The State Unitary Enterprise "Khojagii Manziliyu Kommunali" (SUE KMK) is the owner on behalf of the GoT and the operator of existing water and sanitation systems in the country. The SUE KMK draws its mandate from the Drinking Water Law of 2010 and Government Decree #679 from December 31, 2011. Before the aforementioned decree of the President of the Republic of Tajikistan, another critical step was taken on institutional changes. State Enterprise "Main Department of *Tojikobidehot*" responsible for rural water supply was transferred from the management structure of the former Ministry of Land Reclamation and Water Resources to the SUE KMK in May 2012.[23]
- The Committee for Environmental Protection is responsible for issuing water use permits and licenses and setting up and ensuring compliance with environmental requirements for planning, design, construction, and commissioning of the drinking water supply and sewerage infrastructure.
- The Ministry of Health and Social Protection (MoHSP), through the Sanitary and Epidemiological Services Department, implements state monitoring in the field of sanitary and epidemiological safety of the population, ensures compliance with sanitary rules, monitors protection of water sources, and monitors contamination level and wastewater treatment. Under this ministry, the National Healthy Life Style Centre carries out hygiene promotion and awareness-raising activities.
- The Agency for Standardization (*Tajikgosstandart*), Metrology, Certification, and Trade Inspection carries out monitoring and supervision on compliance with technical standards and certification requirements for drinking water.
- The Committee on Architecture and Construction is responsible for the development of and compliance with construction regulations for the location, design, construction, renovation, and commissioning of drinking water supply systems.
- The main Department of Geology is responsible for monitoring and supervision of exploration of groundwater sources for drinking water.
- The State Agency of Anti-Monopoly Monitoring and Entrepreneurship Support endorses water supply and wastewater tariffs, connection fees, and other charges.
- Local executive bodies of state power including administrative divisions[24] that support socioeconomic development initiatives of towns and villages, adopt measures for improving the living conditions of the

[23] GoT Resolution # 247, dated May 18, 2012.
[24] The three administrative levels are state, districts (*khukumats*), and *jamoats*, as the lowest level of local self-government. *Jamoats* consist of several *mahallas* (hamlets and neighborhoods).

population, and ensure adherence to the sanitary-epidemiologic norms for drinking water and environmental protection of water sources.

13. **Institutional responsibilities over delivery of water supply and sanitation services in the country, especially in rural areas, are weakly defined.** At the district level, existing centralized water supply systems at the small urban/semi-urban and rural settlements[25] largely inherited from the Soviet era are operated by *Vodokanals* and/or *Tojikobidehot* branches; in total, there are 83 entities subordinate to the SUE KMK[26] delivering water services to the population. These organizations formally established at the district levels as stand-alone state entities have double reporting lines to the SUE KMK and local *khukumats*. *Vodokanals* typically serve district centers, small towns, and surrounding peri-urban areas. The water utilities, servicing the small towns charge a nominal tariff of TJS 0.83 per cubic meter for the provided water supply services. Generated revenues are low and largely cover only the salary of staff, electricity bills, consumables, and taxes, which on average represent around 87 percent of the total expenditures. Since 2012, the main department *Tojikobidehot*, responsible for service provision in selected rural areas, has been subsumed under the SUE KMK. However, territorial boundaries between urban and rural areas are rather blurred. The current institutional structure of the SUE KMK at the district level is suboptimal as the service area of the existing outdated systems operated by *Tojikobidehot* excludes a large part of the rural areas; hence people living outside of the service areas of *Vodokanals* and *Tojikobidehot* are forced to develop their own ad hoc solutions.

14. **A number of small-scale schemes have been constructed with the support of development partners with their operation delegated to the communities themselves through the formation of Water User Associations (WUAs)/Water Consumers Groups.** Experience of these schemes shows that communities require ongoing technical assistance to carry O&M to ensure sustained services. A technical review of several schemes in the Khatlon region found that many drinking water systems established with donor funding at the community level were in hilly/mountainous villages.[27] The remote location of these schemes and the lack of proper backup arrangements agreed with the existing public utilities has resulted in major disruptions of water supply services mainly caused by (a) unavailability of spare parts; (b) limited local technical knowledge and skills; (c) poor source sustainability; and (d) limited community management, willingness to pay, and financial management (FM). There are concerns over accountability and sustainability of the community-based approach to WSS, which are widely recognized and require a more tailored approach to ensure sustainability of investments in rural areas.[28]The high rate of nonfunctioning or partially functioning systems in rural areas underscores this.[29]

15. **The sector relies heavily on international funding to fill the existing financing gap with most of the funding being allocated toward the irrigation and IWRM agenda.** The total donor commitments in the water

[25] According to the Constitutional Law on "the order of resolving questions regarding administrative-territorial composition of Tajikistan," urban settlements (towns and townships) are defined as populated settlements on whose territories important economic facilities, as well as educational institutions, health and sociocultural establishments, trade organizations, organizations of public catering, communal services, with the population of not less than 2,000 people, are present. Settlements that fall outside the administrative centers are considered rural.

[26] The SUE KMK is not formally responsible for the operation of water supply and sanitation in six major urban centers (Dushanbe, Khujand and some other cities where urban authorities are managing and budgeting for water utilities). Source: Target indicators and action plan in the context of water and health protocol in the Republic of Tajikistan, 2018.

[27] Task team's assessment of the donor-funded village schemes using community-based institutions. September 2018.

[28] Sustainability of Donor-funded Rural Water Supply Projects in Tajikistan (2014) accessed at http://www.tajwss.tj.

[29] Program for the development of housing and communal services of the Republic of Tajikistan for the period 2014–2018. Approved by Government Decree 506, 2014.

sector in 2016 were estimated at 75–85 percent of the total planned financing.[30] Cumulative investments (for the past three years) in the water supply sector accounted for about US$146 million, largely provided by the European Union (EU)/Swiss State Secretariat for Economic Affairs (SECO)/European Bank for Reconstruction and Development (EBRD) lending for urban water supply (US$89 million). The rural water supply commitments of US$47 million are spread over 21 projects of which more than half are of extremely small size (with a project value of US$1 million or less). These rural projects have covered half of the country districts with most of the projects concerned with rehabilitation, reconstruction, water governance, and social accountability. The Swiss Agency for Development and Cooperation is the largest donor to the rural water supply sector with a total contribution of around US$30 million over the last three years. The Japan Investment Cooperation Agency has been largely involved in the sector focusing on complete rehabilitation of water supply infrastructure in Panj and Hamadoni districts and potentially expanding to Khuroson district covering both semi-urban and rural areas. Other development partners include the Asian Development Bank (ADB), EU, Aga Khan Development Network, FinWaterWEI, UNDP, Welthungerhilfe, Oxfam and United States Agency for International Development (USAID). In the absence of a National Water Supply and Sanitation Investment Program, efforts of the donors in the rural water supply sector have been very fragmented and require stronger coordination from the Government.

C. Sector Policy and Strategy

16. **While significant progress has been made on improving water resources management as guided by the Water Sector Reform Program 2016–2025, progress on actual reshaping of the water supply subsector has been largely subdued.** The current national program on improving access of population to drinking water does not provide a strategic vision on the future development of the sector, priorities for investments, targets to be achieved, and required resources. There are a number of strategic documents that are expected to lay a foundation for the further development of the sector as the country committed to the SDGs and include (a) the National Development Strategy (NDS) (2015–2030), which identifies food security and adequate nutrition as one of the national priorities with universal access to drinking water access and sanitation considered essential for national and regional development; (b) draft Water Code and Law on Drinking Water and Wastewater, laying a legal foundation for the sector and redefining key roles and responsibilities of the line agencies; (c) draft National Water Sector Strategy for 2019–2030, which is expected to set development targets for the water sector in general for the period until 2030; and (d) anticipated multi-sectoral Nutrition Plan for the Republic of Tajikistan, which aims to develop a more coordinated approach to the design of nutrition-specific interventions (that is, 'direct' nutrition interventions), improving the quality and coverage of nutrition-sensitive interventions (that is, interventions that address underlying causes of undernutrition). The results of these initiatives are yet to be observed.

17. **It is within this sector and institutional context that the first large World Bank operation solely focused on rural water supply and sanitation challenges of the country has been defined.** The proposed project, through strategic infrastructure and institutional support activities, will assist the GoT to increase access to water supply services and at the same time develop, implement, and institutionalize sustainable models for improved rural water supply and sanitation services. The project will also increase the planning and coordination capacity of the policy and regulatory water sector institutions at the national and local levels. The project responds to strong demand from the Government to support the rural development agenda and has been developed in close consultation with other donors based on extensive poverty and sector analytics.

[30] UNDP. 2016. Tajikistan Water Public Environmental Expenditure Review; Water Sector Reform Program, 2016–2025. The Government of the Republic of Tajikistan.

D. Relevance to Higher Level Objectives

18. **The proposed project will contribute to the achievement of higher-level objectives of the GoT.** The Government's NDS for the period till 2030 focuses on providing universal access to basic social services, including water supply. This strategy reinforces the focus on rehabilitating rural social and economic infrastructure to contribute to agricultural productivity, poverty reduction and the expansion of the middle class. Policy reforms to increase incentives for private sector investment together with higher levels of public investment in infrastructure and human capital are considered critical to achieving this overarching objective. The project will contribute to achieving the GoT goal of ensuring universal access of the population to safe drinking water and sanitation.

19. **The project is likewise fully aligned with the new FY19– FY23[31] World Bank Country Partnership Framework (CPF).** The World Bank's new CPF, currently under preparation, is fully aligned with the Government's NDS. This proposed project is linked to two of the CPF pillars. The first pillar is focused on "investing in people and strengthening social cohesion." Improving access to water and drinking water services in rural areas will help improve social inclusion and contribute to poverty reduction (Pillar 1). Moreover, the project will contribute to improving the effectiveness of public institutions (Pillar 2) in rural Tajikistan through the capacity-building and institutional strengthening component.

20. **By addressing inadequate access to basic services in poor rural areas, the project will support the World Bank's twin goals of ending extreme poverty and boosting shared prosperity.** The project will contribute to reducing poverty through the prevention of water-related diseases, control of health and associated out-of-pocket expenses, increase in cognitive development, reduction of mortality rates, and educational attainment, particularly for women, children, and vulnerable populations, while generating important time savings to rural populations without access to improved water services. The project will also directly contribute to the reduction of multidimensional poverty, addressing indicators related to services and infrastructure. The impact of the project is expected to be even more pronounced, as the interventions target districts of the Khatlon region, which score the worst in access to piped water and access to sewage with at least three-fourths of the population being deprived along these indicators.[32]

21. **The project will also contribute toward the SDGs calling for universal and equitable access to safe and affordable drinking water, sanitation, and hygiene by 2030.** Access to safely managed water services will provide poor households with better health outcomes, especially if complemented with access to basic sanitation and hygiene. This will allow them to undertake more productive activities, while enhancing their resilience to climate change by increasing the use of scarce water resources more optimally. Additionally, by ensuring that water supply facilities and services are climate resilient, the project will also improve government capacity to respond effectively to disasters and emergencies in line with the Intended Nationally Determined Contribution of the Republic of Tajikistan under the UNFCC (Paris Climate Agreement)[33]. The scope of Tajikistan's commitments includes climate resilience and adaptation measures related to water resource management such as the planning and development of green infrastructure in water systems and new methods and planning for water resource management as well as dissemination of knowledge and experience on climate

[31] The new CPF is expected to be approved by the Board in Q3 of FY2019.
[32] World Bank (2017) based on Census 2010.
[33] Republic of Tajikistan: Intended Nationally Determined Contribution (INDC) towards the achievement of the global goal of the UN Framework Convention on Climate Change (UNFCCC), Available at: *https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Tajikistan%20First/INDC-TJK%20final%20ENG.pdf*.

change at various levels. The design of water facilities will ensure that climate-smart considerations are built in, including energy efficiency measures.

II. PROJECT DESCRIPTION

22. **The Rural Water Supply and Sanitation Project (RWSSP) is the first large-scale World Bank-funded intervention targeting improvements of water supply and sanitation services in the Khatlon region, which is home to 2.5 million people residing in rural areas.** The region is facing significant challenges with regard to (a) clear delineation of responsibilities in rural water provision,[34] (b) very low rates of access to improved water services, and (c) high poverty ratios. RWSSP activities will target seven districts—Vakhsh, Levakand (Sarband), Kushoniyon (Bokhtar), Dusti (Jilikul), Balkhi (Rumi), Jayhun (Qumsangir), and Vosse. Preparatory feasibility assessments have been completed for all the listed districts, as well as Danghara and Temurmalik districts using an Europe and Central Asia: Capacity Development Fund (ECAPDEV) recipient-executed grant. Before the project appraisal, the arrangements for investing in water supply improvements in Danghara and Temurmalik districts were discussed and taken up by the Islamic Development Bank (IsDB).

23. **Water supply systems of the project areas need a prompt upgrading to ensure better services while a number of *jamoats* have no service at all.** To address the sectoral challenges, the proposed project will focus on (a) developing access to water supply services through programs for rehabilitating existing and constructing new water service connections; (b) providing access to sanitation facilities in social institutions (schools, kindergartens, and rural health centers) and handwashing facilities, combined with school educational activities and community-wide behavior change communication campaigns; and (c) enabling national and local sectoral institutions to deliver their mandates in the provision of water supply services.

A. Project Development Objective

PDO Statement

24. The project development objectives (PDOs) are to: (i) improve access to basic water supply and sanitation services in selected districts; and (ii) strengthen the capacity of institutions in the water supply and sanitation sector.

PDO Level Indicators

25. Key indicators to measure progress toward achievement of the PDO include

- Number of people provided with access to basic drinking water services under the project (disaggregated by gender),
- Number of people provided with access to basic sanitation services through social institutions (schools and rural healthcare facilities),[35]
- National Water Supply and Sanitation Program for 2021–2030 developed, endorsed by the Government and its implementation started and

[34] At national level, no clear roadmap for reforming the rural water sector has been articulated, and at regional level no clear delineation of authorization for service provision exists.
[35] The indicator is harmonized with the core indicators for monitoring WASH in schools and health care facilities in the SDG. WHO/UNICEF 2016.

- Percentage of targeted utilities adopting improved financial, accounting and billing systems and practices in the project area.

26. In addition, intermediate indicators have been identified to measure the more specific infrastructure and institutional objectives expected to result from each component (see section V. Results Framework and Monitoring).

B. Project Components

27. The RWSSP has been structured along three components. Component 1 will finance water supply and sanitation infrastructure investments in the selected districts. Component 2 will focus on (a) support to the GoT in advancing the water sector reform and investments planning; (b) support to water systems operation to enable sustainable service delivery; (c) community mobilization and behavior change activities related to water services, sanitation, and hygiene; and (d) activities to enable behavior change and communication at schools and health centers to improve hygiene practices and health outcomes. Component 3 will finance the costs of project management and implementation support. Targeted water utilities (*Vodokanals* and *Tojikobidehot* branches) or their successors will participate in the project implementation from the initial stage to the completion. Dedicated technical staff of these water utilities will be nominated and trained to (a) ensure compliance with tasks related to supervision of works, (b) participate in the implementation of the community development (mobilization) program, and (c) participate in other tasks envisaged under the project. A summary of activities to be financed under each component is provided below, while more details can be found in annex 2.

Component 1 - Water Supply and Sanitation Infrastructure Investments (US$52.00 million)

28. **Subcomponent 1.1: Investments in Water Infrastructure (US$42.6 million).** This subcomponent will finance infrastructure solutions that will be simple and robust and will include climate resilience measures. This subcomponent will finance rehabilitation of existing water supply systems in the targeted project areas and their expansion where possible, as described in annex 2. The water supply system would include water treatment plant, raw water transmission line, pumping stations, and distribution systems. The level of service (standpipe, yard connection, and house connection) will be based on the characteristics of the served areas in terms of density and proximity of the houses. The subcomponent will support the SUE KMK and the Agency on Construction and Architecture in the development of standard engineering designs, including low-cost optimized solutions, for proposed single-village water supply systems.

29. Appraisal of the existing conditions and technical assessment of other water supply options conducted under the ECAPDEV-financed feasibility study guided prioritization of selected water systems and required infrastructure. In areas where water system networks will be constructed, water utilities will take responsibility for individual metering for each connection, taking into account pro-poor measures agreed under the project. Quality assurance and technical supervision of works will be carried out by the supervision team of the project management unit (PMU). This component will also finance training on O&M to ensure compliance with the relevant operating manuals, rules, and procedures into day-to-day activities of the targeted water utilities or their successors.

30. This subcomponent will address the very basic needs for drinking water supply in the targeted areas benefitting up to 400,000 people.

31. **Subcomponent 1.2: Investments in WASH conditions of social institutions (US$9.4 million).** This subcomponent will fund infrastructure investments for participating social institutions[36] and will include (a) provision of water supply connections or other solutions (rainwater harvesting, wells, water heaters using solar panels, and water filters); (b) retrofitting, replacement, or construction of sanitation facilities and handwashing basins and installation of hygiene rooms within their premises, where possible.

32. This component will support the Ministry of Education and Science (MoES) in the review of available standard engineering designs for school sanitation. These interventions combined with WASH extracurricular activities will focus on the sustained maintenance and use of facilities and regular practice of hygiene behaviors. A detailed description of activities envisaged under the subcomponent is provided in annex 2.

33. **Results-based incentive grants.** In addition, this component will finance a pilot with result-based incentive grants targeted at poor households to gain access to a basic sanitation facility, complimentary to community behavior change campaign. The incentive scheme will be implemented as a small-scale pilot and follow an adaptive learning approach. It aims to overcome poor households' affordability gap and stimulate self-investment in upgrading their sanitation facilities.

34. **WASH education in schools.** The project will implement comprehensive extracurricular[37] activities engaging pupils, school staff and management, and parents. This will promote the adoption of improved hygiene behaviors through daily routines and create mechanisms for O&M of the WASH facilities and for financing of consumables such as soap, toilet paper, and cleaning materials. The WASH education program will include Menstrual Hygiene Management (MHM) by integrating currently approved educational materials and improving those where necessary in close coordination with the MoES and UNICEF.[38] The project will work through the zonal offices of the National Centre of Healthy Lifestyle,[39] and staff in district branches will be trained to support teachers and school WASH committees. The project will (a) update training manual for promotion of WASH behaviors in schools (covering climate-smart considerations) including MHM; (b) carry out training of trainers; (c) support staff and school WASH committees in the implementation of a range of activities;[40] and (d) monitor the WASH-in-school program through baseline and end line assessment on knowledge, attitudes, and practices for hygiene behaviors.

Component 2 - Institutional Strengthening and Capacity-Building of Water Sector Institutions (US$5 million)

35. This component will finance goods, services, and training to support a range of institutional strengthening and capacity-building activities (also related to social mobilization and WASH behavior change interventions) to be implemented at the local and national levels. This component will be implemented in close cooperation with government entities (the Ministry of Health and Social Protection, MoES, and others) and development partners, for example, USAID, UNICEF, and so on.

(a) National-level Agencies

[36] Social institutions are defined as primary and secondary schools, early childhood development (ECD) centers, and health centers and rural health centers.
[37] The in-class curriculum activities under the 'Life Skill' program also include education on WASH and personal hygiene in Grade 3 and Grade 4. This primary school curriculum has been approved in 2016.
[38] It is proposed to review and expand existing MHM materials in collaboration with UNICEF and the MoES.
[39] Under the MoHSP.
[40] Such as establishment of school WASH committee (including parent-teacher organizations), setting up of girls WASH club, development of O&M plan for WASH costs of consumables learning activities (information corner, assemblies, competitions, celebrations, and so on), introduction of handwashing routines and participatory monitoring.

36. This subcomponent will finance technical assistance to support the development of water sector policies and strategies and instruments for water sector management. This subcomponent will include strategic support for the water and wastewater sector in the country through the strengthening of the policy dialogue and the development of the National Water Supply and Sanitation Program for 2021–2030. The subcomponent will support a review of the existing tariff-setting methodologies and subsidy policies, alternative financing options for the sector, sector governance, benchmarking, and accountability mechanisms and other sector-related instruments. The subcomponent will also support improvements of the financial and operational performance of the SUE KMK and its subordinate organisations, as described in annex 2.

37. In addition, the project will support the efforts of the MEWR and the SUE KMK to advance the implementation of the water sector reform through improving sector performance, service delivery, quality and availability of sector data, and other related regulations at the national level.

(b) District/Local-level agencies (Water Utilities and Jamoats):

38. This subcomponent will assess the existing institutional arrangements for water supply services at the district level, including the capacity of the existing organizations subordinate to the SUE KMK, and implement the most technically viable and cost-efficient structure for the delivery of services, which is expected to serve as a pilot for a broader sector-wide approach in the future.

39. This subcomponent will also support strengthening the technical, operational, and FM capacity of the targeted water utilities in the project area. In addition, it will include the enhancement of social accountability mechanisms in the utilities aiming to improve services and performance, innovative social mobilization, and communication campaigns and activities aimed at improving WASH behaviors among the population.

Component 3 - Project Management and Implementation Support (US$2.0 million)

40. This component will finance the costs of (a) coordinating and implementing the project; (b) preparation of preinvestment studies and designs; (c) project monitoring and evaluation (M&E) activities and implementation of baseline and end line surveys; (d) preparation of annual project audits, and (e) project Grievance Redress Mechanism (GRM) allowing for a water utilities customer complaints registration system. The Component will finance incremental operating costs of the trained district level staff of the National Heathy Life Centers involved in delivering trainings and social mobilizations activities as described under the Component 2. The project was supported by a grant from ECAPDEV for the development of the feasibility studies and detailed engineering designs for water supply in the project area. This work will be further verified and continued as appropriate. The component will finance payments under Component 3 made for the project preparation purposes before the date of signing the Financing Agreement but on or after August 17, 2018 for Eligible Expenditures approved by the World Bank on September 8, 2018.

Project Financing

41. Total project financing made available through the IDA Grant is equivalent to US$58.00 million. The Government of Tajikistan will also provide co-financing to the project in the amount of US$1 million. Project preparation benefitted from technical assistance funded under the ECAPDEV Program.

42. The proposed lending instrument is an Investment Project Financing (IPF) to be implemented over a six-year period. Project costs and financing are presented in table 1.

