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Climate-Resilient Water Services Project

Drafting of the 10-year National Water Supply and Sanitation Sector Development Program and Support in the Institutional Capacity Development of the Department for Development of Drinking Water Supply and Sanitation

STATE OF THE WATER SUPPLY AND SANITATION SECTOR IN 2024

Provided to:	**Prepared by:**
Project Implementation Unit Department for Development of Drinking Water Supply and Sanitation under the Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic	Central Asia Prospects PF

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ABBREVIATIONS, ACRONYMS AND INITIALISMS

Asian Development Bank	ADB
Aiyl aimak/rural parish	AA
Billion	bln
Climate-Resilient Water Services Project	CRWSP/CREWSP/ *PUVUUIK*[1]
Community Development and Investment Agency	*ARIS*
Department for Development of Drinking Water Supply and Sanitation (under Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic)	DDDWSS/*DRPVV*
Design and estimate documentation	DED
Euro	EUR
European Bank for Reconstruction and Development	EBRD
Islamic Development Bank	IsDB
Joint stock company, Closed joint stock company	JSC, CJSC
Kyrgyz som	KGS
Limited liability company	LLC/*OsOO*
Limited liability partnership	LLP
Local self-government	LSG
Million	mln
Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic	MWRAPI
Monitoring and evaluation	M&E
Project Implementation Group, Project Implementation Unit	PIG, PIU
Private-public partnership	PPP
Public investment program	PIP
Saudi Fund for Development	SFD
State Institution for the Development of Drinking Water Supply and Sanitation" (under the WRS)	SIDDWSS/*GURPVV*
State standard	*GOST*
Swiss State Secretariat for Economic Affairs	SECO
Sustainable Rural Water Supply and Sanitation Development Project	SRWSSDP/*PURSVS*
Rural Water Supply and Sanitation Improvement Project	RWSSIP/*PUSVS*
United States dollar	USD
Water Resources Service under the MWRAPI of the Kyrgyz Republic	WRS
Water supply and sanitation	WSS
World Bank	WB

[1] The initialisms in italics are given since Russian-language terms are widely used among sector professionals.

Introduction

Providing the population with drinking water and sanitation services is one of the priority areas of state policy in the Kyrgyz Republic. The Department for Development of Drinking Water Supply and Sanitation under the Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic carries out its activities in the field of development of centralized drinking water supply and sanitation in settlements.

This report has been prepared under contract IDA-CRWSP-COMP2CQS-2023-2 between the Project Implementation Unit (PIU) of the State Institution State Institution for the Development of Drinking Water Supply and Sanitation" (currently – the aforementioned Department) and Central Asia Prospects (Public Foundation) within the framework of the Climate-Resilient Water Services Project financed by the World Bank.

The report is aimed at reviewing and analyzing the state of the drinking water supply and sanitation sector with a focus on development progress and work done in 2024, including results achieved, problems and difficulties, lessons learned and recommendations for further development of this sector.

Section 1: Analysis of the current state of the WSS sector

1.1. State of infrastructure and the level of population access to drinking water

According to the National Statistical Committee, there are currently 2,014 settlements in the Kyrgyz Republic, of which the information by type of settlement is as follows:

Table 1. Breakdown of settlements in the Kyrgyz Republic

Types	Quantity
Cities, total number:	**33**
Cities of national significance (Bishkek and Osh)	2
Cities of province subordinance	14
Cities of district subordinance	17
Rural settlements, total number:	**1,969**
Villages	1,825
Urban type settlements	8
Settlements	3
Villages within the cities of Bishkek and Osh	61
Villages within other cities	86
In total:	**2,014**

The total number of existing drinking water supply systems of varying degrees of functionality, according to the DRPVV data [2]at the end of 2023, is 1,701.

According to the National Statistical Committee of the Kyrgyz Republic, at the end of 2023, the total number of water supply systems was 1,055, of which 112 were in urban areas and 943 in rural territories.

As of today, out of 2,001 settlements 682 villages are provided with safe drinking water, including water supply systems in 343 villages commissioned between 2001 and 2014, in 339 villages commissioned between 2016 and 2024, and construction work is currently underway in 263 villages. Based on these calculations, the number of remaining villages requiring the construction of drinking water supply systems currently stands at 960, and construction and restoration work is estimated at USD 800 mln.