Table 1. Project Cost and Financing Sources (US$, Millions)

Project Components	Project Cost	IDA Grant	GoT contribution	Total
Component 1. Water Supply and Sanitation Infrastructure Investments	51.0	51.0	1.0	52.0
Component 2. Institutional strengthening and capacity-building of water sector institutions	5.0	5.0		5.0
Component 3. Project Management and Implementation Support	2.0	2.0		2.0
Total Financing	58.0	58.0	1.0	59.0

43. **Greenhouse gas (GHG) accounting.** The net emissions of the project are estimated at 1,563 tCO2-eq over the 30-year life of the project, while the gross emissions are estimated to also be 1,563 tCO2-eq. On average, the project generates estimated net emissions of 52 tCO2-eq annually. The project is net emissive largely due to the use of a zero-emissions baseline scenario for collecting water, such as using a pack animal or bicycle to collect water from irrigation ditches. The net emissions for the water supply activities under Subcomponent 1.1 break down as 440 tCO2-eq for sourcing, 88 tCO2-eq for conveyance, 601 tCO2-eq for treatment, and 434 tCO2-eq for distribution, for a total of 1,563 tCO2-eq.

C. Project Beneficiaries

44. The project is expected to benefit more than 400,000 people residing in the rural areas of priority locations (seven districts) in the Khatlon region. Given the limited project funds compared to the needs in these priority locations, this project will focus initially on more densely populated rural centers, rather than the remote and dispersed villages. Among those, around 100,000 people (mostly children) will benefit from investments in sanitation facilities and hygiene behavior interventions in schools and rural health centers. The targeted beneficiaries are mostly from households living in areas with the highest levels of poverty and deprived from water and sanitation services. Women and children, especially girls, will benefit disproportionally from project interventions in the form of time savings for collection of water and reduced illnesses, discomfort, and stress associated with the lack of access to safely managed water supplies and sanitation.

45. Beneficiaries of the institutional strengthening activities will include government institutions at the national and local levels, namely the MEWR, SUE KMK, MoES, MoHSP, local governments in the participating project areas, SUE KMK branches in the participating project areas (*Vodokanals* and *Tojikobidehot*), district branches of the National Healthy Lifestyle Centre, and other community-level institutions. People in the project areas will ultimately benefit through improved water services as a result of the institutional support and capacity-building activities at the national and local levels.

D. Results Chain

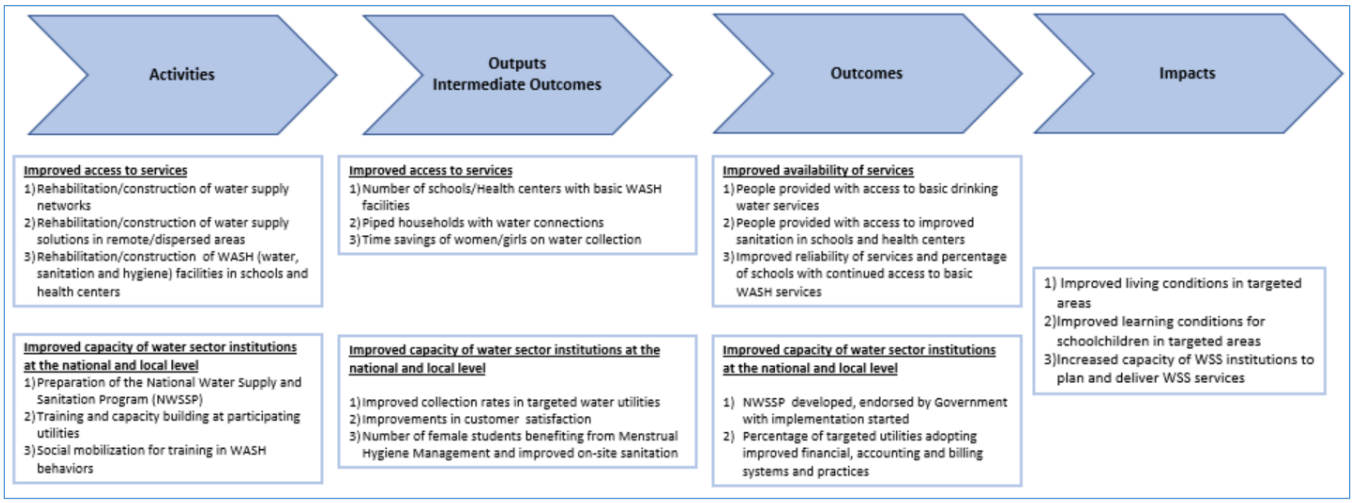
46. **Results Framework and M&E capacity.** While the Results Framework of the project is comprehensive, management information systems and an integrated sector information system for both rural and urban WSS are not available. To enhance result orientation in the sector, a new strengthened M&E system will be developed for the project. The main function of the M&E system will be to collect data on the key project indicators and contribute to sector M&E data. The monitoring system will also record data on contract management, institutional performance, O&M, and grievance system. Clear roles and responsibilities will be

assigned for populating and maintaining data in the system. The PMU and targeted water utilities will be responsible for collecting the baseline data and for feeding data into the monitoring system.

47. Capacity-building and training programs will address the identified capacity gaps by strengthening the sector institutions through program management support, strengthening of governance and accountability mechanisms, and technical assessments and studies.

48. The results chain in figure 1 was defined to arrive at the PDO and intermediate result indicators for the project.

Figure 1. Proposed Results Chain



E. Rationale for Bank Involvement and Role of Partners

49. **The World Bank has a long-standing engagement in Tajikistan and is perceived as a key strategic partner in the water sector.** The project is a natural continuation of the World Bank's support to the GoT in facilitating reform of the water sector, as previously focused on irrigation and water resource management subsectors and investments in improving water supply services in urban areas. The World Bank's value added is in its global experience in working with countries to improve water services in rural areas in a cost-effective manner. The proposed project will draw on this experience and will include a robust technical assistance and capacity-building component to improve the performance of water utilities at national and local levels and ensure that due attention is paid to community engagement and behavior change campaigns to achieve sustainable outcomes essential for the long-term resilience of utilities, and hence the sustainability of rural water infrastructure investments in Tajikistan.

50. **The project will complement ongoing efforts toward the reform of the sector at the national and basin levels supported through a number of World Bank-funded/administered operations.** Among these, the World Bank-funded interventions for the Kofarnihon basin under the second Public Employment for Sustainable Agriculture and Water Resources Management Project (PAMP II) are supporting the MEWR in designing river basin organizations for the Kofarnihon river basin and developing procedures for comprehensive water sector river basin planning and management. Beyond that, under PAMP II, extensive support is being provided to the MEWR in reviewing and developing the existing legal and institutional framework for water sector reform at the national level, including a major effort focused on the revision of the

Water Code. The World Bank through the Central Asia Energy-Water Development Program has initiated support for the Vakhsh basin needs assessment study that will help provide a minimum systematic infrastructural and institutional assessment platform from which the instituting of IWRM and the furthering of water sector development in the basin can be advanced. The preparatory studies for the RWSSP are already considered an important contribution to the Vakhsh Needs Assessment Study.

51. **The proposed project is the first large-scale operation targeting improvements in the delivery of rural water supply services and is expected to launch a long-term engagement of the World Bank in support of a sector-wide program.** Given the large sector needs in rural areas, consecutive projects will increasingly focus on more remote rural areas, and future partnerships with other development partners will be pursued to develop a national rural water and sanitation program. Investment needs in the project area exceed the currently allocated project resources, and additional efforts will be made during project implementation to leverage financing from other partners. Investments in water and sanitation are recognized as an important pillar for countries to develop their human capital, aligned with the World Bank's Human Capital Initiative.

52. **The project will also have strong links to the proposed World Bank Socio-Economic Resilience Project (SERP) financed through supplementary resources allocated to address risks related to fragility, conflict, and violence and to strengthen sources of resilience in the country.** The proposed SERP is expected to include a number of activities aimed at improving access to basic infrastructure and services in vulnerable districts in GBAO and Khatlon regions through implementation modalities that build on and strengthen the capacity of community-level institutions and local governments to enable the active participation and inclusion of vulnerable segments of society, including youth and women. While preparation of this operation is still at an early stage, there are a number of locations in the Vakhsh scheme currently reviewed for support for the development of off-grid energy solutions. Given the remoteness of the proposed settlements, the projects will coordinate their efforts in identifying viable technical solutions for water supply and electricity services in these communities. Similar arrangements are also foreseen for coordination of efforts with the CASA1000 Community Support Program in Tajikistan.

53. **Partnerships with international financial institutions (IFIs) and development partners have already been established.** Early discussions with the IsDB, which is preparing a project in Danghara-Temurmalik areas of Khatlon region, resulted in the agreement to delineate geographical areas for infrastructure investments under the two proposed projects and to further coordinate activities related to WASH promotion in social institutions and community-wide behavior change activities at the national and local levels.

54. **The project will seek close collaboration with UNICEF regarding the WASH in school component.** UNICEF has launched a new national program to support improvement of WASH conditions in schools and clinics (maternity hospitals), including infrastructure and behavior change activities, working with both the MoES and MoHSP. It is foreseen that UNICEF and the World Bank will jointly develop a package for extracurricular activities in schools, including MHM education for girls, and will collaborate on the revision of design standards for WASH facilities. This collaboration will leverage UNICEF's relationship with education sector stakeholders and expertise on MHM. Replication is expected in the implementation of WASH school components of projects funded by other IFIs, for example, the IsDB.

F. Lessons Learned and Reflected in the Project Design

55. The proposed RWSSP is designed to incorporate the following key principles derived from lessons learned from the portfolios of the Water Global Practice and other Global Practices and from extensive analytical sector work:

a) **Strong leadership and commitment from implementing agencies is needed to facilitate project implementation and provide inclusive services in rural areas.** The project's implementation arrangements have a major impact on the quality and efficiency of project activities and hence project outcomes. The implementation arrangements should clarify in detail the roles and responsibilities of implementing agencies at the national and local levels. Moreover, the proposed implementation arrangements will consider the capacity of the implementing agencies to mitigate potential risks. A recent review on rural water services[41] found that a clear mandate and deliberate objective to reach the unserved population, accompanied with intensive customer outreach to gain trust and increased willingness to pay, are most effective to ensure sustainable service delivery. Bottom-up social accountability mechanism will strengthen citizen-water utilities relations.

b) **Major efforts are required to support rural water sector reform to ensure the sustainability of water services provided.** The project will facilitate the World Bank's engagement in the sector to further policy dialogue and support for institutional strengthening and capacity building. The development of the National Water and Sanitation Program is key to improve the planning capacity of the MEWR and the Ministry of Finance (MoF) and prioritize WSS investments for discussion with development partners. Global lessons in developing sector management instruments will be incorporated in the project and reflected in the development of sector management instruments, for example, guidelines/manuals for O&M and post-construction support, manuals for tariff setting and billing, and technical standards for design of WSS systems to ensure sustainability of the WSS investments.

c) **Sustainability is a key element when designing access to water supply projects in rural areas.** The proposed approach builds on lessons around the sustainability of service provision in rural areas, as articulated in a recent World Bank global review.[42] Utility-managed systems in rural growth centers or denser areas showed better conditions for achieving sustainability, as compared to community-managed models, which often lack the technical back-stopping, systematic post-construction support, and enabling policy environment. The project pursues the integration of rural areas under the mandate of existing SUE KMK branches (*Vodokanals* and *Tojikobidehot*) either through connecting villages to the same centralized system or by integrating the management of stand-alone networked systems. For remote hamlets, self-supply options for individual (or shared) water points for groups of households will be included, combined with campaigns for household water treatment and storage as appropriate.

d) **Use of a focused social and behavior change, and communications strategy and action plan is of critical importance for the sustainability of investments and realizing human capital outcomes.** Communities targeted under the project will need to be trained and educated on numerous aspects of services delivered through upgraded/newly constructed infrastructure, for example, rational water use, water payments, tariffs, responsibilities of water utilities, and existing accountability mechanisms. Behavior change communications will focus on the adoption of hygiene practices and improvements of individual household sanitation facilities.[43]

[41] World Bank. 2018. *Beyond Utility Reach? A Review of Rural Water and Sanitation Services in Seven Countries of the Danube Region*.
[42] World Bank. 2017. *Sustainability Assessment of Rural Water Service Delivery Models: Findings of a Multi-Country Review*.
[43] Lessons that communication and information alone are often insufficient for poor households to improve their on-site sanitation facility are addressed through testing result-based grants for poor households.

III. IMPLEMENTATION ARRANGEMENTS

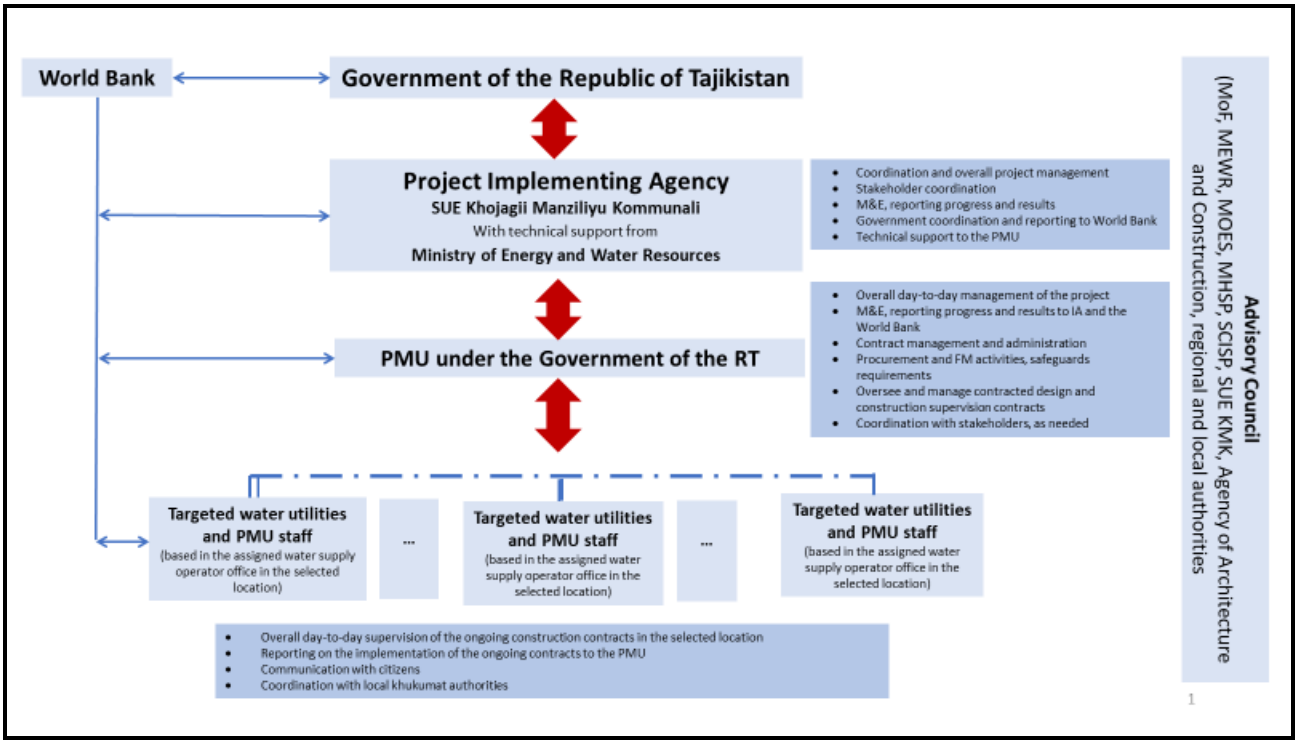
A. Institutional and Implementation Arrangements

56. **Overall responsibility for the project will rest with the SUE KMK, with technical support and oversight provided by the MEWR.** Project coordination and strategic guidance will be provided by nominated representatives from both agencies, and project implementation will be the responsibility of the dedicated PMU under the GoT. The existing PMU established in 2004 under the GoT for the implementation of the now completed World Bank-funded Municipal Infrastructure Development Project (P079027) (MIDP) has been assigned responsible for the project's implementation by order of the Executive Office of the President on August 16, 2018 and has been involved in the project preparation since then. The PMU maintains its core staff comprising the Director, Financial Manager (Chief Accountant), and Procurement Specialist with proven knowledge and expertise in implementation of World Bank projects.

57. **This organizational structure aims to assure sufficient implementation capacity for the project.** The PMU will be responsible for the day-to-day project implementation; project progress reporting (including results monitoring) and monitoring compliance with safeguards, fiduciary, legal, and other covenants; and coordination with other stakeholders in line with the Project Operating Manual (POM). Component 3 will provide additional capacity support as may be needed for the implementation of the delegated responsibilities. In addition to the staff of *Vodokanals*/*Tojikobidehot*/targeted water utility, the PMU will hire qualified engineers as part of its construction supervision team. The PMU is also expected to engage consultants as needed, such as on social mobilization and communication, as well as international experts to reinforce their capacity. The PMU will establish adequate channels for reporting on project implementation.

58. **Government counterparts from Dushanbe and the region will participate at various levels during the implementation of relevant project activities.** As the project's implementation involves many stakeholders, an Advisory Council will be established, comprising the nominated representatives from the MoF, MEWR, MoES, MoHSP, State Committee on Investments and State Property Management, SUE KMK, regional Khatlon authorities, and local district-level stakeholders. This council will serve as a coordination platform for the multi-faceted interventions and meetings that will be conducted semiannually, and as needed, to report on the project progress and seek support on the multi-sectoral aspects of the project implementation.

Figure 2. Implementation Arrangements



59. **Under Component 2, implementation arrangements will be extended to involve zonal offices and district branches of the National Healthy Life Style Centre, subordinate to the MoHSP.** Staff from these entities will be trained to provide support to the implementation of the school WASH and behavior change communication campaigns in collaboration with local actors. A Memorandum of Understanding (MoU) will be developed under the project to formalize this arrangement.

B. Results Monitoring and Evaluation Arrangements

60. **A project M&E system will be implemented as part of project design.** The PMU will work in close collaboration with participating water utilities (*Vodokanal* and *Tojikobidehot*) and will be responsible for the M&E of the project toward achievement of its objectives. The targeted water utilities will collect data for results indicators from the field through their supervision teams and forward it to the PMU. The PMU will monitor, review, and verify the data and evaluate results (including through the engagement of specialized consultants), before including these results in progress reports to be submitted to the World Bank semiannually. If deemed necessary by the PMU, the utilities will receive support from externally hired M&E specialists to ensure high-quality monitoring and reporting up to the standards of the World Bank. The PMU will prepare quarterly project implementation progress reports. The frequency and methodology for reporting on project results indicators is outlined in section V. Results Framework and Monitoring.

61. **The M&E system will also incorporate baseline and end line surveys to measure changes on key indicators and include core questions on the SDG WASH indicators, according to the JMP methodology.** The surveys will be conducted by an external data collection and analysis firm to be hired by the PMU. The methodology for the survey and the sampling framework will be defined within the first six months of the project implementation and will be administered at any project site before the commencement of civil works. The surveys will be used to report on key access indicators and perceived changes indicators on the physical

and quality aspects of access to water services and sanitation in the project area for different groups of consumers.

62. **A community score card is an M&E instrument to be used to report on citizen engagement mechanisms adopted by the *Vodokanals* and *Tojikobidehot* offices/targeted utilities.** Performance of the targeted water utilities will be assessed using a grading system in the form of scores. It is used to solicit user perceptions on quality and satisfaction of services and satisfaction of their involvement in project activities. It can also reveal knowledge gaps on the side of customers. Hence, the scorecard is useful as a participatory and self-assessment tool for water utilities to pinpoint defects and identify joint actions for improvements with local stakeholders. The scorecard will be employed in semiannual stakeholder meetings between water utilities and communities. Since services may be different across systems operated by one water utilities, such scoring process needs to be facilitated at the level of a small decentralized scheme, or within a specific service area of a *jamoat* (several *mahallas*) to provide meaningful feedback to the water utilities.

63. **The M&E capacity of the PMU is strengthened through additional support under Component 3 by hiring a Deputy Director for the PMU in charge of M&E and reporting.** Required data formats and monitoring information systems will be agreed upon with participating *Vodokanals*/*Tojikobidehot* branches, nongovernmental organizations (NGOs) hired to support the social mobilization and behavior change campaigns, and other stakeholders to mainstream reporting arrangements in the project. The project will organize biannual meetings of the project's Advisory Council to inform the stakeholders on the overall project progress. The outline of the M&E arrangements and respective responsibilities of parties will be detailed in the POM that is expected to be completed by effectiveness.

C. Sustainability

64. Sustainability is a core principle that has been integrated into the design of this project at several levels. It includes careful consideration and planning to address a range of important factors for rural water supply and sanitation services, including the following:

(i) **Social sustainability.** The project will ensure social sustainability through the engagement of all stakeholders in the project preparation and implementation, intensive community mobilization, behavior change campaigns, and the development of stronger accountability measures between water utilities and customers. The project will employ a number of different instruments to promote social accountability mechanisms at the project level such as the use of the community score cards to identify joint actions for improvements during semiannual stakeholder meetings, and establishment of the customer complaint mechanism in the project area. Within schools, existing parent-teacher associations will be empowered to support WASH activities and leverage the involvement of parents to sustain maintenance activities and supplies of WASH materials.

(ii) **Institutional sustainability.** The overarching goal for improving water sector governance is to create a coordinated and responsive institutional framework, where the roles and responsibilities of actors are clear. This will facilitate the creation of an enabling environment for *Vodokanals* and *Tojikobidehot* branches through which quality and affordable services can be provided to households, social institutions, and businesses. The project will provide capacity-building and technical assistance for national and local agencies and will closely engage them in project implementation and supervision, which will increase the ownership of project activities and its outcomes. In addition, the project will recommend the most technically viable and cost-effective arrangements/institutional setup for WSS services in the targeted districts.

(iii) **Financial sustainability.** Improved financial accountability and reporting by the SUE KMK and its branches will support the formation of evidence-based grounds for the determination of water tariffs and predictability of financial subsidies provided by the Government. Improved institutional performance will set the foundation for sustainable longer-term investment by the Government and stakeholders, aimed at gradual progress toward financial viability and reduced fiscal risk presented by the water sector.