As regards urban areas, construction and restoration of drinking water supply and sanitation systems is underway in 25 out of 33 cities. Of these, initial stage of works has been completed in 13 cities, rehabilitation of WSS systems is underway in 7 cities; projects have entered into force in 5 cities, and design and estimate documentation is being prepared.

1.2. State of the wastewater disposal and sanitation infrastructure

The construction and rehabilitation of sewage facilities is of particular importance for several reasons. Among them the need to implement a comprehensive approach to WSS systems, the

[2] Information is based on the data received from local state administrations, LSG bodies and WSS service providers.

ongoing rehabilitation works on water supply networks in many villages, and as the result of this the increase in water discharges.

Currently, almost all rural settlements do not have sewerage systems, with the exception of several large villages in the north of the country.

The situation in cities and settlements having a functioning wastewater disposal and treatment infrastructure is as follows.

There are functioning wastewater disposal and treatment systems that meet, to varying degrees, the necessary requirements for volume and quality of treatment in large and small cities, namely: Bishkek, Tokmak, Osh, Jalal-Abad, Kyzyl-Kiya, Sulukta, Balykchy, Kara-Kol, Kara-Balta, Cholpon-Ata, Naryn, Batken.

There is also an existing wastewater disposal and treatment system in the village of Bazar- Korgon, covering only a small part of the settlement – the Dostuk microdistrict. It includes 8 apartment buildings, a school for 750 students, and a kindergarten for 200 children. Wastewater treatment is carried out by a container-based membrane unit with a capacity of up to 200 m^3/day.

There is an operating wastewater disposal system in the village of Kadamjai, Batken province, serving multi-story residential buildings, hospitals, and schools. The wastewater treatment is currently not provided.

The situation in cities and settlements having a non-functioning wastewater disposal and treatment infrastructure is as follows.

Several villages in Chui and Issyk-Kul provinces have non-functioning water drainage and wastewater treatment systems. They include:

Sosnovka, Jaiyl district
Stantsiya Ivanovka, Ken-Bulun, both in Issyk-Ata district
Kara-Jygach , Kaiyrma, both in Alamudun district
Komsomolskoye, Sokuluk district
Kurmontu Tyup district
Bokso Jol, Bekitai and Kaiyrma, all in Taldy-Bulak AA of Jayil district.

Most of the wastewater disposal systems in these villages previously served the primary purpose of servicing industrial enterprises that formed the settlements's core, while the secondary priority was collecting, receiving, and treating residential wastewater.

Project consultants conducted an initial survey of the existing wastewater disposal infrastructure in 8 villages in the Issyk- Kul and Chui provinces to provide a clear picture of the existing wastewater disposal and treatment issues in rural settlements.

Section 2: Review of the implementation of investment projects

2.1. Overview of the investment policy

Over the past 10 years, beginning in 2015, approximately USD 602 mln in investments from development partners have been attracted. During this period, 33 projects have been completed and are currently underway, covering 24 cities and 258 villages across the country. All projects are being implemented within the framework of the Public Investment Program (PIP) and in accordance with the Regulation on Public Investment Management, approved by the Resolution of Government No. 232 dated May 28, 2019.

Until 2023, PIP projects financed by the World Bank, the Asian Development Bank, the IsDB, and the SFD were implemented through a combination of loans and grants. However, starting in 2023, the grant component of World Bank projects was eliminated, and projects have begun to be funded solely through loans. All loans provided by donors, with the exception of the EBRD, are repaid from the national budget. Donor loans are provided on a preferential basis (usually up to 1.5% per annum) and for a long term (usually up to 30 years).

The procedure for initiating, selecting, and preparing projects is carried out in accordance with the aforementioned Regulation. Fiduciary procedures are conducted in accordance with the requirements of each donor and in accordance with Kyrgyz legislation. Project preparation involves a project readiness assessment, as well as economic, technical, financial, social, and environmental analyses to develop the project design. The economic analysis includes an assessment of the benefits and long-term impact of the project on the quality of life of the population.