(iv) **Technical sustainability.** The project will work closely with design institutes, the State Architecture and Construction Agency, and academia to develop and apply technical design standards and methods, which will support operational sustainability of the project in the post-construction phase. This will include careful consideration of water source options (quality, quantity, security/climate resilience, and operational implications) and operational capacity constraints. In addition, the project will focus on the use of system innovations, and modernization of technical standards and designs will provide water supply schemes that can be managed efficiently and operate reliably, meeting customer demands for levels of service and affordability.

(v) **Environmental sustainability.** The overall environmental impact of the project investments in selected communities in the Khatlon region will be largely positive and include (a) providing safe drinking water supply through individual household connections, (b) the overall improvement of water supply systems due to efficiency gains, and (c) help in protecting groundwater and surface water resources by promoting the construction and use of environmentally sound sanitation facilities in social institutions. The adverse environmental impacts associated with the project activities are mainly construction related and are moderate in scale; temporary and reversible in nature; limited in impact; and can be effectively prevented, minimized, or mitigated through good environmental management practices.

D. Technical, Economic and Financial Analysis (if applicable)

(i) Technical

65. The proposed project relies on approaches, methodologies, and technical designs appropriate for Tajikistan, and no significant technical obstacles are expected during implementation.

66. **The detailed engineering designs for the proposed water supply schemes will be prepared, considering operational capacity constraints and infrastructure sustainability.** Detailed engineering designs for the first year of project implementation will be prepared before project effectiveness, financed under ECAPDEV, while detailed designs for the remaining schemes will be completed during project implementation. Conjunctive use of groundwater and surface water is considered in the design to counter the climatic conditions and allow the water utilities to meet the increasing demand as a result of population growth. Existing infrastructure in the project area will be rehabilitated or replaced to expand the coverage and improve quality of provided WSS services. The project will include multi-villages and single-village systems for clusters of villages as and where technically and financially viable. Under the project and for remote villages, different alternative options will be developed and may include the use of groundwater, local springs, or water trucks.

67. **Selection of *jamoats* to be included under the project is based on the feasibility study prepared under the ECAPDEV funds.** The existing conditions, and proposed priority list of schemes identified in the feasibility

study, has been reviewed and verified together with the SUE KMK (*Vodokanals* and *Tojikobidehot*). For each scheme, cost estimates have been prepared based on local prices, which include labors, construction materials, and foreign prices that include mechanical and electrical equipment. The estimated costs were compared to costs from other similar projects to ensure a high level of accuracy in the project cost estimates. For house connections and other in-house water activities, standard and typical design manuals for water connections and for on-site sanitation will be prepared and provided to people. Manuals will include different technical alternative options and their associated costs.

68. The cost estimate of each scheme, implementation duration, procurement risks, and capacity of contractors will be considered in procurement packaging. Advance procurement activities are expected to start before project effectiveness to ensure readiness for implementation.

69. Standard designs for sanitation facilities in schools, kindergartens/preschools, and health centers will be prepared in consultation with the MoES and MoHSP and applied (and adapted as required) where possible to selected social institutions within project areas. The project will prioritize schools and kindergartens for investments in the project areas. The planning costs allocated for this activity range from US$25,000 to US$40,000 per school/rural health center, planning to assist 200 social institutions. In case there are savings under this component, they will be used to upgrade sanitation facilities in other eligible social facilities on demand basis. These works will complement the water supply investments and together will contribute to improved development outcomes. The PMU will prepare the detailed design based on the typical designs. Small works contracts will be used for the implementation of the facility upgrades/retrofitting.

70. The proposed implementation duration of the project is six years. A general implementation plan can be found in annex 2.

(ii) Economic and Financial Analysis

71. The potential economic benefits of the project will include (a) improvements in the access and quality of water supply services provided to mostly poor rural residents in targeted areas in the Khatlon region, (b) reduction in time savings to deal with inadequate water supply, and (c) improvements in health indicators associated with poor water quality services and the heavy physical burden of hauling water over long distances in targeted rural areas. Improving the quality of water supply, promoting sanitation, and improving hygiene practices—through the rural school sanitation and health center program—are also expected to produce welfare benefits through health improvements.

72. The project's economic analysis relies on activities identified during project preparation to assess the flows of incremental benefit and costs. It includes (a) the cost of the rural water project component, including estimated O&M costs and project implementation costs and (b) all measurable benefits, including decreases in the time spent collecting water and gains related to higher per capita water consumption (as measured by the consumer surplus). Because of lack of data availability, the project did not calculate the reduced incidence of water-related diseases resulting from improved access to safe water and the reduction in school attendance due to poor sanitation. Due to the minimal change in GHG emissions, as most households carry their water by foot and to a much lesser extent using animals, carbon pricing barely has an impact on the project's viability.

73. The estimated economic internal rate of return (EIRR) for the water component is 24.4 percent and the net present value (NPV) is TJS 816 million, assuming a social discount rate of 6 percent and 30 years of asset life of water supply systems, including the project implementation period. There are uncertainties associated with the implementation capacity to provide water services to poor rural communities on a large scale. There

are also risks associated with a change in consumption patterns that may occur from project implementation. The analysis included a sensitivity and risk analysis to determine the risks associated with project implementation and variations in the discount rate and concluded that in general the project design is robust. For more details, see annex 3.

Financial Analysis

74. The financial analysis considers that (a) the SUE KMK acts as an agent of the GoT on loans obtained from IFIs. The loans are further passed to the related parties—the SUE KMK branches in each *rayon*. In addition, the SUE KMK is receiving government grants, which are also transferred to the branches for purchasing of property, plant, and equipment; (b) *rayon vodokanals* (the SUE KMK branches) are paying a management fee of 8 percent from their gross revenue to receive the above mentioned as well as other services from the SUE KMK; (c) the SUE KMK's financial analysis is not relevant to assess the financial situation and project investment implications on *rayon vodokanals*; and (d) the SUE KMK operates nationally and provides a wide range of services (not only WSS), while project interventions are in one region only covering a few *rayons*, so the overall financial impact of project intervention on the SUE KMK is rather limited.

75. The project pursues integration of peri-urban areas under the mandate of existing SUE KMK branches (*Vodokanals* and *Tojikobidehot*) either through connecting small centers to centralized water supply systems or integrating the management of stand-alone network systems; the financial analysis for the new RWSSP is performed at the level of the Vosse district and other districts connected to part of the Vakhsh system. The aim is to assess the economy of scale opportunities and financial sustainability of these water utilities—costs coverage for O&M (investment costs are grant financed) of the new infrastructure and delivery of improved WSS services. This is in line with the sustainability objective of the project and ongoing government efforts through the establishment of two regional utilities in the northern (Buston city) and central parts (DRS), with EBRD's support, where positive developments in the performance of these aggregated utilities were observed. Even though the capex financing will be a grant, the team will perform financial analysis due to the reasons explained previously.

76. The project's financial analysis was done through the construction of a simplified financial model and review of the cash flows generated by the aggregated utilities (existing financial data consolidated for the purposes of analysis) of Vosse and Vakhsh (Bokhtar, Vakhsh, Balkhi, and Jayhun). All water utilities have the same tariffs and owner, and their separate existence seems rather artificial and inefficient. The estimated financial internal rate of return (FIRR) for the water investments in Vosse is minus 7 percent, which is mainly due to low cost recovery (and extrapolating historically low tariffs) and net investment per capita, which is comparable to the region average of around US$100; the NPV is negative at US$10.1 million, assuming a discount rate of 6 percent. The estimated FIRR for the water investments in Vakhsh is minus 12 percent, resulting from higher investment costs, while investments per capita are similar to Vosse; the NPV is minus US$15 million, based on cash flow projections for the next 20 years (standard loan amortization period). If the financial analysis is done following the useful life of the created assets of around 50 years, both FIRR and NPVs for the water investments will become positive. For more details, see annex 3.

(iii) Fiduciary

Financial Management

77. Overall FM arrangements at the PMU are adequate to implement the project and meet the minimum requirements of the World Bank's Policy and Directive on Investment Project Financing. Before the project

implementation, the PMU will (a) update the existing FM Manual; the FM Manual will reflect the project arrangements on FM, including internal control mechanisms, accounting and reporting procedures, disbursement procedures, funds flow, and audit arrangements; (b) upgrade the accounting system to generate interim unaudited financial reports (IFRs), Withdrawal Applications, and Statements of Expenditures (SOEs) under the project; and (c) hire FM/accounting staff, acceptable to the World Bank, to support the PMU Chief Accountant on a daily basis. With regard to the FM covenants to be included in the Disbursement and Financial Information Letter (DFIL), the following should be noted: (a) IFR formats have been agreed with the PMU, and they will be submitted to the World Bank within 45 days after the end of the calendar quarter and (b) the project's and entity's annual audited financial statements are to be submitted to the World Bank within six months after the end of the audit period. The audit reports for the World Bank-funded project implemented in the past by the PMU were timely received with no overdue audit reports, have clean (unmodified) audit opinions, and had no significant internal control or accountability issues identified that would have an impact on the implementation of this project. Details of the FM assessment including the formats of the IFR will be included in the FM Manual of the POM. The project will receive disbursements from the World Bank through advances using SOEs, direct payments, reimbursements, and commitments, for example, letters of credit. Details with respect to disbursements will be included in the DFIL.

Procurement

78. Procurement under the proposed project will be governed by the World Bank's Procurement Regulations for IPF Borrowers (dated July 2016, revised November 2017) (Procurement Regulations). The Project Procurement Strategy for Development (PPSD) is being prepared by the borrower to identify the most appropriate procurement approach for the project. Initial analysis of the PPSD shows that procurement activities and packages envisaged under the project are of standard nature and small in value. The investments mainly include rehabilitation/construction of water supply and sanitation facilities in the targeted areas and will be similar to the previous infrastructure investments in terms of complexity, participation of the private sector, and procurement methods. The procurement approach, procurement risks, arrangements, and Procurement Plan for the project duration recommended by the borrower are presented in the PPSD.

79. The key issues and risks concerning procurement under the project include (a) inadequate level of competition, (b) procurement and implementation delays due to lack of knowledge and experience of PMU/participating utilities with World Bank's Procurement Regulations, (c) lack of efficient contract monitoring and management skills and tools, and (d) overall, a high public procurement risk environment. Given these risks and based on the lessons learned from previous projects, the following measures are proposed to strengthen the PMU's capacity and ensure effective project implementation:

- Careful procurement planning and optimization of contract packages
- Advance preparation of bidding documents, including the construction design
- Conduct of a workshop with potential bidders in the targeted area to provide information on the proposed scope and procurement opportunities under the project. Feedback obtained from this workshop should be reflected in the relevant provisions of the bidding documents
- Start-up and intensive procurement trainings for staff of participating agencies, including tender committee members
- Preparation of the POM with a detailed description of procurement processes

- Preparation of an efficient contract management system

80. **Use of national procurement procedures.** In accordance with paragraph 5.3. of the Procurement Regulations, when approaching the national market (as agreed in the Procurement Plan), the Tendering with Unlimited Participation procurement method set forth in the Law of the Republic of Tajikistan 'On Public Procurement of Goods, Works and Services', # 168 dated March 3, 2006 (as amended by Law #815, the Law of the Republic of Tajikistan on 'Introduction of Amendments and Additions' to the Law of the Republic of Tajikistan on 'Public Procurement of Goods, Works and Services' dated April 16, 2012) may be used subject to the following conditions:

- The request for bids/request for proposals document shall require that bidders/proposers submitting bids/proposals present a signed acceptance at the time of bidding, to be incorporated in any resulting contracts, confirming application of, and compliance with, World Bank Anticorruption Guidelines, including without limitation the World Bank's right to sanction and the World Bank's inspection and audit rights.

- The request for bids/request for proposals document, including contract forms, acceptable to the World Bank shall be used.

- The request for bids/request for proposals document and contract shall provide the right to the World Bank to review procurement documentation and activities.

- The borrower shall put in place an effective complaints review mechanism and shall disclose the details in all the bidding documents. All complaints shall be recorded by the borrower in the appropriate tracking and monitoring system, as agreed between the borrower and the World Bank.

- No preference shall be applied under competitive bidding following national market approach.

81. Other national procurement arrangements that may be applied by the borrower, such as tendering with limited participation, request for quotations, and direct contracting, shall be used on the previously stated conditions.

E. Safeguards

Environmental Safeguards

82. The SUE KMK has prepared an Environmental and Social Management Framework (ESMF), which identified adverse impacts associated with the small/medium-scale construction activities for local communities such as (a) increased pollution due to construction waste; (b) generation of dust, noise, and vibration due to the movement of construction vehicles and machinery; (c) associated risks due to improper disposal of construction waste and asbestos (if present), or minor operational or accidental spills of fuel and lubricants from the construction machinery; and (d) improper restoration of construction sites upon completion of works. Protection of water quality of the existing water supply schemes and uninterrupted water supply to the existing users during rehabilitation works will also be managed as part of the environmental mitigation plan. These adverse environmental impacts can be effectively prevented, minimized, or mitigated by preparing and implementing site-specific Environmental and Social Management Plans (ESMPs). ESMPs will be prepared for each subproject. Use of construction materials that are hazardous to human health (for

example, asbestos and asbestos-containing materials [ACM]) will not be permitted. ACM waste will be collected, transported, and finally disposed by applying special protective measures in accordance with hazardous waste handling standards. The project will adopt World Bank Group environmental, health, and safety guidelines to ensure robust occupational, health, and safety practices during construction. Based on the nature, type, and scale of environmental impacts, the project has been rated Category B and triggers the following environmental safeguards policies: OP 4.01 (Environmental assessment) and legal policy OP 7.50 (Projects on International Waterways). The PMU created under the GoT will be responsible for the overall project coordination; oversight; project progress reporting (including results monitoring) and monitoring compliance with safeguards, fiduciary, legal, and other covenants; and coordination with other stakeholders. The PMU will also be responsible for reporting to the World Bank on project activities and progress including safeguards.

83. The ESMF was prepared and disclosed in-country through the web-site of the Committee for Environmental Protection (www.hifzitabiat.tj) on December 18, 2018. The draft ESMF was publicly consulted in the project areas in September 2018. Each activity to be financed under the project will be reviewed for safeguards risks in line with OP 4.01 and must also obtain the clearances required by Tajikistan national regulations on environmental protection.

84. OP 7.50 applies to the project as the water source for the Vakhsh Water Supply System abstracts water from the Vakhsh river, which is a tributary to Amudarya, an international waterway as defined by paragraph 1 (b) of OP 7.50. Given the nature of investments, an exception to the external notification requirements of OP 7.50 was approved by the Europe and Central Asia Regional Vice President on December 20, 2018. The project involves the rehabilitation of ongoing schemes and construction of small decentralized systems that will not adversely change the quality or quantity of water flows to other riparian countries.

Social Safeguards

85. Project activities related to the rehabilitation of existing and/or construction of new water supply systems (Component 1) in the target areas are likely to have temporary and permanent land acquisition implications. Therefore, OP 4.12 (Involuntary Resettlement) has been triggered and a Resettlement Policy Framework (RPF) has been prepared for the project. The RPF public consultations were held on August 28, 2018 in Bokhtar—including participants from the target rural communities. Feedback from the consultations was reflected in the revised final document, which was disclosed in the country through the web-site of the Ministry of Energy and Water Resources (*www.mewr.tj*) on December 18, 2018 and through the Bank's system on December 19, 2018.

86. The expected long-term and cumulative impacts of the proposed activities are mostly positive and include improved water supply and sanitation infrastructure as well as improved health and livelihood of the local rural population of participating communities. The ongoing feasibility study indicates that the project will include rehabilitation of existing structures and construction of infrastructure on public streets and roads. The RPF, therefore, is intended as a practical tool to guide the preparation of Resettlement Action Plans (RAPs) for activities during the project implementation. If any impacts are identified, individual RAPs will be developed for each subproject based on the guidelines and procedures highlighted in the RPF document.

87. **Citizen engagement.** The WASH Poverty Diagnostic showed that consumers consider water utilities to be unresponsive or unable to resolve drinking water problems. Limited consumer engagement and lack of interaction with local communities was recognized, and a recent Global Program for Social Accountability GPSA-funded social accountability initiative has started to address these issues. The project will support greater

transparency and accountability to citizens by promoting community-led monitoring—using scorecards—of the quality of services provided by the targeted water utilities. Social accountability is addressed through the following processes: (a) information provision on service standards and results, (b) development of a complaint registration and management system in all SUE KMK branches (linked to project GRM), (c) community scorecards that will be introduced to receive customer feedback, and (d) semiannual stakeholder meetings to review scorecards and identify actions. The PMU will be supported by an NGO/firm that will facilitate, train, and build the capacity of the SUE KMK *Vodokanals* and *Tojikobidehot* branches or *Jamoat* administration in the implementation of the customer scorecard process, stakeholder meetings, and customer complaint and grievance processes. Annual sample-based surveys will measure the satisfaction of beneficiaries with the community engagement process.

88. **Gender.** The project aims to narrow a critical gender gap in human endowments by providing access to drinking water supply and better sanitation and hygiene, freeing up time for productive and care activities. Water fetching places a huge and disproportional time and physical burden on women and girls,[44] taking over one hour a day, mostly on foot, and extremes up to four hours daily. Another gender gap is maintaining enrolment rates after the compulsory nine-year program, especially for female pupils. Research shows that girls are less active in class during menstruation and often miss school days for a complex set of reasons, including lack of separate and clean WASH facilities for girls.[45] The project will contribute to closing this gap by investing in separate, private, and safely managed sanitation facilities, including design for inclusion of hygiene rooms, and MHM education to enable more effective learning. A third gender gap is women's voice in local WASH management. Due to shifting demographics and male migration, 40 percent of *jamoat* chairpersons are women and female *mahalla* leaders are common. The project will engage water utilities staff, local government, and *mahalla* leaders in training activities, so they are more capacitated to have their voice heard in meetings and decision making. The Results Framework includes indicators that measure how gender gaps are narrowed in all three areas, namely (a) the reduction of time for women and girls spent on water collection; (b) the number of female students benefitting from separate, safe, and private WASH facilities and MHM education; and (c) the number of women benefitting from training under the project.

89. **Social inclusion.** The project will use an intensive communication and social mobilization campaign, engaging *mahalla* leaders, local women's groups, male and female traditional and religious leaders, and youth networks, using various channels to reach everyone (community meetings, interpersonal communication, and mass and social media). WASH coordination groups at *jamoat* level will work closely with water utilities and play an active role in monitoring progress. Poor and vulnerable groups will be identified using the recently launched National Social Assistance Registry of the MoHSP.[46] Nationally, around 12–13 percent of households are eligible for social assistance and exact data for the seven project districts will be available in early 2019. As in many countries, cash outlays to finance connection costs (that is, water meters and cost of the pipe works to yard often accumulating to about US$80 or more) are likely to be a constraint for poor households. The project will finance installation of water meters for (at the minimum) all poor households in the social registry, and measures will be taken to ensure that other connection costs will not pose unsurmountable barriers for the poor (for example, through installment plans with water utilities). As current tariff levels are well within affordability levels for the poor (ranging from US$0.08 to US$0.20 per cubic meter), the project will work with

[44] The WASH Poverty Diagnostic shows that this is identified as a women's or girl's responsibility (69 percent and 12 percent, respectively)
[45] Sclar. 2017. *How to Use Puberty Research to Improve Menstrual Hygiene Management Interventions in Tajikistan*.
[46] The targeted social assistance program will cover the entire country by February 2019. It is a demand-based system providing unconditional cash transfers to eligible households and can be used to target other benefits to specific vulnerable groups. Lists of households are available and compiled with support of *jamoats*.

water utilities to determine tariffs that allow for higher levels of cost recovery and tariff increases over time. Social inclusion is also addressed through piloting targeted result-based incentives for poor households to improve their on-site sanitation facilities.

90. **Disability.** A recent World Bank survey showed that 9 percent of households in Tajikistan have at least one household member with one or more functional disabilities. In rural areas, 29 percent of households' report that persons with disabilities in their households are unable to access the main drinking water source without any assistance. Barriers are distance to the water source, physical difficulty in carrying or transporting water, lack of accessibility features such as ramps, and difficulty of terrain. Project design of water systems and school sanitation facilities will address those barriers for both networked solutions, and also for alternative technologies (water points), adaptations will be made. The project will implement school WASH facilities with adaptation to allow for access of disabled students.

91. **Other safeguards.** No other safeguard policies are triggered under the project.

92. **Customer complaint mechanism.** Tajikistan will implement a customer complaint resolution system with support of the project, linked to the project GRM. The project will use an incremental approach, starting with simple registration and tracking systems that could be upgraded to more sophisticated customer complaint handling software. As part of the communication campaigns and consultation meetings, the population will be informed about the GRM, including channels for submitting grievances.

93. **Grievance Redress Mechanisms.** Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

94. GRM will be linked to customer complaint registration systems that will be introduced within the SUE KMK branches and supported by broader citizen engagement measures (see para 87).

IV. KEY RISKS

95. **The project's overall risk is Substantial.** The risk rating considers the capacity of the responsible agencies and complexities of providing water supply to poor rural areas. The key risks are as follows:

- **Political and Governance. Substantial.** Efforts to date to engage with the SUE KMK have demonstrated the challenge of driving reform at this organization, which is politically connected at a high level. Duplicative and overlapping mandates of the organizations subordinate to the SUE KMK further increase this risk by the high turnover of managers and staff at the central and line ministries including the implementation agency (and its branches), which may affect project implementation. These risks will be addressed through systematic monitoring, a robust capacity-

building and training program for the participating agencies, and campaigns and citizen engagement activities that foster higher willingness to pay for better services.

- **Technical Design of Project or Program. Substantial.** The project involved and deeply engaged the national level MEWR, MoES, MoHSP and the local *khukumats* and *jamoats* in the project design. This level of engagement will be maintained throughout project implementation and aimed at improving performance of the utilities in the targeted areas and strengthening institutional capacity of the utilities and SUE KMK with clearly defined roles and responsibilities to ensure sustainability of the proposed investments. In addition, to minimize the risk of technical design and to ensure the most appropriate, technically sound, and cost-effective solutions are chosen, and support readiness for implementation, the project preparation benefitted from the ECAPDEV grant resources used for the preparation of feasibility, financial, institutional support and environmental studies, and detailed designs.