Since the DRPVV is a specially authorized state body in the field of WSS, all projects implemented in the sector are carried out under the overall responsibility and coordination of the DRPVV.

Monitoring and control of project execution is carried out at several levels.

First, project designs incorporate performance indicators, as well as M&E procedures. Donors conduct regular monitoring and review missions to track project progress.

Second, many projects have established coordinating committees that meet annually (or more frequently) where the implementing and executing agencies report on the progress of the projects.

Third, consultants are selected for each project to conduct an annual expenditure audit. The Accounts Chamber of the Kyrgyz Republic also conducts scheduled audits of project funding expenditures.

Fourth, the project design includes measures to engage communities at the local level to participate in project implementation and conduct public monitoring.

Almost all WSS projects include an institutional development component, aimed at increasing the institutional capacity of WSS sector participants (from the relevant government agency at the national level to service providers and communities at the local level) and ensuring the sustainability of project outcomes. This component includes training activities and various types of advisory and technical support, depending on the requests and needs of the beneficiaries.

2.2. Review of project implementation by donor

World Bank

❖ *Climate Resilient Water Services Project*

The aim of the project in terms of development is to (i) increase access to climate-resilient water services in selected river basins and (ii) strengthen institutional capacity for climate-resilient water resources management at the local and national levels. The total project cost is USD 100 mln.

The project will improve the coverage and quality of water supply, sanitation, irrigation, and drainage services in selected basins. At the national level, the project will enhance institutional capacity for climate-resilient water management. Regarding the first part of the project's development objectives, climate-resilient water services are defined as those that achieve coverage and quality standards regardless of potential climate change risks (drought, high temperatures and extreme heat, urban flooding and wastewater overflows, floods, and mudflows). As regards the second part of the project's development objectives, sustainable water resources management is defined as the ability of water sector organizations at the local and national levels to be prepared for disruptions and be able to recover from shocks associated with climate change risks.

A unique feature of this project is that the State Institution for Drinking Water Supply and Sanitation (currently – the DRPVV) and the Water Resources Service (WRS) share overall responsibility for project implementation. The WRS Project Implementation Unit (PIU) carries out activities related to irrigation and drainage, while the DRPVV's PIU implements a range of independent WSS activities. These project activities are aimed at covering 31 villages in the Issyk-Kul and Batken provinces.

The project consists of the following components:

- Component 1: Investment in infrastructure and improving the quality of services

  Sub-component 1.1: Water supply and sanitation infrastructure. This subcomponent covers investments to enhance the climate resilience of drinking water supply, sanitation, and wastewater treatment services, as well as to increase wastewater treatment capacity. It is aimed to financing civil and electrical/mechanical installations for water supply (boreholes, wells, water intakes, as well as disinfection and associated pumping, energy-efficient pumps powered by renewable energy sources, as needed), water transmission and distribution works (network, water storage tanks, water meters, etc.) between households in the project areas, as well as wastewater management infrastructure, including facilities for collecting, transporting, treating, and disposing of sewage. This subcomponent also finances equipment for testing drinking water quality and the quality of pipes for WSS systems.

- Component 2: Strengthening institutional capacity for the provision of climate-resilient services, water resources and dam management

  Sub-component 2.1: Institutional strengthening for the delivery of WSS services (USD 1.5 mln). This subcomponent will finance activities (goods and advisory services) aimed at strengthening the policy, regulatory framework and institutional capacity to advance sector reforms and promote sustainable service delivery. It targets key stakeholders, including the DPRVV, the Ministry of Construction, Architecture, Housing and Communal Services of the Kyrgyz Republic (MCAHCS), local authorities, urban and rural service providers, policymakers, and service sector regulators. It will support the implementation of the sector

development strategy and the Cabinet of Ministers' reform roadmap. A more effective institutional and regulatory framework will enhance water sector governance, operational efficiency, and sustainability, thereby improving the provision of water services (in terms of coverage and quality), which in turn will reduce the risk of water shortages/drought, improve water quality, and enhance overall resilience.