- **Institutional Capacity for Implementation and Sustainability. High.** Institutional capacity and governance weaknesses are major concerns. The prevalence of poverty in rural areas poses significant challenges to sustainability. The risk of weak implementation capacity and/or inertia will be offset by the establishment of an Advisory Council (or other vehicle, to be identified) of representatives of the Government (including the MoF, SUE KMK, MEWR, MoHSP, and MoES) and civil society (for example, the Consumers' Union), that will be responsible for the overall project coordination and reporting including monitoring compliance with safeguards, fiduciary, legal, and other covenants. Capacity for social mobilization and behavior change communication campaigns is limited, and this risk will be mitigated by ensuring that experienced NGOs will be hired to support capacity development and coach local actors in implementation.

- **Sector challenges. High.** The most salient risks are associated with the financial sustainability of service delivery resulting in low levels of cost recovery, the associated fiscal burden and subsequent lack of maintenance of existing infrastructure, which can adversely affect the quality of service provision. A financial assessment will determine the risks involved and include mitigation measures to ensure that the proposed investments will be properly operated and maintained.

- **Fiduciary Risk. Substantial.** Transparency and accountability are weak, which can adversely affect the delivery of public services. The World Bank will provide training and support in FM, procurement, and safeguards monitoring. This process has already started during the preparation of the project.

- **Stakeholders. Substantial.** The project will include a large number of subprojects with a high number of multi-sectoral stakeholders at the central, regional, and municipal levels and utilities, which will require significant coordination. A large number of donors supporting the sector and coordination of different dispersed approaches are also seen as an area of concern for the project implementation.

Country management guidance will be sought on the mitigation of the political risks. Other risks will be partly mitigated by the technical assistance program that will be supported under Component 2. In addition, close project supervision will be required with quarterly implementation support missions and close supervision of the project by the water specialist located in the World Bank office in Dushanbe.

Results Framework

COUNTRY: Tajikistan

Rural Water Supply and Sanitation Project

Project Development Objectives(s)

The project development objectives (PDO) are to (i) improve access to basic water supply and sanitation services in selected districts; and (ii) strengthen the capacity of institutions in the water supply and sanitation sector.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Access to basic water supply services				
People provided with access to basic water supply services (Number)		0.00	200,000.00	400,000.00
People provided with access to basic water supply services - Female (Number)		0.00		200,000.00
People provided with access to basic water supply services - Rural (Number)		0.00		300,000.00
Access to basic sanitation services through social institutions				
People provided with access to basic sanitation services in schools (Number)		0.00		70,000.00
People provided with access to basic sanitation services in healthcare facilities (rural health facilities) (Number)		0.00		7,500.00
Improved planning capacity of the water sector institutions at the national and local level				

Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
National Water Supply and Sanitation Programme (2021-2030) developed, endorsed by the Government and its implementation started. (Yes/No)		No		Yes
Percentage of targeted utilities adopting improved financial, accounting and billing systems and practices in the project area (Percentage)		0.00		100.00

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
Component 1. Water Supply and Sanitation Infrastructure Investments			
Rural water supply schemes rehabilitated/expanded under the project (Number)		0.00	7.00
New piped household water connections that are resulting from the project intervention (Number)		0.00	3,000.00
Time spent by women and girls per day on water collection in target project areas (Minutes)		60.00	30.00
Number of social institutions with basic sanitation and hygiene facilities installed (Number)		0.00	200.00
Number of schools with basic sanitation and hygiene facilities installed (Number)		0.00	150.00
Number of healthcare facilities with basic sanitation and hygiene facilities installed (Number)		0.00	50.00
People provided with access to safely managed drinking water services (Number)		0.00	100,000.00

Indicator Name	DLI	Baseline	End Target
Component 2. Institutional Strengthening and Capacity-Building of Water Sector Institutions			
Collection rate of the targeted water utilities under the project (listing collection ratios for each water utility) (Percentage)		0.00	70.00
Percentage of beneficiaries satisfied with the community engagement process (Percentage)		0.00	70.00
Number of people benefitting from training to improve water, sanitation and hygiene behaviours (Number)		0.00	40,000.00
Percentage of women benefitting from training to improve water, sanitation and hygiene behaviours (Percentage)		0.00	40.00
Number of female students benefitting from menstrual hygiene facilities in schools and education on menstrual hygiene management (Number)		0.00	16,000.00
Number of standard designs and operation manuals for water supply and sanitation systems in rural areas developed (Number)		0.00	5.00
Component 3. Project Management and Implementation Support			
Number of people benefitting from training on project management under the project (Number)		0.00	50.00
Number of regular stakeholders meetings for the project (Number)		0.00	10.00
Percentage of project-related grievances responded to in the stipulated time (Percentage)		0.00	80.00

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
People provided with access to basic water supply services	The cumulative number of people gaining access as a result of the project to a basic service, which means drinking water is from an improved source., provided the collection time is not more than 30 minutes for a roundtrip. An improved source means for piped supplies: tap water in the dwelling, yard or plot; standposts. For non-piped supplies: tubewell/borehole; protected wells and springs; rainwater; delivered water (trucks or carts), bottled water.	Annually	Annual reports of targeted water utilities, PMU prepared M&E reports, baseline and endline surveysin the project area water collection)		KMK, PMU
People provided with access to basic water supply services - Female					
People provided with access to basic water supply services - Rural					
People provided with access to basic sanitation services in schools	The indicator measures cumulative number of pupils and staff provided with access to basic sanitations services due to project	Semiannual	Project Monitoring Information System, schools and	Data will be collected by the PMU from all the defined sources and through regular checks of infrastructure	PMU, schools, jamoats and district authorities in the project area.

	investments. Basic sanitation for schools means improved sanitation facilities at the school that are single-sex and usable at the time of the survey. Improved refers to flush/pour flush toilets connected to sewers, septic tanks or pits; pit latrines with slabs, composting toilets. Single-sex means that there are separate toilet facilities for male and female students and teachers/staff. Usable means they are available (not locked or a key is available at all times), functional (toilet holes are not blocked; water is available for flush toilets), and private (lockable from inside and no large gaps in structure) (note: single-sex and lockable doors not applicable to pre-primary)		jamoat records.	provided by the project and reported through the M&E reports.	
People provided with access to basic sanitation services in healthcare facilities (rural health facilities)	The indicator measures the cumulative number of staff and average daily visitors in health facilities provided	Annually	PMU reports based on annual surveys of		

	with access to basic sanitations services due to project investments. Health care facilities, meaning rural hospitals, rural health centers and rural health houses (primary health points). For health care institutions improved sanitation facilities (as above) mean those that are usable (meaning available, functional and private), with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene management facilities, and at least one toilet accessible for people with limited mobility.		social institutions that received project support		
National Water Supply and Sanitation Programme (2021-2030) developed, endorsed by the Government and its implementation started.	The current national Water Supply Program (Program on supplying population with drinking water for the period, 2007-2020) will be replaced by the visionary document to be developed jointly by the Ministry of Energy and Water Resources, Ministry of	Annually	Ministry of Energy and Water Resources, PMU		Ministry of Energy and Water Resources

	Finance and SUE KMK. The document will include the financing strategy. The Program is expected to be developed, endorsed by the Government decision and its implementation started with the initial measures expected by 2023.				
Percentage of targeted utilities adopting improved financial, accounting and billing systems and practices in the project area					

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Rural water supply schemes rehabilitated/expanded under the project	This indicator measures the cumulative number of rural water supply schemes that have been rehabilitated or extended through operations supported by the World Bank. Rural water supply schemes include schemes of different sizes under management by Vodocanal and Tojikobidehot offices. This includes decentralised schemes with different	Annual	Project Monitoring Information System	Technical Audit 9if applicable), Contractors progress reports.	PMU

	service levels (house connections, standpipes, point source and existing schemes that have been rehabilitated.				
New piped household water connections that are resulting from the project intervention		Semiannually	Vodokanal and Tojikobidehot records, Project Monitoring Information System		Vodokanals and Tojikobidehot branches, PMU
Time spent by women and girls per day on water collection in target project areas	This intermediate indicator will measure daily time spent (in minutes) to fetch water from source to the household during the dry (winter) season. Data on this indicator will be collected for female members of the households.	Twice during the project implementation.	Baseline and endline surveys	Through household interviews.	PMU, using external survey firm.
Number of social institutions with basic sanitation and hygiene facilities installed	This indicator measures the number of social institutions (health care centers and schools) that are provided by the project with basic sanitation and basic hygiene facilities. (see definitions above) Data collection: PMU	Annually	School records, Jamoat data, contracts progress reports, PMU Monitoring Information System		PMU

	records Note not for definition: this measures the construction of these facilities (while Ind3 and 4 at PDO level measures the way they are operated and continue to be used)				
Number of schools with basic sanitation and hygiene facilities installed	Schools with improved sanitation facilities, which are single sex and usable; with handwashing facilities, which have soap and water available.			The project will utilize the methodology developed under the JMP to monitor the core indicator for basic service level.	PMU th
Number of healthcare facilities with basic sanitation and hygiene facilities installed	Number of health care facilities with improved and usable sanitation facilities, with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for users with limited mobility. Number of health care facilities with functional hand hygiene facilities available at one or more points of care and within 5 meters of toilets.			The methodology will be aligned with the methodology for monitoring key WASH indicators in healthcare facilities under the SDG.	PMU, MoHSP

People provided with access to safely managed drinking water services	The cumulative number of people that are gaining access as a result of the project to a safely managed drinking water service. This includes people that previously had a basic service and people without a basic service. Safely managed drinking water service means that drinking water is: located on premises, available when needed, and free from fecal or priority chemical contamination. This means that water quality should be compliant with national standards for e-coli and chemical parameters (available when needed to align with national level service standard on hrs supplied/day)	Twice during the project	Baseline and endline surveys and PMU prepared M&E reports (sample-based WQ measurement to be integrated in selected surveys)		
Collection rate of the targeted water utilities under the project (listing collection ratios for each water utility)	This intermediate indicator tracks progress in collection of water supply fees at the targeted Vodokanals and Tojikobidehot offices.	Annually	Financial and commercial systems of the targeted water utilities.		Vodokanals, Tojikobidehot offices, PMU

Percentage of beneficiaries satisfied with the community engagement process	This indicator measures the satisfaction of customers of water utilities in the target areas that are satisfied with community engagement process. This refers to various mechanism that are introduced, such as the social mobilization program, the use of community scorecards in semi-annual stakeholder meetings, and the customer complaint system	Annually	Records of semiannual customer feedback meetings, organized by the targeted water utitlites.	Annual surveys carried out among at least 1 percent sample of beneficiary households where project activities are being implemented (in planning, construction and system operation phase).	Vodokanals, Tojikobidehot offices, PMU
Number of people benefitting from training to improve water, sanitation and hygiene behaviours	This indicator measures the cumulative number of people in project area that have received social and behavior change training through operation supported by the World Bank. This includes teachers, staff of water utilities, staff of the Healthy Lifestyle centers, students, WASH mahalla volunteers.	Annually	Project Monitoring Information System	Reports of the social and BCC firm.	PMU
Percentage of women benefitting from training to improve water, sanitation and hygiene behaviours					
Number of female students benefitting from menstrual hygiene facilities in schools and education on menstrual	This indicator measures the number of female students that have access to basic	Annually	PMU reports based on annual	School surveys	SMBCC firm, school records, PMU

hygiene management	sanitation, have access to menstrual hygiene facilities and have benefited from education on MHM in schools.		school surveys		
Number of standard designs and operation manuals for water supply and sanitation systems in rural areas developed					
Number of people benefitting from training on project management under the project	This intermediate indicator measures the number of people benefitting from the trainings on engineering, safeguards aspects of project management under the World Bank project.	Annually			PMU
Number of regular stakeholders meetings for the project	This indicator measures the number of meetings that take place at the national, oblast (provincial) and district levels with participation of the key stakeholders (Ministry of Energy and Water Resources, KMK, Ministry of Health, Ministry of Education, local oblast and district level authorities, representatives of jamoats and civil society). Meetings will be conducted once a year at the national level	Semiannually	Minutes of the Stakeholders meetings.		PMU

	and twice a year and the oblast and district levels.				
Percentage of project-related grievances responded to in the stipulated time	This indicator captures the efficacy of project delivery systems, specifically the grievance redress mechanism which will capture grievances or perceived irregularities. Stipulated service standards for response times will be outlined in the Project Operation Manual Numerator: Total number of grievance cases from the project addressed in accordance to established protocol. Denominator: Total number of grievance cases received from the project.	Annually	Project Monitoring and Information System		PMU

ANNEX 1: IMPLEMENTATION ARRANGEMENTS AND SUPPORT PLAN

Tajikistan
Rural Water Supply and Sanitation Project

Project Implementation Arrangements

1. Overall responsibility for the project will rest with the SUE KMK, and the MEWR will provide technical support and oversight over the project implementation. Nominated representatives from both agencies will provide strategic direction and guidance to the project PMU. The MoHSP and MoES will also be involved as key stakeholders during the implementation of the project. The project will focus on developing physical and institutional capacity within these agencies with the aim to improve sectoral planning and coordination for ongoing and future water supply and sanitation interventions in the country.

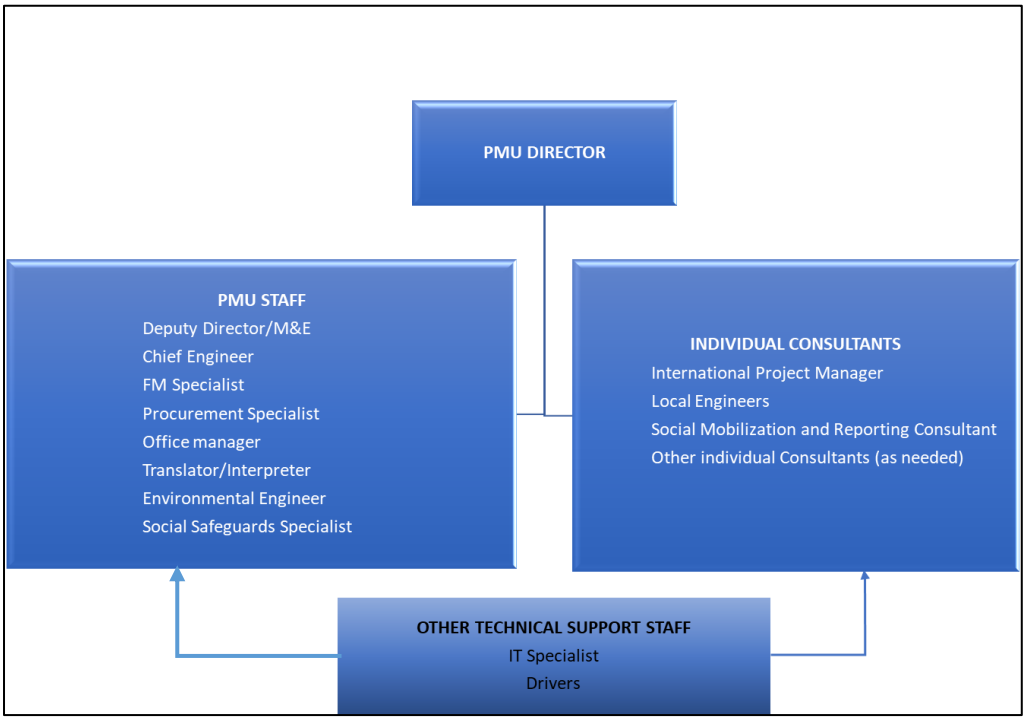
2. The project implementation will be carried out by the dedicated PMU (Local [Municipal] Infrastructure Development PMU) under the GoT that has been assigned responsibility for the project's day-to-day implementation by the order of the Executive Office of the President on August 16, 2018 and has been involved in the project preparation since then. The PMU initiated the preparation of the relevant project studies and assessments and hiring of key personnel in line with the Terms of Reference (ToR) developed as part of the POM.

3. The strong implementation capacity of the PMU has been amply demonstrated during the implementation of the World Bank-funded MIDP. This capacity will be further strengthened in response to the larger size of the new project, with improvements to procurement, FM, governance and anticorruption procedures, environmental and social safeguards, and M&E. Additional staff will be employed in the areas of procurement, FM, disbursement, information technology, M&E, environmental safeguards monitoring, social mobilization and WASH communication activities, social safeguards support, and design and construction supervision.

4. A local NGO/firm will be contracted to support the implementation of the community-level Social Mobilization, WASH Behavior Change Communication, and Social Accountability Program and WASH school education program under the project. The local NGO will report to the central PMU office, and its activities will be financed under Component 2 as part of the consulting services. Detailed description of activities is included in annex 2.

5. The PMU will maintain a core team and support staff as follows: a project director, a procurement specialist, an environmental engineer, an FM/disbursement specialist, a social safeguards specialist, an M&E specialist/deputy PMU director, senior civil engineers, an office manager, and an interpreter. The PMU capacity will be supplemented by a number of engineers to carry out the construction supervision. Design review and construction supervision responsibilities will be carried out by the team of qualified engineers selected in accordance with the World Bank's procurement policies and procedures. The PMU is also expected to engage international experts to reinforce their capacity. The PMU will engage an individual international engineer to lead the construction supervision team for all subprojects. In addition, a social mobilization consultant will be hired to supervise social and institutional support activities planned under Component 2. The PMU organigram is presented in figure 1.1.

Figure 1.1. PMU Organigram



6. As the project's implementation involves many stakeholders, the Advisory Council comprising the nominated representatives from the MoF, MEWR, MoES, MoHSP, State Committee on Investments and State Property Management, SUE KMK, regional Khatlon authorities, and local district-level stakeholders will be established to serve as a coordination platform for the multifaceted interventions. The Advisory Council meetings will be conducted semiannually, and as needed, to report on the project progress and seek support on the multi-sectoral aspects of the project implementation.

Financial Management, Disbursements, and Procurement

Financial Management

7. The PMU will be responsible for implementing the FM function of the project, including the flow of funds, budgeting, accounting, reporting, internal controls, and external audit. Through implementation of the MIDP and Additional Financing (AF) for MIDP, the PMU's fiduciary staff has gained good understanding of World Bank procedures for FM, disbursement, and procurement. A project accounting system has been established for AF MIDP, and the Chief Accountant was hired within the PMU who will continue his work under the new RWSSP.

8. The overall FM risk for the project is assessed as Substantial, with the Inherent Risk and Control Risk also assessed as Substantial. The combined overall fiduciary risk rating is also assessed to be Substantial.

9. The following actions should be completed to further strengthen the FM arrangements for the project by the specified dates:

Table 1.1. Actions for improving Financial Management capacity of the PMU

Action for Capacity Building	Responsibility	Completion Date
Update the 1C accounting software for project accounting, budgeting, and reporting. Contract for updating of the 1C accounting software has been signed. The accounting system shall have inbuilt controls to ensure data security, integrity, and reliability and the functionality of automatic generation of IFRs.	PMU	By effectiveness
Update the existing FM Manual, which will reflect the project arrangements on FM, including internal control mechanisms, accounting and reporting procedures, disbursement procedures, funds flow, and audit arrangements.	PMU	By effectiveness
Hire FM/accounting staff, acceptable to the World Bank, to support the PMU Chief Accountant on a daily basis.	PMU	Within 30 days after effectiveness

10. **Budgeting and planning.** The PMU is capable of preparing relevant budgets. The project plans and budgets are developed in close collaboration between the government representatives and PMU management. The final plans and budgets are submitted to the SUE KMK for approval. The annual budget is based on the Procurement Plan, which is regularly updated by the procurement specialist. All changes in the Procurement Plan are reviewed by the SUE KMK agreed in advance with the World Bank, and only then, the changes will be incorporated in the annual budget. Once reviewed and endorsed by the MoF, the project budget is included into the state budget.

11. **Accounting and reporting.** For financial reporting and accounting purposes, the PMU uses cash basis International Public Sector Accounting Standards for the project reporting. The chart of accounts used for the past project can be adapted to be used for this project. The accounting policies and procedures are documented for the closed World Bank-financed project. It was agreed that the PMU will update the FM Manual that is part of the POM (by project effectiveness). The accounting of PMU's accounts is automated, using 1C accounting software.

12. The PMU installed the 1C accounting software, and project accounting was tracked in this program. The software is capable of producing IFRs in accordance with formats agreed with the World Bank. The same system will be updated and used for the new project. All transactions will be recorded on a cash basis of accounting, with supporting documentation maintained in files for ready access by auditors and during implementation support missions of the World Bank. The Chart of Accounts for the project is based on the Chart of Accounts developed by the MoF and modified to allow tracking of project transactions and reporting by source of financing, project components, and type and category of expenditure. For the upcoming RWSSP, the PMU will finalize the upgrade of the accounting system to meet the requirements for reporting, which needs to be completed by project effectiveness.

13. **Internal control.** The PMU has an overall adequate internal control system in place for the implementation of the project, including adequate segregation of duties among the FM/accounting staff. It was agreed that before the project implementation, the PMU will update FM Manual that is part of the POM to reflect the FM arrangements and controls under the project (by project effectiveness).

14. **Staffing.** The chief accountant of the PMU will have the overall responsibility for the project FM function. To ensure sound FM of the project funds, an FM consultant will be hired, and is responsible for day-

to-day FM operations. The FM consultant will work under the direction of the Chief Accountant and should be hired within 30 days after effectiveness.

15. **Project IFRs.** Project management-oriented IFRs will be used for the project monitoring and supervision. The PMU has experience in IFR preparation, and the IFRs of projects implemented by the PMU were always received on time and found to be in general acceptable to the World Bank. The format of the IFRs has been confirmed during assessment and includes (a) Project Sources and Uses of Funds, (b) Uses of Funds by Project Activity, (c) Designated Account (DA) Statements, (d) A Statement of Financial Position, and (e) SOE Withdrawal Schedule. These financial reports will be submitted to the World Bank within 45 days of the end of each quarter, with the first reports under the proposed project being submitted after the end of the first quarter of initial disbursement.

16. **External audit.** The PMU's auditing arrangements for the closed projects were satisfactory to the World Bank (there are no pending audits for the projects implemented by the PMU, and no major issues have arisen in the latest audit of the project implemented by the PMU), and it has thus been agreed that similar audit arrangements will be adopted for the project, to cover the project financial statements. The audit of the entity (the SUE KMK) and the project will be conducted (a) by independent private auditors acceptable to the World Bank, on ToR acceptable to the World Bank, and (b) according to the International Standards on Auditing issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants.