- Component 3: Project management, M&E and professional development. This component will finance the necessary personnel, consulting services, professional development, and operating costs. This includes project management, coordination, procurement and financial management, M&E, management and oversight of social and environmental safeguards, communications, and outreach. This component will also finance the preparation of a feasibility study for future investments aimed at improving water services.
- Component 4: The Contingent Emergency Response Component (CERC) will support the Government's emergency response efforts in the event of a qualifying emergency. A zero-sum advance component is included to allow for the rapid reallocation of loan/grant funds from other components during an emergency through simplified procurement and disbursement procedures.

✓ Project implementation status at the end of 2024

Component 1**.** In total, water supply systems are being built in 2 villages in Issyk-Kul province as part of this component; construction companies are being selected in 2 villages of Batken province; and the DED process is underway in the remaining 25 villages in Batken province.

As part of the rehabilitation of the water supply system in the village of Kyzyl-Suu , Issyk-Kul province:

- On July 21, 2023, a contract was signed with contractors Minur LLC and Profit Express LLC for Lots 1, 2, and 3 for the construction of the distribution network. As of the end of 2024, work was 62.7% complete. Completion of all work is planned for the first quarter of 2025.
- On March 28, 2024, a contract was signed with the contractors NSC Turan Group LLC for Lot 5 for the construction of the reservoir and with the Consortium Kanat Stroy LLC and Argena LLC for Lot 4 for the construction of the water intake. As of the end of 2024, work was 37% complete.

As part of the rehabilitation of the water supply system in 6 villages of Batken province (Katran, Ayibike (Madaniyat) and Margun of Leilek district, Aigul-Tash, Kara-Bulak of Batken district, Sovetskoye of Kadamjay district):

- On September 1, 2023, a contract was signed with Gal Proekt LLC for the development of DED for the above-mentioned subprojects.
    1. The DED for the Margun subproject has been completed. The selection process for a contractor has been announced. The contract is currently being finalized.
    2. The DED for the Kara-Bulak subproject has been completed. The selection process for a contractor has been announced. The selection process is in the technical evaluation stage.
    3. The DEDs for the subprojects Sovetskoye and Toguz -Bulak (Aibike) are currently undergoing expert review.
    4. The DEDs for the Katran and Aigul-Tash subprojects are currently being developed. Its completion is scheduled for November 2024.

As part of the implementation of 5 subprojects in Batken province (Dara (Chek, Jany-Jer , Kaiyndy, Kan, Sary-Talaa), Suu-Bashy (Apkan), Tort-Kul (Ak- Otok, Ak-Turpak, Zar-Tash, Chong-Gara, Chong-Talaa), Ak-Turpak (Otukchu, Kyzyl-Korgon, Tokoy, Chogorok, Ak-Turpak, Kalacha, Chong-Kara), Bulak- Bashy (Kulundu)):

- On May 15, 2024, a contract was signed with the design institute Musai LLC for the development of DED. The designing is currently underway.

As part of the rehabilitation of the water supply system in the village of Bokonbaevo in Issyk-Kul province:

- On November 14, 2023, a contract was signed with the design company NurSJB LLC to revise the existing DED. It was completed in September 2024. A contract was signed with the contractor Kanat Story LLC for the implementation of construction work on the rehabilitation of the water supply system.

As part of the rehabilitation of the water supply system in the village of Kadji-Sai, Tong district, Issyk-Kul province:

- On January 8, 2024, a contract was signed with the company NurSJB LLC to conduct radiation analysis in 3 villages of the province. At the time of writing this report, work is still ongoing.

As part of the rehabilitation of the water supply system in the village of Sabyrov (50 let of Kyrgyz SSR) of Toguz-Bulak AA of Leilek district, Batken province:

- On May 15, 2024, a contract was signed with the design institute NTT LLC for the revision of the DED. As of the end of 2024, the issue is underway.

As part of the rehabilitation of the water supply system in the village of Jany-Turmush (Baul) of Katran AA of Leilek district:

- On May 15, 2024, a contract was signed with the design institute EAAS LLS for the revision of the DED, which is at the implementation stage.

Component 2: On December 22, 2023, a company was selected to develop the National Water Supply and Sanitation Sector Development Program and Support in the Institutional Capacity Development of the DRPVV. The contract was signed with Central Asia Prospects (Public Foundation). 25 % of the work has been completed. The team of consultants analyzed the current state of development of the WSS sector as part of Task 1. A draft Investment Plan and a Report for Task 3 are currently being developed in accordance with the Terms of Reference. Completion of the work is planned for the end of 2025.