17. The annual audits of the entity and the project financial statements will be provided to the World Bank within six months since the end of each fiscal year and at project closing. If the period from the date of effectiveness of the loan to the end of the borrower's fiscal year is no more than six months, the first audit report may cover financial statements for the period from effectiveness to the end of the second fiscal year. The borrower has agreed to disclose the audit reports for the project and the entity within one month of their receipt from the auditors and acceptance by the World Bank, by posting the reports on its official website. Following the World Bank's formal receipt of these reports from the borrower, the World Bank will make the audit reports publicly available according to the World Bank Policy on Access to Information. The cost of the audit will be financed from the proceeds of the project.

Disbursement

18. The FM/accounting staff of the PMU is well aware of the Bank disbursement policies and procedures. The PMU will establish a Designated Account (DA), in USD, specifically for this Project, in the commercial bank/financial institution, which is acceptable to the World Bank. The Project's DA will be managed by the PMU. The expenditures paid from the DA will be documented to the World Bank through Statements of Expenditure (SOEs). Withdrawal applications documenting funds utilized from the DA will be sent to the Bank at least every three months. DA ceiling will be provided in the Disbursement and Financial Information Letter (DFIL).

19. In addition to the DA, the project funds will flow from the World Bank through the direct payment method, reimbursement method and/or special commitments. Detailed instructions on withdrawal of grant proceeds with respect to these methods will be provided in the DFIL.

20. Project funds will be transferred electronically to a Transit Account opened at the same commercial bank/financial institution for immediate payments in local currency, based on expenditures already incurred or immediately to be incurred. All payment orders will be approved by the PMU Director, or his designate, and the Chief Accountant after being verified by the FM specialist. Payments in foreign currency will be made either from the DA or directly from the Grant Account as Direct Payment depending on the threshold for such

payments, as would be determined in the DFIL. Payment Orders from the DA, prepared by the FM specialist and signed by the Chief Accountant, will be approved by the PMU Director. Withdrawal Applications for Direct Payments would be submitted directly to the SUE KMK and MoF where they will be reviewed and approved by the person authorized to sign Withdrawal Applications on behalf of the recipient.

Procurement

21. Procurement under the proposed project will be governed by the World Bank's Procurement Regulations for IPF Borrowers (dated July 2016, revised November 2017) (Procurement Regulations). The PPSD is being prepared by the borrower to identify the most appropriate procurement approach for the project. Initial analysis of the PPSD shows that procurement activities and packages envisaged under the project are of standard nature and small in value. The investments mainly include rehabilitation/construction of water supply and sanitation facilities in the targeted areas and will be similar to the previous infrastructure investments in terms of complexity, participation of the private sector, and procurement methods. The procurement approach, procurement risks, arrangements, and Procurement Plan for the project duration recommended by the borrower are presented in the PPSD.

22. The key issues and risks concerning procurement under the project include (a) inadequate level of competition, (b) procurement and implementation delays due to lack of knowledge and experience of PMU/participating utilities with the World Bank's Procurement Regulations, (c) lack of efficient contract monitoring and management skills and tools, and (d) overall high public procurement risk environment. Given the above risks and based on the lessons learned from previous projects, the following measures are proposed to strengthen the PMU's capacity and ensure effective project implementation:

- Careful procurement planning and optimization of contract packages
- Advance preparation of bidding documents, including the construction design
- Conduct of a workshop with potential bidders in the targeted area to provide information on the proposed scope and procurement opportunities under the project. Feedback obtained from this workshop should be reflected in the relevant provisions of the bidding documents
- Start-up and intensive procurement trainings for staff of participating agencies, including tender committee members
- Preparation of the POM with a detailed description of procurement processes
- Putting in place an efficient contract management system

23. **Use of National Procurement Procedures.** In accordance with paragraph 5.3. of the Procurement Regulations, when approaching the national market (as agreed in the Procurement Plan), the Tendering with Unlimited Participation procurement method set forth in the Law of the Republic of Tajikistan 'On Public Procurement of Goods, Works and Services', # 168 dated March 3, 2006 (as amended by Law #815, the Law of the Republic of Tajikistan on 'Introduction of Amendments and Additions' to the Law of the Republic of Tajikistan on 'Public Procurement of Goods, Works and Services' dated April 16, 2012) may be used subject to the following conditions:

- The request for bids/request for proposals document shall require that bidders/proposers submitting bids/proposals present a signed acceptance at the time of bidding, to be incorporated in

any resulting contracts, confirming application of, and compliance with, World Bank Anticorruption Guidelines, including without limitation the World Bank's right to sanction and the World Bank's inspection and audit rights.

- The request for bids/request for proposals document, including contract forms, acceptable to the World Bank shall be used.

- The request for bids/request for proposals document and contract shall provide the right to the World Bank to review procurement documentation and activities.

- The borrower shall put in place an effective complaints review mechanism and shall disclose the details in all the bidding documents. All complaints shall be recorded by the borrower in the appropriate tracking and monitoring system, as agreed between the borrower and the World Bank.

- No preference shall be applied under competitive bidding following national market approach.

24. Other national procurement arrangements that may be applied by the borrower such as tendering with limited participation, request for quotations, and direct contracting, shall be used on the above stated conditions.

M&E

25. The M&E system has been designed to measure and report on PDO and intermediate World Bank indicators using core and customized indicators, as detailed in section V. It also facilitates ready access to the information required for monitoring project progress, and so the capacity to identify and address any problems in project implementation. A full-time Deputy Director/Monitoring, Evaluation, and Reporting will be hired by the PMU, who will be trained during the course of the project.

26. The local NGO employed by the project will be responsible for collating and reporting all relevant information on the social mobilization, school WASH program, beneficiary feedback surveys, WASH behavior change communication campaign, and use of customer scorecards to the PMU on a regular basis.

27. The project baseline survey will be designed and implemented to provide accurate and transparent baseline information to the stakeholders. An international expert on M&E will develop the ToR, methodology, and questionnaire for baseline data collection for all indicators, included in the POM. Within the first six months of project implementation, a local NGO/firm will be selected on a competitive basis and trained by the M&E expert to work with the PMU to administer the survey.

Strategy and Approach for Implementation Support

28. The strategy for implementation support has been developed based on the nature and the design of the project and its risk profile. It aims at providing sufficient technical support to the PMU as well as to the local water utilities. The plan will ensure fiduciary compliance with World Bank guidelines and look to adequately carry out all risk mitigation measures defined in section V. Results Framework and Monitoring. Specifically, the strategic approach for implementation support takes into account the following:

(a) The local authorities in the project area may have technical skills but are limited in their experience of working with IFIs, which could cause implementation delays.

(b) The PMU has experience in implementing World Bank projects and is fully staffed.

(c) The implementation arrangements structure is complex, with the need to coordinate and work with existing institutional capacity for the sustainability of achieved gains.

(d) The project interventions are simple, well proven, and widely used internationally.

(e) Stakeholders understand and agree on the necessity of cost recovery to ensure financial sustainability of the services.

(f) A high-level political decision needs to be taken with regard to changes in the institutional setup.

29. Based on these abovementioned factors and the numerous weaknesses identified, specifically the institutional implementation capacity, the project will require substantial support from the World Bank's task team in the early years of implementation. Implementation support will be provided by the World Bank team consisting of staff with relevant competencies in operations, procurement, finance, and safeguards. The World Bank team will undertake periodic field missions throughout the project's implementation as required but will intensify supervision during the first 18 months of project implementation to ensure adequate support and smooth start of the project. The Implementation Support Plan will focus on the following:

(a) **Support to timely implementation.** The World Bank team will provide support and conduct required training on the World Bank's Guidelines in Procurement, Financial Management, Environmental and Social Safeguards. In addition, the World Bank will support the PMU in the preparation of bidding documents for the first 18 months packages. The immediate priority is to support the PMU to ensure high technical quality of the designs and outputs, finalization of bidding process, and contract award of contracts for a total value of at least 30 percent of the grant amount. The World Bank will focus, through training workshops, on improving the capacity of targeted water utilities to ensure quality of project implementation and compliance with the World Bank's procurement, FM, and safeguard policies.

(b) **Coordination.** The World Bank will work with the MEWR, SUE KMK, and the PMU to ensure that effective coordination is established between the implementing partners as well as with local governments and *jamoats*, and other members of the project's Advisory Council.

(c) **M&E.** The World Bank team will work with the PMU, *water utilities*, SUE KMK and project implementation units to develop and agree on the format of the 'Quarterly Progress Report' and M&E systems. Quarterly reports will include information updates on technical and financial progress as well as an update of the monitoring indicators. In addition, the World Bank team will advise the PMU on environmental due diligence to ensure that the ESMP is adhered to during construction phases.

(d) The World Bank will work with targeted water utilities to assist them in improving their transparency and information sharing, as well as regular communication and training of communities included in the project.

(e) **Sustainability.** The World Bank team will continue the high-level dialogue and have intensive consultations with relevant stakeholders at the national and local levels to effect changes toward sector improvement and sustainability of the infrastructure.

(f) **National Water Supply and Sanitation Program.** The World Bank will continue high-level sector reform dialogue, including update of national policies and strategies, as well as improving tariffs setting in coordination with other donors, to move forward water tariff and sector reforms.

30. The POM will be prepared by the PMU and adopted by the MEWR and SUE KMK before the project becomes effective. The POM will provide overall guidance on project implementation by describing the roles and responsibilities related to management of the project by the various agencies involved in project execution, including the implementation arrangements; the fiduciary, social, environmental, and M&E requirements; and key actions to meet project objectives.

31. In addition, the World Bank task team will work closely with the project PMU and other implementing partners by involving a group of professional expertsa who have the various required skills and profiles to support the executing agencies in the implementation of the various project activities. It is planned that a significant part of this expertise can be mobilized locally in the country office. Currently, a significant part of the task team is decentralized, which will enhance implementation support. Fiduciary support is also provided at the country office. The project design places a strong emphasis on social inclusion and communication and M&E and reporting.

Table 1.2. Implementation Support Plan and Resource Requirements

Time	Focus	Skills Needed
First 18 months	• Procurement of works and contracts award • Finalizing of detailed design processes of subprojects (including safeguards assessments) • Establishing M&E and reporting systems • FM, procurement, and safeguards	A variety of technical skills, such as engineering, utility management, utility regulation, environment, project management, fiduciary, and M&E
18–72 months	• Construction works and supervision • Social mobilization and inclusion • Implementation of systematic training programs • FM, procurement, and safeguards • M&E • Project and contracts closing	A variety of technical skills, such as engineering, utility management, environment, project management, fiduciary, and M&E

Table 1.3. Skills mix Required for the Duration of Project Implementation

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leaders	40	12	Field-based staff/ HQ
Civil Engineer	80	-	Engineer Consultant
Institutional Specialist	10	5	International Consultant
Environmental Specialist	10	10	HQ
Social Specialist	20	8	Field-based staff
Sanitation and Hygiene Communication Specialist	6	2	HQ
FM Specialist	10	4	Field-based staff

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Financial Analysis Specialist	6		Field-based Consultant
Procurement Specialist	10	8	Field-based staff

Note: HQ = Headquarters.

ANNEX 2: DETAILED PROJECT DESCRIPTION

COUNTRY: Tajikistan
Rural Water Supply and Sanitation Project

Project Development Objectives

1. The PDOs are to (i) improve access to basic water supply and sanitation services in selected districts; and (ii) strengthen capacity of institutions in the water supply and sanitation sector.

2. This set of objectives is consistent with the deep-seated link between the WASH factors and poverty and health issues observed in the project areas. Within the broad framework of the NDS and the World Bank's twin goals of ending extreme poverty and boosting shared prosperity, the project responds strongly to reducing poverty through the prevention of water-related diseases, health and associated out-of-pocket expenses, cognitive development, mortality rates, and educational attainment, particularly for women, children, and vulnerable populations, while generating important time savings to rural populations without access to improved water services. The project will also directly contribute to reduction of multidimensional poverty, addressing indicators related to services and infrastructure. The impact of the project is expected to be even more pronounced, as the interventions target districts of Khatlon region, which score the worst in access to piped water and sewage with at least 80 percent of households deprived along these indicators.[47]

General Principles

3. Selection of areas to be covered and all investment activities was based on the feasibility assessment and analysis done under the WASH Poverty Diagnostic study. It was confirmed that each area has urgent needs for drinking water supply facilities. Due care was also taken to focus physical investments only in *jamoats* where there is no substantial ongoing or confirmed attention paid by other donors (ADB, German Agency for Technical Cooperation, SECO, and EBRD). Priority was given to the southern region of Khatlon since it was identified in the WASH Poverty Diagnostic study as the area with the highest density of poor population and highest number of population deprived from WASH services. Similarly, with respect to support to the GoT on the policy dialogue and water sector reform, extensive consultations were held with the MoF, Ministry of Economic Development and Trade, SUE KMK, and other donors. The development of a National Water Supply and Sanitation Program for 2021–2030 was seen by both the GoT and other stakeholders as timely and critical.

Geographical, Hydraulic, and Existing System Characteristics

4. The project area is located in the southern part of Tajikistan in the Khatlon region and covers villages in seven districts: Vakhsh, Levakand (Sarband), Kushoniyon (Bokhtar), Dusti (Jilikul), Balkhi (Rumi), Jayhun (Qumsangir), and Vosse.

5. The project area was serviced by centralized water supply services during the Soviet period. The existing water systems (the Vakhsh main water supply system and others) have deteriorated and have exceeded their technical and economic design life span (often constructed in the 1960s and 1970s). As a result, currently, the coverage on average is estimated at less than 20 percent of the population, and the quality of services and water supplied is extremely poor. During consultations, people and community representatives voiced their concerns regarding access to clean drinking water, referring to high incidents of waterborne diseases within their

[47] World Bank (2017) based on Census 2010.

communities, and hardships associated with collecting water from standpipes, distribution trucks, and irrigation canals/drains—especially during the winter season when snow and freezing conditions are common (this task is typically borne by women and children). A high willingness by the people in the project area to pay for the services was observed.

6. Most pipes are steel and cast iron with a very small percentage of asbestos cement. The network has a lot of leakages that the services provider tries to repair on an ad hoc basis. The existing systems include either systems of several villages fed by the same source or decentralized systems fed by local groundwater or surface water sources. In the past, the systems were operated continuously, while a majority of households were using the street standpipes. In a majority of villages, the services were provided by specialized operators, contracted by state farms. The payment for services was through these state farm budgets and often was not affecting individual households. The collapse of the Soviet Union and the new setup in rural areas, lack of investments in operation, and the expansion and growth of population and residential areas resulted in the substandard services that can be characterized as very poor, while many people have no access to water services. Villages with deteriorating infrastructure slowly shifted to the use of informal sources, such as irrigation canals, ditches, shallow groundwater tubewells, and dug wells. The small irrigation canals can be used only from March to November. Thus, during the winter period, as most of those canals are closed for maintenance, village people must walk for on average 2 km to fetch water from other sources, mainly large irrigation canals. In some areas, people rely on water tankers to fill storage tanks using concrete or metal storage containers in the yards.

7. The current sources of water supply in the seven districts are as follows:

- Balkhi district is supplied by mainly Vakhsh river and the main irrigation canal.
- All villages in Vakhsh district are using irrigation canals and trucked water; part of the population is served by the existing water pumping station and through networks.
- The water sources for villages in Jayhun are mainly irrigation canals and trucked water, while part of the population is served by the Pumping StationCentralnaya (fed by Kumsangir irrigation canal).
- Villages in Sarband and Bohtar regions are getting water mainly from irrigation canals and river in summer and trucked water during winter period.
- Dusti (Jilikyul) is the furthest part of the Vakhsh Group Water Pipeline (VGWP) right branch.

8. Most of villages in Vosse district were grouped and connected to four main sources—well fields in Vosseobod, Javoni, and Chilla and a spring catchment in Mulloniyoz. Over the past decade and due to lack of proper O&M, most of the existing systems deteriorated, and groundwater quality worsened in most of the existing well fields (high saline content and hardness), while the mechanical and electrical equipment require replacement.

9. The existing water supply systems for the seven districts are as shown in
10.
11.

12. **Table 2.*1***.

Table 2.1.Existing Water Sources in the Project Area

#	District	Jamoat	Number of Villages	Rural Population (Number)	Description of Current Water Supply
1	Vakhsh	Vakhsh rayon center	—	15,180	The rayon center is served by the local surface source: Vakhsh river-reservoir for Perepadnaya HPP. WS is operated by the Vakhsh urban water utility
		Pgt Kirov	5	40,590	VGWP
		Rudaki, unit 1, 2	3	23,090	People use water manually fetched from irrigation canal.
		Mashaal	2	20,332	People use water manually fetched from irrigation canal.
		Tojikobod	1	33,716	Partly served by the VGWP right branch and partly from irrigation canal; WS infrastructure is managed by WUA.
		Vahdat	1	15,183	Used to be served by PS on Kumsangir canal.
		20 Solagii Istiklol	5	35,682	Used to be served by PS on Kumsangir canal.
	Subtotal for district		**17**	**183,773**	
2	Sarband	Guliston	8	19,518	For all villages, the current water sources are mainly irrigation canals and river in summer and trucked water for most of population during winter period.
		Vahdat	6	830	
	Subtotal for district		**14**	20,348	
3	Kushoniyon (Bokhtar)	Pgt Bohtarion	—	2,084	*Jamoat* is served by irrigation canal; people fetch untreated water.
		Pgt Bustonkala	—	16,555	*Jamoat* is served by Kurgan tube water source.
		Pgt Mehnatobod	—	7,551	*Jamoats* are served by the right and left branches of the VGWP.
		Pgt Ismail Somoni	22	10,286	
		Mehnatobod	19	27,103	
		Istiklol	20	10,791	Recovery of the VGWP and PS Vien
		Navbahor	14	18,680	*Jamoat* is partly served through two existing wells.
		Orien	11	22,976	The source remains in Kurgan tube. Only the network is proposed for rehabilitation.
		Bohtarien	42	47,561	The PS on canal and the 4 wells are not operating. People fetch manually untreated water from this canal.
		Bustonkala	26	26,567	*Jamoat* is served by Kurgan tube water source.
		Zargar	26	33,730	The most remote from the VGWP right source, the lowest level of services
	Subtotal for district		**180**	**223,884**	

#	District	Jamoat	Number of Villages	Rural Population (Number)	Description of Current Water Supply
4	Dusti (Jilikul)	Jilikul	15	25,647	The source is PS Kalinina on Kumsangir irrigation canal (temporary solution); this PS previously was fed by the VGWP right branch (currently not operating). As of summer, 2017, the town was part of a USAID project.
		Istiklol	6	24,035	*Jamoat* was served by the PS on canal from river Vakhsh.
		G. Gulmurodov	12	16,813	People fetch water from Kumsangir canal and from local shallow groundwater wells.
		Nuri Vakhsh	5	17,319	People were served by the VGWP; currently they use water from irrigation canal.
		Navzamin	2	6,076	*Jamoat* is located in the mountainous areas and has no infrastructure.
		Dehkanobod	12	15,775	Irrigation canal plus tube wells
	Subtotal for district		**52**	**105,665**	
5	Balkhi (Rumi)	v. Guliston	7	24,580	Villages are served by 2 tube wells and Vakhsh PS.
		Kalinin	6	15,936	Partly served by the VGWP.
		Halevard (Tugalang)	17	37,126	Esh Lenin has its own source (tube well) and local network with elevated water tank. Other villages can be served by the VGWP.
		Madaniyat	16	19,427	7 out of 16 villages are partly served by the VGWP; the rest of the villages are served from 2 tube wells.
		Uzun	14	22,555	The villages are partly served by the VGWP, due to the low pressure and shortage of water.
		Navobad	12	23,589	Villages are partly served by the VGWP, with low pressure in WS system.
		Frunze	12	22,942	Villages are partly served by the VGWP.
	Subtotal for district		**84**	**166,155**	
6	Jayhun (Qumsangir)	Dusti Pgt		16,943	Supply from the VGWP right branch from recovered PS Centalnaya to reservoirs
		Pyanj	14	33,663	Supply by the VGWP right branch through PS from reservoirs in Dusti rayon.
		Kumsangir	11	26,611	—
		Istikol	6	24,913	—
		Vahdati Milli	9	14,698	Individual connection to the VGWP, PS, and reservoir
		Yakkadil	5	9258	Source is shared with *jamoat* Istiklol connecting to the VGWP.
	Subtotal for district		**45**	**126,086**	
7	*Vosse*	Mirali Mahmadaliev	12	34,521	In the Soviet time, most of the villages in Vosse district were grouped and connected to 4 main sources—well fields: Voseobod, Javoni, and Chilla and spring catchment: Mulloniyoz. The WS networks were in most of the villages. Currently, some of the water sources are destroyed or deteriorated.
		Gulistan	7	26,219	
		Abdi Avazov	9	20,578	
		Tugarak	12	32,242	
		M. Vaisov	9	32,296	
		Kh. Rajabov	16	23,662	
		Rudaki	4	11,795	

#	District	Jamoat	Number of Villages	Rural Population (Number)	Description of Current Water Supply
	Subtotal for district		**69**	**181,313**	
	Total		**461**	**1,007,224**	

Source: Population figures are the National Statistics Committee data, 2016; Project Feasibility Studies
Note: HPP = Hydro-Power Plant; PS = Pumping Station; WS = Water Supply System.

Project Components and Design

13. The RWSSP provides financing for (a) water supply infrastructure investments in target rural districts/villages, (b) sanitation investments in social institutions in the same villages, (c) social mobilization and WASH behavior change activities, (d) institutional strengthening activities, and (e) project management and implementation support. It is intended to leverage the infrastructure investments to strengthen key sector institutions (*Vodokanals*, *Tojikobidehot* branches, and others) and the implementation capacities of leading institutions responsible for delivering all aspects of water and wastewater and sanitation services (the SUE KMK, design institutes, local contractors, and others such as consultants and interested NGOs).

14. The project area includes more than 450 villages of different sizes with a total population of around 1.0 million people. The project is expected to rehabilitate existing water supply facilities and extend their coverage. However, the estimated cost to cover the whole project area is beyond the existing allocation for this project component (US$42.6 million). It was therefore agreed during preparation that the proposed subproject investment areas will focus on high-priority areas to fit within the available financing limitations. As the engineering designs progress and detailed cost estimates become available, further consideration will be given to implementing other facilities if funds are available. Further, if AF becomes available, the project design will be adjusted to consider other investments. The list of priority subprojects for water supply investments has been prepared by the study financed by ECAPDEV. This list was presented by the consultant and discussed and agreed with the the Government and project implementing.