Component 3 (USD 1,5 mln): Project management activities, including coordination, procurement and financial management, M&E, management and oversight of social and environmental safeguards standards, communications and outreach, are implemented in accordance with the work plan and project documents.

❖ *Sustainable Rural Water Supply and Sanitation Development Project (SRWSSDP/PURSVS)*

The project consists of 2 parts: the Core project and the Additional financing.

The key institutions involved in the management, coordination and implementation of projects are the Ministry of Finance of the Kyrgyz Republic, the specially authorized state body in the field of

WSS (currently – the DRPVV), the Department of Disease Prevention and Sanitary-Epidemiological Surveillance under the Ministry of Health, the Community Development and Investment Agency (ARIS), local governments (represented by aiyl okmotu (village council)) and WSS service providers. The executing agency is the DRPVV, and the ARIS acts as the implementing agency.

The project aims to expand investments in the rural WSS sector to cover new areas and districts, and to provide support for the implementation and expansion, where necessary, of the National Water Supply and Sanitation Sector Development Program.

The project consists of the following components:

- Component 1: Investments in water supply. The aim of this component is to address the need for rehabilitation and construction of new water supply systems in target villages. Activities: Rehabilitation and construction of water supply systems, where all consumers will be connected to the water supply system via individual connections and the installation of water meters. Water supply systems will be connected to all social facilities: first aid posts, schools, and kindergartens.
- Component 2: Sanitation development. The aim of this component is to improve sanitation conditions in rural areas and further implement the State Strategy for Improving Sanitation Conditions in Rural Areas. Activities: Rehabilitation and/or construction of sanitary facilities (toilets and washbasins) in schools. Renovation of laboratory facilities in all sanitary and epidemiologic services within the project area. Equipping all of them with laboratory and office equipment. Implementation of an incentive grant program to improve sanitary conditions in households (toilets, washrooms, bathrooms, and showers). Implementation of relevant work in schools and households to change behavior regarding sanitation and hygiene (trainings, competitions, milestone days: clean water day; toilet day, etc.).
- Component 3: Institutional strengthening. The aim of this component is to strengthen the institutional capacity of the sector at the national and local levels. Activities: Creation and support of municipal water enterprises (MWUs) (instead of CDWUUs/*SOOPV* – Community drinking water users unions), whose objectives include operating drinking water supply systems constructed under projects through full metering of supplied water using a billing system established within the projects based on meter readings. Coordination of all project activities with local residents and local governments and their direct participation in their implementation. Supply of office equipment and technical supplies for operating drinking water systems to all MWUs. Signing of contracts between MWUs and village councils for the provision of water supply services. Support in the organization and logistics of residential connection work.
- Component 4: Project management. The purpose of this component is to manage the project related to personnel, consulting and equipment costs, the M&E program, security specialists, procurement, and financial management, including internal and external financial audits.

✓ Project implementation status

Component 1. Since the project's inception, 34 water supply systems have been completed, they cover 42 villages with a total population of over 80,000 people, cost of works is over KGS 1.2 bln. During the reporting period, construction and installation work was completed on 3 water supply

systems in the villages of Orto-Aryk (Kuramin AA, Panfilov district), Kurpuldok (Kurpuldok AA, Panfilov district), Kaiyrma (Dostuk AA, Alamudun district).

Component 2. Subcomponent 2.1. Construction and rehabilitation of sanitary facilities (premises of sanitary and epidemiological stations and indoor school toilets). Repair of laboratory premises (KGS 910,300) in the buildings of the sanitary and epidemiological stations of Kemin, Alamudun, Issyk-Ata districts of Chui province, as well as Issyk-Kul and Tong districts of Issyk-Kul province. Computer and laboratory equipment worth a total of KGS 17.3 mln was supplied to district sanitary and epidemiological stations. Also, 810 families in Osh, Issyk-Kul and Chui provinces received subsidies to improve sanitary and hygienic conditions in their homes.

Component 3. Subcomponent 3.1.National level activities.