15. Further details of the activities to be financed under each component are as follows.

Component 1 - Water Supply and Sanitation Infrastructure Investments (US$52.00 million)

Subcomponent 1.1: Investments in Water Infrastructure (US$42.6 million)

16. This subcomponent will finance infrastructure solutions that will be simple and robust and will include climate resilience measures. It will address the needs for rehabilitation of existing and/or extension of water supply systems in the targeted project areas benefitting up to 1 million people. The subcomponent will finance goods, works, and services and will include civil and electrical/mechanical installations for water supply production (boreholes, intakes, and so on; disinfection; and pumping as required) and transmission and distribution (networks, storage, meters, and so on) to households or standpipes, as possible, in the project areas.

17. The feasibility study was prepared with careful attention to ensure that the highest percentage of the population in the project area is provided with clean and affordable water. Different alternative options are being reviewed. These alternative options aim to achieve equitable access for all of the population within the

project area and reflect carefully the principles of optimal design taking into consideration climatic factors and resilience, constructability, and efficient use (simple, easy, and cost-effective to operate and maintain). The design process will be based on the review and assessment of the water source alternatives and not just seek to simply replicate existing systems. This review will consider the costs and benefits associated with water source alternatives, including potential water security constraints (for example, variable seasonal flows); water quality requirements; operating costs; and associated capital infrastructure costs for production, transmission, and distribution. Where house connections will be constructed, the water meters will be installed by the owners of the houses, with special support for targeted poor households. This subcomponent will address the very basic needs for drinking water supply in the targeted areas benefitting up to 400,000 people. The costs associated with implementation of resettlement activities (according to RPF procedures) will be financed by the Government.

18. Based on the existing conditions of the water supply systems described above, villages in the study area were grouped as follows:

- **Part A. Villages close to the Vakhsh bulk water supply system.** This subcomponent will finance (a) rehabilitation of existing water supply infrastructure related to the Vakhsh bulk water supply pipeline and (b) minor extension and construction of distribution network to connect to existing systems, where needed. The subcomponent will finance goods, works, and services required for electrical/mechanical installations for water supply production (boreholes, well-fields, intakes, disinfection, and pumping using solar energy where and as required), and water transmission pipelines (networks, storage, meters, and so on) to households in the project areas as applicable.

- **Part B. Villages beyond the Vakhsh bulk water supply system.** This subcomponent will finance multi-village or stand-alone systems for (a) rehabilitation of existing systems for a cluster of villages located close to one another (where one source will be used to supply multiple villages) and (b) rehabilitation and development of existing systems to serve villages in remote areas and/or remote from the main water sources. This subcomponent will finance individual water supply options as applicable that range from rehabilitation of ongoing schemes, rainwater collection and harvesting facilities, water tankers, water vending stations, water kiosks (that is, metered standpipes operated by utilities, using pay-as-you-go or prepaid principles), and other self-supply solutions that are appropriate to serve those remote households or villages that cannot be reached through centralized systems. Publicly accessible (rainwater) storage reservoirs with mobile water trucking services may be needed in areas with poor groundwater quality that cannot be connected to networks.

19. The feasibility study concluded that several subprojects have been identified and prioritized for financing under the RWSSP, serving around 400,000 people in more than 200 villages. For each subproject, a concept-level design has been prepared at the feasibility study stage. World Bank specialists and a representative of the Government have assessed and verified the existing conditions and proposed concepts to ensure optimal technical climate resilience options are selected. Detailed engineering designs and preparation of bidding documents have commenced for subprojects, with a total value of around US$20 million (32 percent of the total project costs). Advance procurement activities are expected to start before project effectiveness to ensure readiness for implementation.

20. The cost estimates have been prepared by the consultancy firm and reviewed by the World Bank. The estimates are based on local and international market prices and include provisions for escalation and contingencies. The proposed contract packaging considers potential technical and procurement risks and

geographical constraints and where possible seeks to increase efficiency through economies of scale (by grouping similar investments into larger packages) taking into account the capacity of local contractors. Moreover, procurement packaging and implementation time frames were reviewed from a technical perspective, and it was confirmed that the approach is considered achievable within the project duration.

21. A summary of the subprojects and the first packages is provided in Table 2.2.

Table 2.2. Summary of the Proposed Water Schemes

No	District: *Jamoats*	Name of the Subproject	Number of Villages Served	Population Covered
1	Vose: Guliston and Mirali Mahmadali	Chilla/Selbour water scheme	11	42,000
2	Vose: Kh. Rajabov and Rudaki	Mehnatobod water scheme	17	34,000
3	Vose: Abd. Avazov, M. Vaysov, and Guliston	Zarkoron water scheme	16	36,000
4	Vosse: Tugarak	Hasan Kurban water scheme	12	32,000
5	Districts of VGWP	Rehabilitation of the water intake and sedimentation ponds Rehabilitation of pumping station Uzun and Kalenin	TBD	Potentially 300,000

22. In areas where water system networks will be rehabilitated and or extended, targeted water utilities will take responsibility over implementation of individual metering for each connection taking into account pro-poor measures agreed under the project. Quality assurance and technical supervision of works will be carried out by the supervision team at the PMU. This subcomponent will also finance training on O&M for water utilities to ensure compliance with the relevant operating manuals, rules, and procedures into the day-to-day activities of the targeted water utilities /or their successors.

23. The subcomponent will support the SUE KMK and the Agency on Construction and Architecture in the development of standard engineering designs for proposed single-village water supply systems.

Subcomponent 1.2: Investments in WASH conditions of social institutions (US$9.4 million)

24. This subcomponent will fund infrastructure investments for participating social institutions[48] that are located within the rehabilitated and/or extended service area of targeted water utilities. The main activities under the subcomponent will include (a) provision of water supply connections or other solutions (rainwater harvesting, wells, and water filters), (b) retrofitting, replacement, or construction of sanitation facilities and handwashing basins and installation of hygiene rooms within the school premises, where possible, and a small-scale pilot to provide result-based grants to poor households for on-site sanitation improvements. The provision of separate and accessible sanitary facilities for girls and boys in schools is expected to contribute to better school participation. Basic WASH facilities in rural health centers and clinics will contribute to reduced risk of transmission of communicable diseases to patients.

25. The project will aim to provide a water connection to about 200 participating social institutions.[49] The

[48] Social institutions are defined as primary and secondary schools, ECD centers, and health centers and rural health centers.
[49] Social institutions are defined as primary and secondary schools, ECD centers as well as health centers and rural health centers. Rural clinics include both health centers for outpatient care as well as rural clinics/hospitals that have in-patient care capacity.

project will finance the rehabilitation and/or new construction of sanitation and handwashing facilities in social institutions, benefitting an estimated 100,000 people. There are about 337 schools and 51 rural health centers in the project area, with basic statistics included in

26.

27. Table **2.*3***, indicating the extremely poor WASH situation in schools in the project areas, typical for rural areas in Tajikistan.[50]

Table 2.3. Existing WASH Situation in Schools in the Project Areas

Districts	Number of Schools	Number of Pupils, and Female %	Number of Staff, and Female %	% of Schools with Access to Piped Water[c]	% of Schools with Toilets Older than 10 years	Number of Health Centers[d]
Sarband (Levakand)	15[a]	11,200 - 50%	540[b] - 50%	Not known	Not known	4
Bokhtar (Kushoniyon)	58	47,506 - 49%	2,495 - 50%	21	62	7
Vakhsh	64	41,315 - 47%	2,256 - 43%	39	47	5
Dusti (Jilikul)	43	20,963 - 48%	1,214 - 54%	2	63	14
Balkhi (Rumi)	55	31,986 - 50%	1,996 - 48%	25	51	11
Jayhun (Qumsangir)	27	16,875 - 46%	985 - 49%	11	59	10
Vosse	75[a]	46,860 - 48%	3,037[b] - 53%	Not known	Not known	8
Total/average	**37**	**214,045 - 49%**	**12,078 - 50%**	**22 average**	**55 average**	**51**

Note: a School numbers based on official statistics of Tajstat for 2016;

b. Extrapolation based on average of other districts.

c. Piped water connections does not mean that water is treated and safe. Several existing water systems distribute surface irrigation water or groundwater without chlorination. Schools without piped water would collect water from nearby irrigation canals, purchase water from trucks, use handpumps on premises, and/or have no water at all (requiring pupils to bring their own water bottles during the day).

d. Health centers number based on official statistics 2016.

28. In the final selection of the targeted schools, the project will coordinate with the MoES to ensure that schools are included that are not targeted through other interventions (for example, UNICEF's support to a national school-WASH program) or that are in an emergency state are planned to be demolished and newly constructed. To prioritize and prepare the infrastructure investments in social institutions, the following steps will be carried out:

(i) Conduct on-site assessment of schools and health centers and the condition (functionality, accessibility, safety) of their water, sanitation, and handwashing facilities.

(ii) Review availability of space in the main buildings to include few indoor toilets, including a hygiene room to be used by girl pupils of adolescent age.

[50] JMP (2018) estimates for rural areas illustrate that 73 percent of school-age population has access to basic drinking water, while access to basic sanitation is only 38 percent and access to basic hygiene even lower at only 20 percent.

(iii) Prioritize the identification of schools and health centers for investments based on criteria such as (i) adequate condition of the building; (ii) (increasing) student numbers; and (iii) condition, age, and number of existing facilities.[51]

(iv) Review design options to allow for outdoor toilets using different solutions (ventilated improved pit latrine designs and flush-toilet designs). Facility design should ensure separate, private, and safe toilets for males and females; allow for accessibility of disabled students; and ensure handwashing facilities are located close to the toilets and include a separate hygiene room for girls.[52]

29. Construction/rehabilitation of school sanitation facilities will be accompanied by a school-WASH educational program further described below to ensure that facilities are well maintained, and pupils are encouraged to adopt improved hygienic behaviors. A review and updating of standard WASH facility designs for schools in coordination with the Design Institute, MoES, and in collaboration with UNICEF will be supported under this subcomponent. Design options should allow for different solutions and align with criteria for basic service under the SDGs (sex separation, privacy, allow for accessibility of disabled students, and hygiene room for girls). Similarly, design for WASH facilities for rural health care centers will be reviewed with the MoHSP.

30. **Result-based grants for on-site sanitation.** Complementary to community-wide WASH behavior change, this subcomponent will finance result-based incentive grants targeted at poor households to gain access to a basic sanitation facility. This incentive scheme will be implemented as a pilot once the first water system improvements have been realized. An adaptive learning approach will be followed. The evaluation of this pilot initiative will inform and adjust procedures for potential scale-up. The scheme is expected to reach 1,000 poor households. Delivery of the incentives is aligned with a market-based approach, combining behavior change communication and sanitation marketing. Incentives targeted at poor households can address affordability gaps and accelerate self-investments of the poor. Households that qualify for the Government's targeted social assistance program will be eligible for the incentive, plus other vulnerable groups that will be defined (for example, households with disabilities). Incentives will be paid to eligible households upon ex post independent verification of the correct installation of a basic sanitation facility. Conditional for disbursement of the incentives, a manual needs to be developed, satisfactory to the World Bank and adopted by the client. This manual will detail roles and responsibilities of implementers, eligibility criteria, and FM and verification arrangements.

School-WASH Education Program

31. The project will finance training and technical assistance activities for the implementation of comprehensive extracurricular[53] activities engaging pupils, school staff, and parents to promote the adoption of improved hygiene behaviors in primary and secondary schools through daily routines and to ensure the adequate O&M of the WASH facilities and the financing of consumables such as soap, toilet paper, and cleaning materials. The WASH education program will include MHM by integrating the currently approved educational

[51] International guidance for pupil-toilet ratios are 1 toilet for every 25 girls and 1 toilet for every 40 boys (based on students present in a shift).
[52] Hygiene room should preferably be located indoors. Hygiene rooms need to include facilities for washing cloths/reusable pads, disposal of sanitary napkins, and personal hygiene needs.
[53] The in-class curriculum activities under the 'Life Skill' program also include education on WASH and personal hygiene in grade 3 and grade 4. This primary school curriculum has been approved in 2016.

materials and improving those where necessary.[54] The project will build on existing experiences[55] and will collaborate with UNICEF, which is scheduled to roll out a National WASH-in-school Program in close collaboration with the MoES and the MoHSP during 2018–2021. The project intends to implement the program through collaboration with the National Centre of Healthy Lifestyle and its district branches in the target district centers. The following activities are foreseen:

(i) Update/revise a training manual for promotion of WASH behaviors in school including MHM. Since any training and educational material are to be approved by the MoES,[56] the project aims to coordinate with UNICEF, which intends to review the current WASH-in-school manual and promotion materials in 2019.

(ii) Training of trainers will be implemented for staff (facilitators) in the district branches of the Healthy Life Style Centre[57] for them to become school-WASH facilitators.

(iii) School WASH facilitators train and coach school staff in the implementation of WASH-in-school program for 150 targeted schools. This program has the following key activities:

   a. Establishment of School-WASH committee, including Girls WASH club

   b. Discussion of WASH-costs and O&M plan for new facilities; defining of funding sources with support of school board and parents committee[58]

   c. Development of WASH information corner in schools

   d. Implementation of peer-to-peer learning activities (assemblies, competitions, celebrations, and so on)

   e. Introduction of collective handwashing routines in schools

   f. Participatory monitoring of facilities

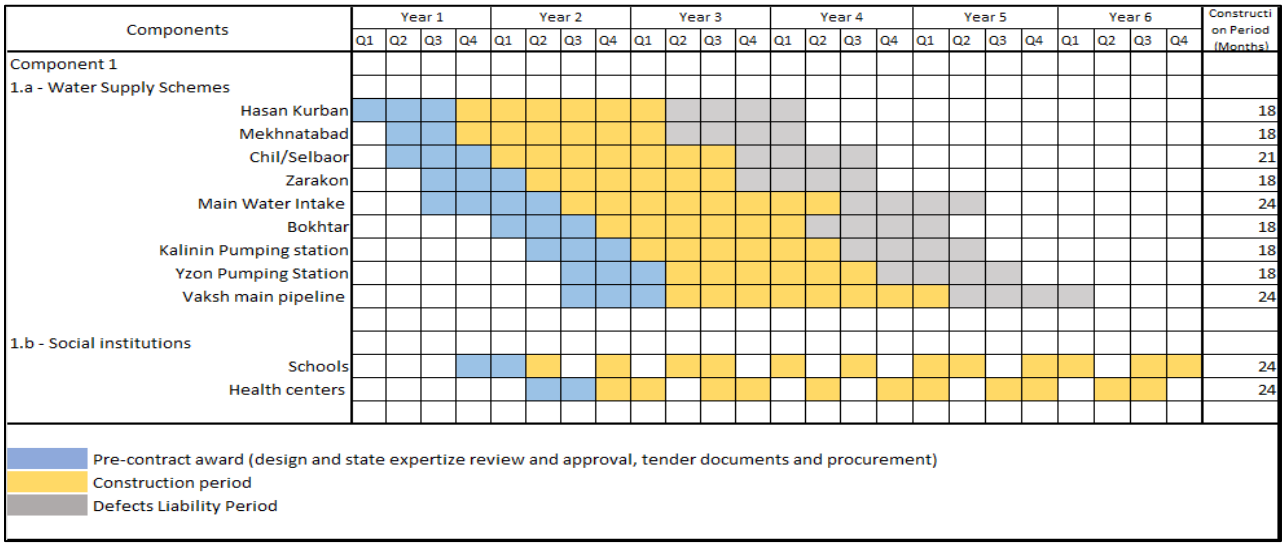
(iv) The impact of the WASH-in-school program will be monitored through an externally implemented baseline and an end line assessment. This will include understanding of routine practices adopted; knowledge, attitudes, and practices in terms of hygiene behaviors; and self-efficacy in MHM by girls.

32. Within two years after construction, an assessment will monitor the physical condition of the facilities (functionality, accessibility, and cleanliness of the WASH facilities and availability of soap and toilet paper) to measure the sustainability of usage. The assessment will be financed under Component 3.

33. An implementation schedule for the infrastructure works financed under the Component 1 is presented in Figure 2.1.

[54] Existing Menstrual Hygiene Education materials are currently limited to a booklet approved for teaching girls in grade 9-10. It is proposed to further expand this to include materials/training for mothers to connect school and home environment (with support of World Bank-executed trust funds).
[55] Such as developed by UNICEF, Save the Children, and Oxfam in collaboration with the MoES and MoHSP.
[56] The approval/endorsement process requires a period of 3–6 months.
[57] An MoU with the MoHSP/Healthy Lifestyle Center will be drafted that indicates their tasks; annual workplans will be developed so that incremental operational costs for staff of the center can be financed by the project, as well as training workshops and materials required.
[58] Most schools have existing parent committees that are expected to review the annual school budgets. School budgets are based on per capita financing, and schools have the ability to raise additional funds from parents in a separate account.

Figure 2.1. Component 1 - Implementation Schedule



Component 2 - Institutional strengthening and capacity-building of water sector institutions (US$5.00 million)

34. The component will provide support to the MEWR, SUE KMK, and other government agencies in the Project Advisory Council at the national and local levels in the completion of the following tasks:

(i) Development of water sector policies and strategies

(ii) Strengthening of management capacities for the provision of water supply

(iii) Development of a technically optimal and cost-efficient institutional and organizational structure for delivery of water supply services

(iv) Development of standard designs for water supply and sanitation in rural areas

(v) Introduction and strengthening of citizen engagement mechanisms within targeted utilities

(vi) Support to innovative approaches to social mobilization and community behavior change communication campaigns

35. This component will finance trainings, workshops, consultancy services, non-consultancy services, goods, and operational costs to implement the activities discussed under each level.

At the National Level

36. At the national level, this component will support the following activities:

(i) Preparation of a National Water and Sanitation Program and Financing Strategy for 2021–2030. The plan will identify the country's future needs, water resources availability, priority investments in the sector, potential service delivery arrangements, and required financing. As part of the process, the MEWR and the SUE KMK will establish an Inter-Agency Working Group to work on the development of the sector regulations and strategic documents.

(ii) Development of key policies and instruments for sector management and planning, including capacity development in demand management and operational performance improvement (including but not limited to improving commercial systems, revenue policies, and customer outreach and feedback to promote regular payment and water conservation).

(iii) Activities to support improvements of the financial accountability, operational performance, and reporting of the SUE KMK and its branches will be aimed to (i) align the SUE KMK's accounting policies and procedures with International Financial Reporting Standards and ensure that the company's systems and practices support their implementation and (ii) upgrade staff competency levels to effectively apply accounting and reporting procedures outlined in the SUE KMK's Financial Management Operations Manual.

(iv) Development of technical manuals that contain guidelines for planning, design, construction, and operations and take into account the design of climate-resilient technological water supply options in rural areas to support the SUE KMK in providing technical assistance and training to subordinate water utilities.

(v) Development of materials for community mobilization and communication campaigns in the preparation and construction of water supply systems and the subsequent operation of these systems.

At the Local Level

37. In the Khatlon region, the SUE KMK is represented by the Regional Department of Drinking Water Supply (regional branch of *Tojikobidehot*) and regional branch of the SUE KMK (overseeing the work of its subordinate offices responsible for municipal services). In addition, there are other formally recognized institutions (under the common control of the SUE KMK) providing water and sanitation services to the population of targeted districts; they include (a) *Vodokanals* mainly in the urban/peri-urban centers, (b) branches of *Tojikobidehot* department providing water supply services to population of rural *jamoats*, and (c) branches of the SUE KMK directly providing WSS services along with other municipal services.[59] Against this background of multiple and multilayer relationships creating a complex and rather suboptimal arrangement for the delivery of WSS services; the coverage remains limited and is estimated at 10–12 percent of the total population only, with the rest of the people largely relying on self-supply ad-hoc solutions.

38. Sustainability of provided WSS investments is one of the most important element considered in the selection and design of the water systems. Currently, *Vodokanal* and *Tojikobidehot* are the default water service operators in rural areas. However, there is no clear division of their areas or responsibilities. These organizations are not equipped with technical or skilled labor and equipment to provide the services required. This component will assess the existing institutional arrangements for water supply services at the district level, including capacity of the existing organizations subordinate to the SUE KMK and implement the most technically viable and cost-efficient structure for delivery of services, which is expected to serve as a pilot for a broader sector-wide approach in the future. A possible institutional management model will be proposed, with one unified water service entity responsible for delivery of water services at the district level. This component will provide technical assistance to the established managements structures—water utilities—to help enable sustainable

[59] In 2017, the SUE KMK WSS-related structures included 36 *Vodokanals* (out of which 10 in Khatlon region), 15 branches of *Tojikobidehot* (out of which 10 are in Khatlon region), and 16 SUE KMK branches directly providing WSS services along with other municipal services (out of which 5 are in Khatlon region). *Source:* information provided by the SUE KMK, 2017.

service delivery. A decision on establishment of such models is included as a legal covenant for the project to be completed by the June 30, 2021.

39. Assessments of the organizational structure and financial, commercial, and operational performance of the SUE KMK (and its substructures) were conducted with funding from the ECAPDEV grant. Based on the assessment, the activities under this component will allow for a level of flexibility to ensure that knowledge and capacity gaps that become evident during the assessment can be addressed during the project implementation. The project will finance activities that will help develop the skills of targeted water utilities, including the following:

(i) Improvement of the financial and operational performance of participating water utilities (*Vodokanal*/*Tojikobidehot*) through support for tariff setting, billing and collection, financial accountability, and reporting

(ii) A comprehensive training program for the SUE KMK staff and its branches to improve the quality of service provision, respond to customers' needs, and build more awareness on customers' rights and duties

(iii) Communication campaigns, training workshops, and seminars to strengthen the capacity of the targeted water utilities, for example, *Vodokanal* and *Tojikobidehot* offices in the project districts, as well as to improve the understanding of WASH-related services and planning capacity of other sectoral stakeholders at the local levels

(iv) Organization and facilitation of the implementation and management of local water supply solutions and where applicable development of the skills of households in the management of household water supply options

(v) Improvement of the citizen engagement approaches adopted by the targeted water utilities in the area including, but not limited to, introduction of customer scorecards system. This component will also include regular surveys using score cards

(vi) Support for the development and implementation of social mobilization and communication campaigns in schools and communities during the preparation, implementation, and post-construction phases, which will focus on the sustainable management of water supply systems and sanitation facilities and foster changes in behaviors, such as regular bill payments, rational and safe water use, handwashing with soap, child hygiene and feces disposal, and improvements of household sanitation.

Social Mobilization, Behavior Change Communication, and Social Accountability

40. The project will implement social mobilization, WASH behavior change communication in schools and communities, and the introduction of citizen engagement mechanisms, for example, customer scorecards. Implementation of these activities will be implemented by the PMU through the recruited NGO in close collaboration with local entities, such as (a) target water utilities (the SUE KMK *Vodokanals* and *Tojikobidehot* branches); (b) Rayon (district) administration for overall coordination; (c) *Jamoat* administration and to-be-established WASH committees; (d) district branch of the Healthy Lifestyle Centre; and (e) *mahalla* leaders,

committees, and volunteers.[60] The project will also work through schools and rural health centers in promoting safe WASH behaviors.

41. **Establishment and training of *jamoat* WASH coordination committees.** Before the actual start of the project implementation, the NGO/PMU will facilitate district-level meetings as needed, involving *jamoat* representatives and stakeholders to consult and inform on project activities.[61] In the *jamoats* with water system investments, gender-balanced WASH coordination committees will be established, including *jamoat* representatives, school administrations, health center representatives, and *mahalla* leaders. The WASH coordination committees will be trained with respect to their roles and duties. They will work closely with targeted water utilities (*Vodokanals* and *Tojikobidehot* branches), in the planning and construction phase, supporting the household connection process, the identification of vulnerable households, monitoring during construction, coordinating the *jamoat*-level communication campaign activities, and co-organizing stakeholder meetings to provide feedback from customers to the water utilities.

42. **Capacity building of Healthy Life Style Center staff and *mahalla* WASH volunteers.** The NGO/PMU will train existing salaried staff of the district Healthy Lifestyle Centers,[62] who will act as trainers and mentors for *mahalla* WASH volunteers (activists) as well as school-WASH committees/teachers, tasked with the implementation of the behavior change communication campaigns. *Mahalla* volunteers will be identified and trained, ensuring at least half of them are women.

43. Delivery of the Social Mobilization, Behavior Change Communication, and Social Accountability program will be aligned with the infrastructure investments and structured in two parts: (a) activities focusing on water supply improvement and (b) behavior change communication campaign for hygiene and sanitation marketing.

44. Activities will include the following:

- Consultation meetings for ESMPs and RAPs will be conducted as needed
- **Connection plans.** *Jamoat* will conduct meetings with targeted water utilities to inform about connection procedures and plans (households, schools, and other social institutions)
- **Pro-poor support mechanisms.** *Jamoats* will identify the most vulnerable households (10–15 percent) based on existing criteria of the Social Registry for Targeted Social Assistance.[63]
- **Behavior change sessions.** WASH volunteers will conduct meetings and household visits using the campaign tools and materials developed and focus on water connections, bill payment, rational water use, handwashing, and child and girl hygiene.

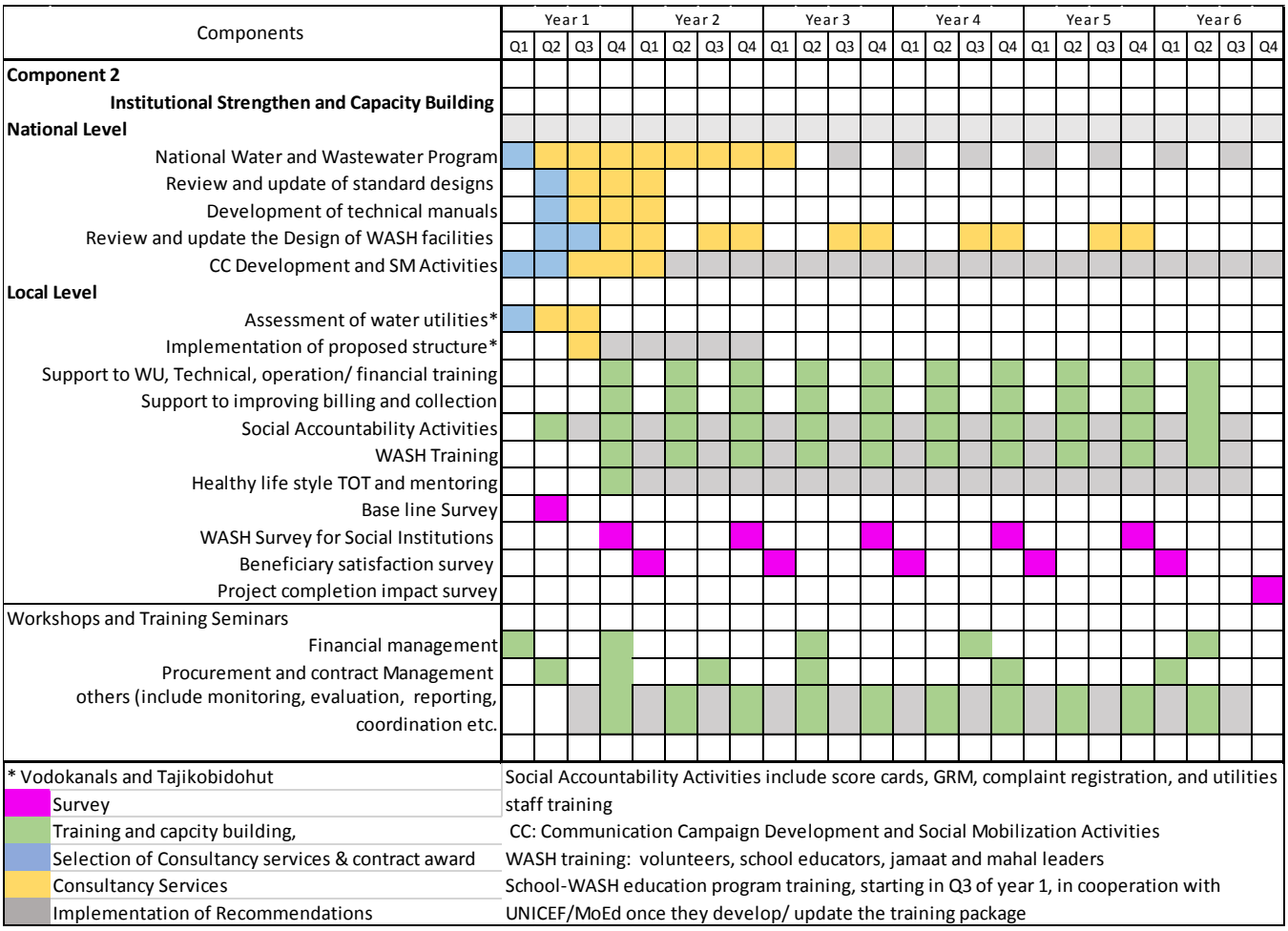
[60] While the *jamoat* is the lowest level of self-governance in Tajikistan, a *jamoat* typically comprises ten or even more *mahallas* (neighborhoods). Historically, *mahallas* are informal social institutions, typically led by male elders, but due to recent demographic shifts and male migration, *mahalla* leaders are increasingly female and so are many so-called *mahalla* 'activists' or volunteers. The 2008 Law on Public Initiative allows *mahalla* committees to become formal organizations to advance rural development and living conditions seeking support from local governments.
[61] Such as Department of Education and Department of Health and Social Protection.
[62] Each district branch has around 15–20 already trained and salaried educators/mobilizers in several areas of preventive health. These would be coordinated through their respective zone offices.
[63] The targeted social assistance program has been implemented in Khatlon region for several years and will achieve national coverage by December 2018. It is expected that around 13 percent of the population will be targeted with unconditional cash transfers. The project will use the same criteria to target assistance to reduce connection barriers.

- **Sanitation marketing activities.** Informed by a preparatory market study, the project will support a market-based approach promoting low-cost on-site sanitation facilities. A user-friendly product catalogue including cost information and instruction guidance will be developed and training will be provided to local actors on how to install such facilities. Sanitation marketing activities will be linked to the result-based sanitation grants for the poor described under Subcomponent 1.2

45. **Communication campaign development.** At the central and local levels, a behavior change communication campaign will be developed to increase knowledge and promote behaviors of the target population using various channels: mass media (TV, social media, radio, and other instruments); meetings organized by water utilities, *jamoats*, and *mahallas*; interpersonal communication by *mahalla* volunteers, schools and health centers, and religious leaders; and so on. The campaign will address (a) connecting to a metered house connection,[64] (b) knowing rights and obligation as a customer, (c) regular payment for tariffs, (d) rational use of drinking water,[65] (e) handwashing with soap, (f) child hygiene, and (g) improving household sanitation facilities.[66]

[64] Metered house connection is a fairly new concept in rural areas of Tajikistan and has been implemented only in some projects by other partners. Overall willingness to pay for such a higher level of service was higher.
[65] Existing systems from the Soviet time provided untreated water for both drinking and irrigation, which will be changed by the project (typically large homestead gardens are found).
[66] Messages will be phased throughout the implementation period.

Figure 2.2. Component 2 - Implementation Schedule



Component 3 - Project Management and Implementation Support

46. The component will finance the MIDP PMU assigned by the GoT for the implementation of this project. The PMU will be responsible for implementation and coordination, FM and procurement, communication and awareness programs, environmental management and social safeguards, M&E, and other project monitoring activities (for example, beneficiary feedback surveys). This component will also include the design, implementation, and analysis of the baseline and project completion surveys. The component will also finance payments under Component 3 made for the project preparation purposes before the date of signing the Grant Agreement but on or after August 17, 2018, for Eligible Expenditures approved by the World Bank on September 8, 2018.

47. The project will support the institutionalization of semiannual stakeholder meetings where customer scorecards will be used to dialogue between water utility and the customers and to identify joint actions for improvement. Those meetings will be conducted at the *jamoat* level, ensuring that scorecards from different schemes are discussed. At a later stage, this process can be consolidated and conducted at the district level, including wider administrative actors, once satisfaction and service levels are adequate due to investment and operational improvements by water utilities.

ANNEX 3: FINANCIAL AND ECONOMIC ANALYSIS

Tajikistan
Rural Water Supply and Sanitation Project

Rationale for Public Sector Investment

1. The benefits of investments in rural water supply do not only accrue to individuals by reducing coping costs (as measured by time savings) and increasing access to safe water supplies, but also to society in terms of improvements in public health, environmental benefits, and improving climate resilience for vulnerable populations. However, the benefits of such investments are usually not sufficient to induce private sector investments in view of the high cost of delivering safe water supplies in rural areas where the majority of the poor and extreme poor are, in the Khatlon region. Public financing is still needed to ensure that investments in rural water provision can be made. In such an environment, it is important that the investments that are being funded are least cost so that the Government will reach its universal coverage goal that it set out to achieve by 2030.

Rationale for World Bank Involvement

2. The World Bank, with its global experience in rural water supply and sanitation, will focus on funding the most cost-effective investments. The World Bank value added is that it has worked around the world being able to improve water services in rural areas in Tajikistan that face severe lack of access to safe water sources in a cost-effective manner. Providing access to safe water to these poor rural populations is challenging as is reflected in the access rates—according to the WASH Poverty Diagnostic, only 20 percent of the population in the Khatlon region has access to piped water, significantly below the country average of 67 percent. This project will build on the World Bank's global experience and will include a robust capacity-building and institutional strengthening program that is essential for the long-term resilience of the infrastructure assets of communities in rural areas.

3. The cost-benefit analysis will focus on the viability of the rural water supply component to be supported by the project and its importance in providing water to the poor in rural areas.

Cost-Benefit Analysis

4. At appraisal, the various subprojects that will be funded under the project were assessed. As this project provides conventional water systems, a cost-benefit analysis will be undertaken for a typical set of activities that will be funded under the project for populations under different vulnerability settings (extreme poor, poor, and non-poor households).

5. By improving the access and quality of improved water services in targeted communities that were selected to include communities living in rural areas of the Vakhsh and Vosse districts in the Khatlon region, the project will contribute directly to reducing the burden that the absence of secure water supplies currently puts on the welfare of the populations living in these areas. The institutional strengthening and capacity-building activities are important as they help improve the sustainability in which these services can be used by the targeted populations. During the implementation, it will be determined whether the benefits and costs of the school and rural health centers program can be assessed in monetary terms.

6. The project costs are the investments and technical assistance required for the various project activities and the corresponding O&M costs associated with ensuring that the investments can ensure safe and secure water supplies in the short, medium, and long terms.

7. **Methodology for selection of investments.** In the cost-benefit analysis, costs and benefits were assessed at financial prices. In a second stage, the financial cash flows have been translated into economic cash flows by using standard conversion factors to translate financial prices into economic prices: these standard conversion factors are calculated.[67] In case the project is not implemented (the 'without' project scenario), the populations in rural areas will spend significant time to haul water that is often of dubious quality, which will affect overall health (especially of young children). The WASH Poverty Diagnostic showed that the physical labor of hauling water has also significant health impacts (musculoskeletal problems, lower back pain, and accidental falls), while the poor water quality resulted in kidney problems.

8. Under the project (the 'with' project scenario), households will benefit as they will spend less time hauling water. Households will also benefit from being able to consume larger volumes of water, which will help improve hygiene conditions in households, schools, and health centers. This additional water consumption will be calculated applying a consumer surplus methodology.

9. The net benefit is the difference between the incremental benefits and the incremental costs of two scenarios: 'with' and 'without' the project. The 'with' project scenario considers the proposed project and its associated targets. The 'without' project scenario considers that households use their current traditional sources of water as their lack of access to secure water sources will make it unlikely that they will get access to any improved sources in the short to medium term.

10. The activities were appraised measuring their flow of costs and benefits for the lifetime of the project, estimated as 30 years. Costs and benefits were expressed in constant prices as of 2018.[68] The discount rate corresponded to the opportunity cost of capital, estimated to be 6 percent, as used by the World Bank-prescribed discount rate methodology.

11. **Benefits.** The expected benefits of the project include (a) improvements in the access and quality of drinking water provided to rural residents in targeted areas and (b) improvements in health indicators associated with poor water quality services and air pollution in targeted rural areas. The project will produce miniscule GHG emissions estimated at 52 tCO_2-eq annually (equivalent to 1,563 tCO_2-eq over the 30-year life of the project), as the proposed technology is rather energy-efficient. The impact of the GHG on the overall NPV—whether the low or high carbon price estimate is used—is negligible.

12. The project is expected to deliver substantial benefits by improving water supply services for approximately 424,000 people in the Khatlon region. According to the WASH Poverty Diagnostic, only 20 percent of the population living in this region has access to piped water, and many households spend on average 1.6 hours a day collecting water, with collection times significantly higher in the winter season. The value of an hour collecting water was calculated at TJS 2.37 for an extreme poor household, TJS 2.54 for a poor household, and TJS 6.27 for a non-poor household using the 2017 poverty lines. The main benefits of the new systems are expressed in the reduction of time savings. Moreover, a consumer surplus is generated, which is calculated as the difference in consumption and the price of water supply in the 'with' and 'without' project situations. The

[67] Financial costs were transformed into economic costs using conversion factors, which eliminate market distortions created by taxes, tariffs, and subsidies. Taxes included value added taxes, trade tariffs, and tax legislation for labor. The economic cost for each input is estimated as the financial cost multiplied by its conversion factor.
[68] The exchange rate used was US$1 equivalent to TJS 9.40.

price of water supply in the 'with' project situation is calculated using the current water tariffs prevalent in the region, which are very low—TJS 0.83 per cubic meter of water supplied to residential connections.

13. Health benefits are likely to provide significant benefits to households. Yet, it is not possible to detangle what the precise effect of the various improvements is, and the team was not able to quantify these health benefits. The project will also construct water, sanitation, and hygiene facilities in a total of 200 schools and health centers in selected communities at a cost of US$40,000 per facility. These facilities will benefit children and patients in particular and hence are likely to generate significant health benefits. As no data are available to calculate the benefits of these school WASH facilities, it is assumed that they correspond to the time savings of an average household in the Khatlon region, as the facilities will also provide safe water and sanitation facilities for teachers, health workers, and other school and health center staff. It is also assumed that average water use in schools and health centers is around 7.5 liter per capita per day (lcd) per student[69] using an average school year of 180 days.[70]

14. **Costs.** The investment costs for each subproject were estimated based on a feasibility study. The costs of the systems were compared with similar type of schemes in other countries in the region, and the costs of the estimates turned out rather comparable. The (financial) O&M costs are estimated at 1.5 percent for civil works and 3 percent for the electro-mechanical elements of the investments. The costs associated with the water subcomponent do not only include the cost of the investments, but also the corresponding O&M costs; the costs associated with the capacity-building and institutional strengthening component to plan, implement, and sustain the infrastructure; the construction of facilities for schools and health centers; and the attributed cost of project management. The costs of house connections may be included in the project design but cannot be estimated as of now.

15. **Results.** Table 3.1 shows that the cost-benefit analysis will generate healthy rates of returns. The economic analysis assumes 30 years of asset life. As this project is mainly focused on the poor and extreme poor, a social discount rate of 6 percent was used according to the guidelines of the World Bank. The standard conversion factor is assessed at 1.12, and the unskilled labor conversion factor is 0.60 in rural areas. All project costs have been included, except the school sanitation and health center component. In addition, it is assumed that the project communities are made up of 19.5 percent of extreme poor households, 37.4 percent of poor households, and 43.1 percent of non-poor households (which are assumed to be more likely to already have services), and the average monthly incomes are based on the Government's (extreme) poverty lines.[71] Based on these assumptions, the total estimated net benefits of the project using the Government's discount rate of 6 percent result in an NPV of TJS 881 million and an EIRR of 25.7 percent.

Table 3.1. Results of Cost-Benefit Analysis

Subcomponent	Net Present Value (TJS, millions)	EIRR (%)
Household Infrastructure - water supply in rural areas	811	27.2
School and Health Centers Infrastructure	6	7.1
Total Infrastructure (including impact of GHG emissions)	816	24.4

[69] UNICEF estimates school WASH requirements at 5–10 lcd per student (including water needs for drinking, sanitation, and hygiene).
[70] Data on health centers have not yet been collected. Yet, even though health centers will have less patients per day than the average school, they operate more days per year while the average water use per patient will be higher.
[71] The poverty lines were calculated as TJS 148 per month per capita for extreme poor, TJS 190 for poor—while the minimum wage in Kathlon stands at TJS 820 (compared to TJS 1,212 as the average for Tajikistan).

16. **Sensitivity and risk analysis.** The results obtained so far assume that the values of all variables are certain. The sensitivity and risk analyses measure the impact on the results when some of the assumed values for critical variables change. The sensitivity analysis measures the outcome if one of the variables changes while all others remain fixed. The risk analysis measures the outcome when all selected variables change at the same time, each one based on a probability distribution.

17. The variables tested for the sensitivity analysis were (a) investment cost overrun, (b) the assumed value of time savings, (c) the average assumed water consumption in households after project intervention, (d) the average assumed water consumption in schools and health centers after project intervention, and (e) average daily time savings. Table 3.2 shows that the results are sensitive to changes in key variables, albeit that the switching values are showing that the project design is robust. The major project risks are associated with the school and health centers WASH component.

Table 3.2. Sensitivity Analysis of Cost-Benefit Analysis

Variable	Basic Assumption	Switch Value over Total Project	Notes
Investment cost overrun	100% (no cost overrun)	229%	
Value of time savings per hour	30%	13%	
Average daily time savings	1.61 hours	0.66 hours	
Water consumption in schools and health centers	7.5 lcd per school day	No impact	The school and health center subproject will become unviable if water consumption is less than 7 lcd.
Water consumption in households	70 lcd	32 lcd	
Discount rate	6%	24.4%	

18. **Risk analysis.** To enhance the accuracy of the financial and economic analyses, the uncertainties of the real world are approximated using the Monte Carlo simulation with the RISK software. This software measures the extent of various risks and their impact on the results of the project by modeling a likely probability distribution that best describes the behavior of each of the selected variables. Based on a simulation of 10,000 trials, the model recalculates the results of the economic analysis by simultaneously changing each of the selected risk variables according to their probability distributions. The result of the risk analysis shows that the project—even under rather negative assumptions—is robust. The probability of having positive economic rates of return is more than 96 percent at the Government's discount rate, when a social discount rate of 6 percent is selected. The risk evaluation shows that the likelihood of a negative economic outcome—once market distortions are eliminated and the benefits captured—is less than 4 percent.

Distributional Impact

19. Table 3.3 shows the winners and losers of the project. As the Government pays for the investments, they generate a net cost. Households generate important net benefits of the project as their time savings will be significant. Even when they pay for the O&M costs of the schools and health centers (and for some, the cost of a household connection not included due to absence of data), they will benefit from the project. The utilities will benefit from increased revenues but will also face an increase in O&M costs and the impact of replacement of some of the equipment during the lifetime of the infrastructure.

Table 3.3. Project's Distributional Impact

Stakeholders	Incremental Benefits	Incremental Costs	Incremental Net Benefits
Government	0	(406)	(405)
Utilities	103	(200)[a]	(96)
Households	1,254	(25)[b]	1,229
Schools and Health Centers	90	0	90
Total	1,448	631	817

Note: a. Assuming that the utilities are also responsible for the replacement of equipment during the lifetime of the project; b. Assuming that the households pay for the O&M of the school and health center WASH facilities.

20. It should be noted that in the WASH Poverty Diagnostic, 72 percent of consumers showed a willingness to pay 25 percent more than the current water rate, and 8 percent showed willingness to pay 50 percent more. As the current water tariff is very low, and the population is very poor (the poverty line shows that a person is living on less than US$1 per day), this willingness to pay still results in an affordable tariff that is lower than what is needed to keep the utility afloat.

21. The current water tariff is extremely low at TJS 0.83 per cubic meter of water supplied for residential consumers. A series of small real tariff increases are included (see financial analysis) but the average incremental cost of the new infrastructure is TJS 3.73 per cubic meter for the investment and O&M costs, and TJS 1.36 per cubic meter for the replacement costs and O&M costs only. Hence, in such a situation, there are several options: (a) operating subsidies will be needed to be provided to the utility to ensure that it can operate and maintain the service over time; the NPV of this subsidy flow will be TJS 147 million over the lifetime of the project, (b) real tariff increases in combination of operating subsidies, and (c) real tariff increases only. The issue of subsidies is part of the activities planned under the project.

Financial Analysis

22. Although the proposed investments will be financed by an IDA grant, ensuring efficient financial performance and sustainability of services are key for achieving project objectives. Financial analysis for the project is performed at the level of Vosse district and other districts connected to part of Vakhsh system aiming to assess the economy-of-scale opportunities and financial sustainability of these water utilities —costs coverage for O&M of created infrastructure and delivery of improved WSS services.

23. The project's financial analysis was done through the construction of a simplified financial model and review of the cash flows generated by the aggregated utilities (existing financial data consolidated for analysis) for (a) Vosse and (b) Vakhsh (Bokhtar, Vakhsh, Balkhi, and Jayhun). Since all existing water utilities have the same tariffs and the SUE KMK or *Tojikobidehot* as the owner, their separate existence seems rather artificial and nonefficient.

24. **Vosse utility.** With investments around US$18 million, the project aims to connect up to 185,000 people to cover almost of the population living in Vosse rayon with piped waters. The estimated FIRR for the water investments in Vosse rayon is minus 7 percent, which is mainly due to the existing low-cost recovery. Tariffs historically never covered the costs of service provision, and the unreliable access to subsidies resulted in the dire financial situation of the local SUE KMK branch and total dependency on external investments. Investment per capita is comparable to the regional average of around US$100. The project NPV is negative at US$10.1 million, assuming a discount rate of 6 percent, which shows that keeping historically low tariffs is unsustainable; subsidizing capex costs should be coupled with efforts to improve financial performance, tariff setting, and

overall management of WSS services. In Figure 3.1 and Figure 3.2, revenues and tariffs and demand for Vosse are presented for the next 20 years.

Figure 3.1. Revenues and Tariffs - Vosse

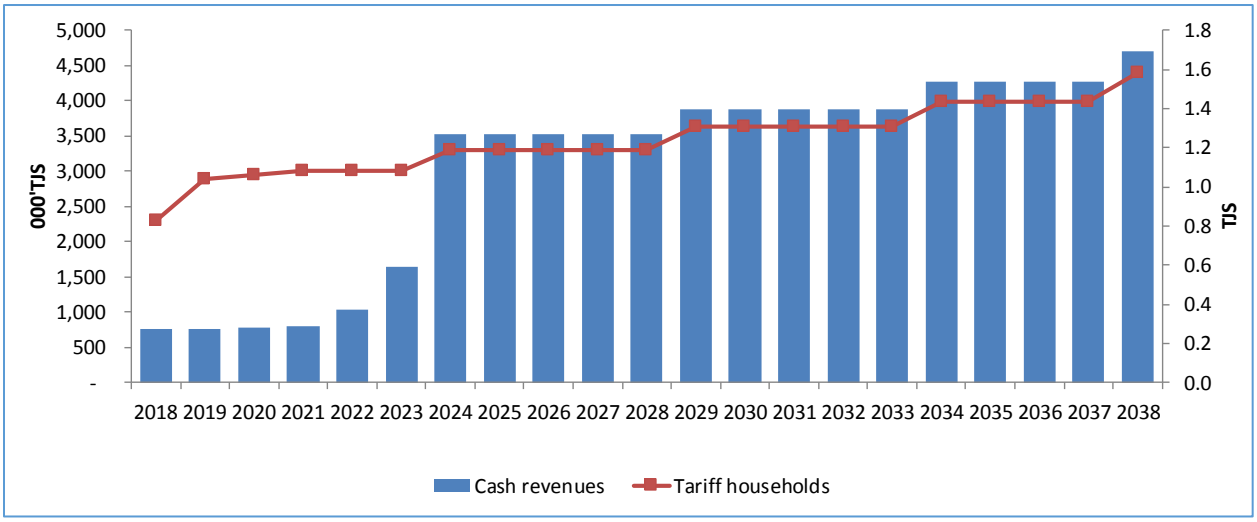
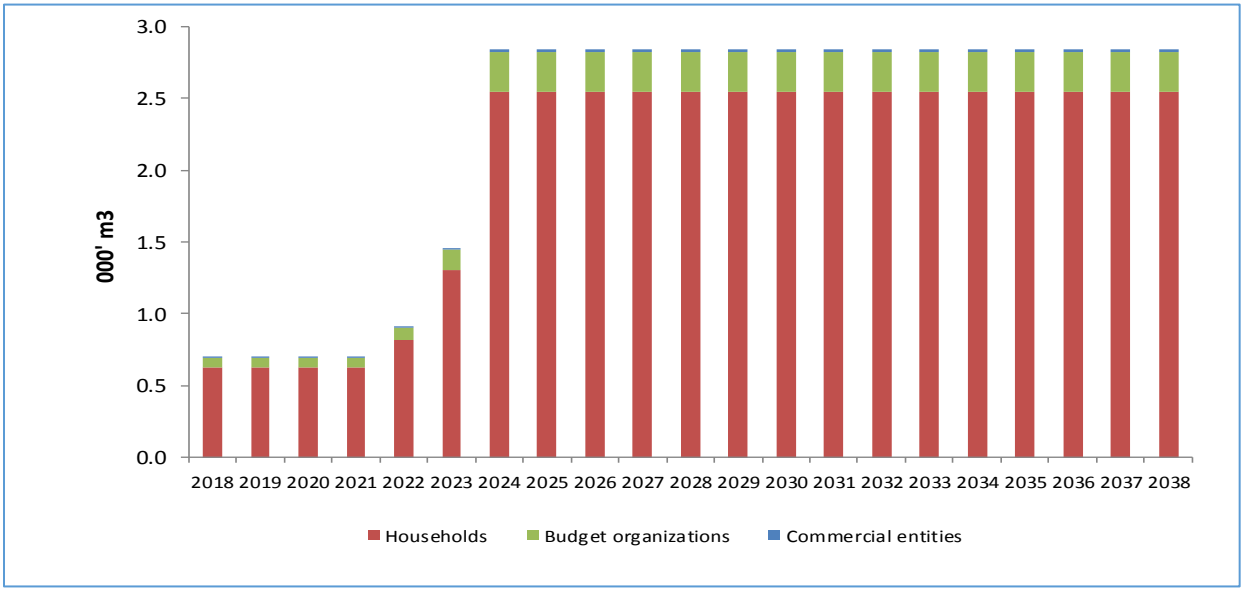


Figure 3.2. Demand Breakdown - Vosse



25. **Vakhsh scheme.** A similar analysis was done for Vakhsh where existing water utilities covering Bokhtar, Vakhsh, Balkhi, and Jayhun were aggregated to assess the economy-of-scale opportunities and financial sustainability of a single water utilities. With investments around US$23.6 million, the estimated FIRR for the water investments in Vakhsh is minus 12 percent, resulting from higher investment costs, while investments per capita are similar to Vosse. The NPV is minus US$15 million, based on cash flow projections for the next 20 years (assuming a standard loan amortization period). In Figure 3.3 and Figure 3.4, revenues and tariffs and demand for Vakhsh are presented for the next 20 years.

Figure 3.3. Revenues and Tariffs - Vakhsh

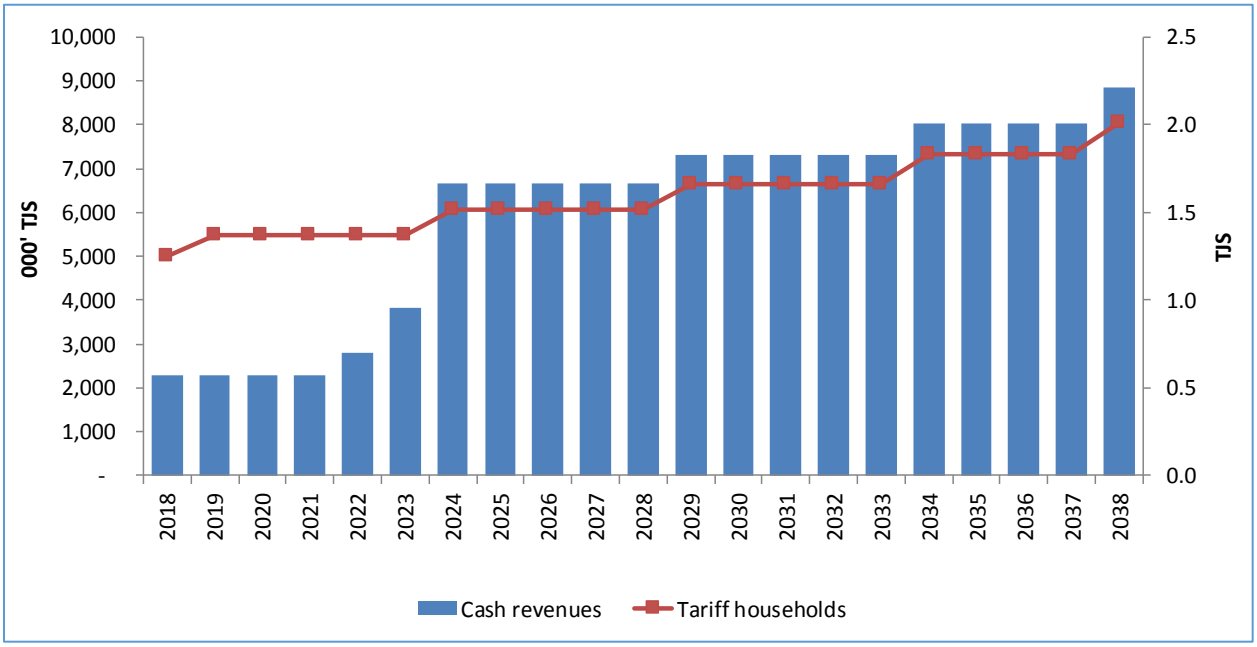


Figure 3.4. Demand Breakdown - Vakhsh

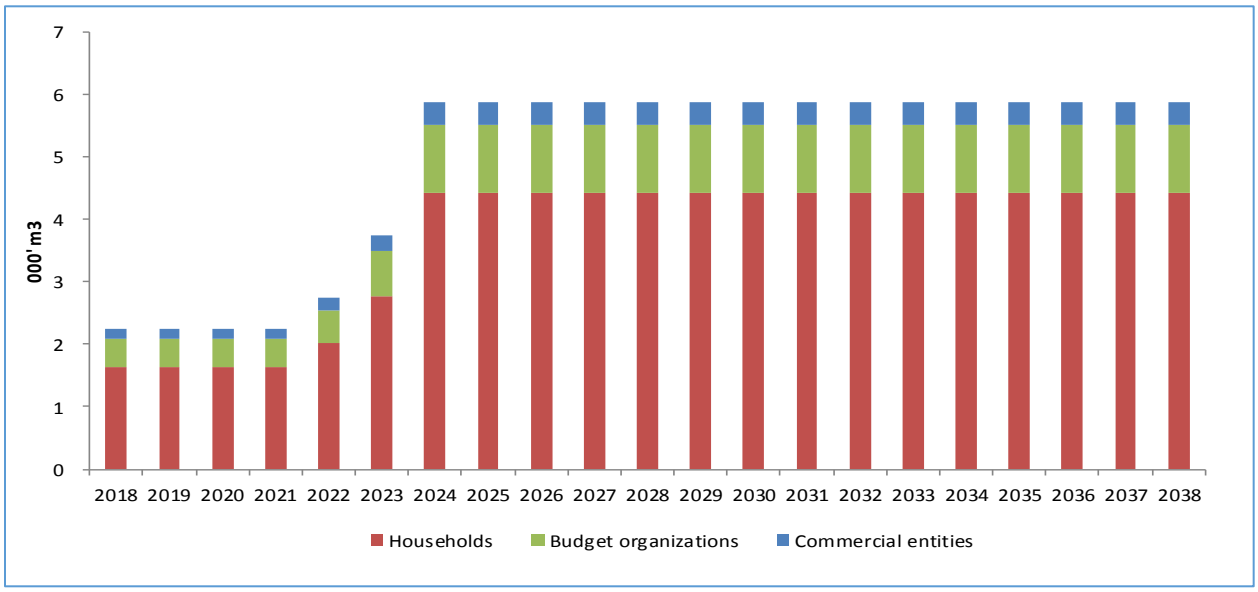


Table 3.4. Financial Projections for Vosse Rayon

Income statement	item	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Revenues																						
Water																						
Population	000'TJS	615	651	664	677	881	1,409	3,022	3,022	3,022	3,022	3,022	3,324	3,324	3,324	3,324	3,324	3,657	3,657	3,657	3,657	4,022
Budget organizations	000'TJS	123	131	133	136	177	282	606	606	606	606	606	666	666	666	666	666	733	733	733	733	806
Self-financing organization	000'TJS	19	20	20	21	27	43	92	92	92	92	92	101	101	101	101	101	111	111	111	111	122
Sewerage																						
Population	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Budget organizations	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Self-financing organization	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other revenues (subsidy)	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Costs																						
Materials	000'TJS	(54)	(54)	(55)	(55)	(56)	(58)	(61)	(62)	(62)	(63)	(63)	(64)	(65)	(65)	(66)	(67)	(67)	(68)	(69)	(69)	(70)
Labour	000'TJS	(234)	(236)	(238)	(241)	(245)	(253)	(265)	(268)	(271)	(273)	(276)	(279)	(282)	(285)	(287)	(290)	(293)	(296)	(299)	(302)	(305)
Social Fund Contribution (tax	000'TJS	(58)	(59)	(60)	(60)	(61)	(63)	(66)	(67)	(68)	(68)	(69)	(70)	(70)	(71)	(72)	(73)	(73)	(74)	(75)	(76)	(76)
Capital assets depreciation	000'TJS	-	-	-	-	-	-	(1,018)	(1,019)	(1,021)	(1,022)	(1,024)	(1,028)	(1,033)	(1,038)	(1,043)	(1,053)	(1,065)	(1,080)	(1,100)	(1,130)	(1,190)
Other expenses, including	000'TJS	(407)	(411)	(415)	(419)	(427)	(419)	(419)	(423)	(427)	(431)	(436)	(440)	(445)	(449)	(453)	(458)	(463)	(467)	(472)	(477)	(481)
Results	**000'TJS**	**4**	**42**	**50**	**59**	**293**	**941**	**1,890**	**1,881**	**1,871**	**1,861**	**1,851**	**2,211**	**2,198**	**2,184**	**2,170**	**2,151**	**2,539**	**2,515**	**2,486**	**2,447**	**2,828**

Cashflow statement		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Revenues																						
Water consumption																						
Population	000'TJS	615	618	631	643	837	1,338	2,871	2,871	2,871	2,871	2,871	3,158	3,158	3,158	3,158	3,158	3,474	3,474	3,474	3,474	3,821
Budget organizations	000'TJS	123	124	126	129	168	268	576	576	576	576	576	633	633	633	633	633	696	696	696	696	766
Self-financing organization	000'TJS	19	19	19	20	25	41	87	87	87	87	87	96	96	96	96	96	106	106	106	106	116
Sewerage collection																						
Population	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Budget organizations	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Self-financing organization	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other revenues (subsidy)	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Costs																						
Materials	000'TJS	(54)	(54)	(55)	(55)	(56)	(58)	(61)	(62)	(62)	(63)	(63)	(64)	(65)	(65)	(66)	(67)	(67)	(68)	(69)	(69)	(70)
Labour	000'TJS	(234)	(236)	(238)	(241)	(245)	(253)	(265)	(268)	(271)	(273)	(276)	(279)	(282)	(285)	(287)	(290)	(293)	(296)	(299)	(302)	(305)
Social Fund Contribution (tax	000'TJS	(58)	(59)	(60)	(60)	(61)	(63)	(66)	(67)	(68)	(68)	(69)	(70)	(70)	(71)	(72)	(73)	(73)	(74)	(75)	(76)	(76)
Capex	000'TJS	-	(8,460)	(16,920)	(25,380)	(33,840)	(42,300)	(42,300)	(200)	(200)	(200)	(200)	(400)	(400)	(400)	(400)	(600)	(600)	(600)	(600)	(600)	(600)
Financing	000'TJS	-	8,460	16,920	25,380	33,840	42,300	42,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other expenses, including	000'TJS	(407)	(411)	(415)	(419)	(427)	(419)	(419)	(423)	(427)	(431)	(436)	(440)	(445)	(449)	(453)	(458)	(463)	(467)	(472)	(477)	(481)
End cash	**000'TJS**	**4**	**2**	**9**	**17**	**239**	**855**	**2,722**	**2,514**	**2,506**	**2,498**	**2,489**	**2,634**	**2,626**	**2,617**	**2,608**	**2,400**	**2,779**	**2,770**	**2,761**	**2,752**	**3,171**

Table 3.5. Financial Projections for Vakhsh Group

Income statement	item	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Revenues																						
Water																						
Population	000'TJS	1,338	1,402	1,402	1,402	1,740	2,437	4,319	4,319	4,319	4,319	4,319	4,751	4,751	4,751	4,751	4,751	5,226	5,226	5,226	5,226	5,749
Budget organizations	000'TJS	499	523	523	523	649	909	1,611	1,611	1,611	1,611	1,611	1,772	1,772	1,772	1,772	1,772	1,949	1,949	1,949	1,949	2,144
Self-financing organization	000'TJS	243	254	254	254	315	442	783	783	783	783	783	861	861	861	861	861	948	948	948	948	1,042
Sewerage																						
Population	000'TJS	46	48	48	48	49	50	58	58	58	58	58	64	64	64	64	64	70	70	70	70	77
Budget organizations	000'TJS	79	82	82	82	84	86	100	100	100	100	100	110	110	110	110	110	121	121	121	121	133
Self-financing organization	000'TJS	102	106	106	106	109	112	129	129	129	129	129	142	142	142	142	142	156	156	156	156	172
Other revenues (subsidy)	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Costs																						
Materials	000'TJS	(134)	(135)	(136)	(138)	(141)	(145)	(152)	(154)	(155)	(157)	(158)	(160)	(161)	(163)	(165)	(166)	(168)	(170)	(171)	(173)	(175)
Labour	000'TJS	(912)	(921)	(930)	(939)	(958)	(987)	(1,036)	(1,047)	(1,057)	(1,068)	(1,078)	(1,089)	(1,100)	(1,111)	(1,122)	(1,133)	(1,145)	(1,156)	(1,168)	(1,179)	(1,191)
Social Fund Contribution (tax	000'TJS	(228)	(230)	(233)	(235)	(240)	(247)	(259)	(262)	(264)	(267)	(270)	(272)	(275)	(278)	(281)	(283)	(286)	(289)	(292)	(295)	(298)
Capital assets depreciation	000'TJS	(32)	(32)	(32)	(33)	(33)	(33)	(1,334)	(1,342)	(1,349)	(1,358)	(1,367)	(1,387)	(1,409)	(1,434)	(1,462)	(1,529)	(1,609)	(1,709)	(1,842)	(2,042)	(2,442)
Other expenses, including	000'TJS	(924)	(933)	(943)	(952)	(971)	(952)	(952)	(961)	(971)	(980)	(990)	(1,000)	(1,010)	(1,020)	(1,030)	(1,041)	(1,051)	(1,062)	(1,072)	(1,083)	(1,094)
Results	**000'TJS**	**77**	**164**	**142**	**119**	**603**	**1,674**	**3,266**	**3,235**	**3,203**	**3,170**	**3,137**	**3,792**	**3,744**	**3,694**	**3,639**	**3,547**	**4,210**	**4,084**	**3,924**	**3,697**	**4,116**

Cashflow statement		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Revenues																						
Water consumption																						
Population	000'TJS	1,338	1,332	1,332	1,332	1,653	2,316	4,103	4,103	4,103	4,103	4,103	4,513	4,513	4,513	4,513	4,513	4,965	4,965	4,965	4,965	5,461
Budget organizations	000'TJS	499	497	497	497	616	863	1,530	1,530	1,530	1,530	1,530	1,683	1,683	1,683	1,683	1,683	1,851	1,851	1,851	1,851	2,037
Self-financing organization	000'TJS	243	242	242	242	300	420	744	744	744	744	744	818	818	818	818	818	900	900	900	900	990
Sewerage collection																						
Population	000'TJS	46	45	45	45	46	48	55	55	55	55	55	60	60	60	60	60	67	67	67	67	73
Budget organizations	000'TJS	79	78	78	78	80	82	95	95	95	95	95	104	104	104	104	104	115	115	115	115	126
Self-financing organization	000'TJS	102	101	101	101	103	106	123	123	123	123	123	135	135	135	135	135	148	148	148	148	163
Other revenues (subsidy)	000'TJS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Costs																						
Materials	000'TJS	(134)	(135)	(136)	(138)	(141)	(145)	(152)	(154)	(155)	(157)	(158)	(160)	(161)	(163)	(165)	(166)	(168)	(170)	(171)	(173)	(175)
Labour	000'TJS	(912)	(921)	(930)	(939)	(958)	(987)	(1,036)	(1,047)	(1,057)	(1,068)	(1,078)	(1,089)	(1,100)	(1,111)	(1,122)	(1,133)	(1,145)	(1,156)	(1,168)	(1,179)	(1,191)
Social Fund Contribution (tax	000'TJS	(228)	(230)	(233)	(235)	(240)	(247)	(259)	(262)	(264)	(267)	(270)	(272)	(275)	(278)	(281)	(283)	(286)	(289)	(292)	(295)	(298)
Capex	000'TJS	-	(11,092)	(22,184)	(33,276)	(44,368)	(55,460)	(55,460)	(1,000)	(1,000)	(1,000)	(1,000)	(2,000)	(2,000)	(2,000)	(2,000)	(4,000)	(4,000)	(4,000)	(4,000)	(4,000)	(4,000)
Financing	000'TJS	-	11,092	22,184	33,276	44,368	55,460	55,460	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other expenses, including	000'TJS	(924)	(933)	(943)	(952)	(971)	(952)	(952)	(961)	(971)	(980)	(990)	(1,000)	(1,010)	(1,020)	(1,030)	(1,041)	(1,051)	(1,062)	(1,072)	(1,083)	(1,094)
End cash	**000'TJS**	**108**	**75**	**53**	**31**	**489**	**1,505**	**4,251**	**3,227**	**3,202**	**3,178**	**3,153**	**2,793**	**2,768**	**2,743**	**2,717**	**691**	**1,396**	**1,370**	**1,343**	**1,316**	**2,093**

ANNEX 4: PROJECT MAP