In total, work worth KGS 38.3 mln was completed for national-level events. In particular, the work was aimed at improving the regulatory framework of the sector, updating technical standards, building codes and regulations (SNiP) in the field of WSS. Also, the work includes developing an institutional development plan for the DRPVV, a sectoral vocational training program, and the SIASAR program aimed at creating an information base on water supply systems in all settlements of Kyrgyzstan (data was entered on 2,134 rural settlements, where water supply systems were surveyed, the state of sanitary facilities in feldsher-midwife stations (rural health posts), schools and kindergartens.

Component 3. Subcomponent 3.2. Local events. At the local level, all municipal water utilities (MWU) involved in the project received comprehensive support. Office and computer equipment was supplied to develop their capacity, and billing system software was installed. The MWUs received equipment for the technical operation of their water supply systems.

Asian Development Bank

❖ *Issyk-Kul Wastewater Management Project*

The project aims to improve wastewater management services in 2 coastal cities on Lake Issyk-Kul, located in the eastern region of the Kyrgyz Republic. It includes modernization and expansion of existing wastewater disposal systems, building institutional capacity, and strengthening the sustainability of WSS services in the towns of Balykchy and Karakol. The total project cost is USD 41.82 mln.

The immediate results of the project are (i) improved wastewater collection and disposal systems in the cities of Balykchy and Karakol, (ii) strengthened institutional capacity and (iii) improved septic tank sludge and sanitation management services and increased hygiene awareness.

The project consists of the following components:

- Component 1: Improvement of wastewater disposal systems in the cities of Balykchy and Karakol, including: (i) construction of sewerage treatment plants in the cities of Balykchy (production capacity of 4,200 m^3/day) and Karakol (production capacity of 12,000 m^3/day), (ii) construction of expansion of sewerage networks with a length of 43.4 km, (iii) construction of 0.2 km of wastewater pipelines and rehabilitation of 28 main collector wells, (iv) construction of 1 receiving tank for wastewater with a capacity of 50 m^3, (v) cleaning of one tank (daily pondage basin) and ponds from sludge with a capacity of 100,000 m^3 in Karakol and Balykchy and the rehabilitation of the Karakol irrigation pumping station, (vi) procurement of special machinery (equipment).
- Component 2: Strengthening institutional capacity and improving project implementation

in Balykchy and Karakol through: (i) a corporate capacity development program, (ii) targeted training modules on basic corporate knowledge, plant operations and maintenance, financial management and billing systems, (iii) twinning with an international institution using expert systems and knowledge bases on WSS systems.

- Component 3: Improving septic sludge management and raising awareness of environmental issues through programs aimed at: (i) improving the regulatory framework for septic sludge management, streamlining septic sludge collection services and improving septic sludge disposal; (ii) raising awareness of best practices in sanitation and encouraging stakeholder support for improved sanitation.

✓ Project implementation status at the end of 2024

Component 1:

Wastewater treatment plant of Balykchy: On May 28 , 2021 a contract "Purchases of an enterprise - Design, supply and installation of the Balykchy wastewater treatment plant" was signed with the Consortium "CCCC Tianjin Dredging Co., Ltd, China Road and Bridge Corporation and China Northeast Municipal Engineering Design and Research Institute Co" in the amount of USD 9,487,632. The contract entered into force and the DED was approved on April 6, 2022.

Positive assessments were received from the State Expertise Department. Mandatory spare parts and equipment were fully delivered**.** Construction of the facility was completed on June 30, 2024. According to the contract, commissioning work was conducted for 60 days to commission the facility. Currently, the equipment is operating continuously and in accordance with contractual obligations, and the discharged wastewater meets requirements. Treated wastewater testing is being conducted by specialists from both the SCADA system and the WWTP laboratory, both by Balykchy water utility and the contractor. Biomass has reached the design level in the biological reservoir, producing excess sludge.

Functional guarantee testing was planned to begin on October 10, 2024, using an accredited laboratory. The expected acceptance date for the Balykchy Wastewater Treatment Plant will be determined after the completion of functional guarantee testing in accordance with contract requirements.

Wastewater treatment plant in Karakol: On December 21, 2022, a contract was signed for the “Purchase of an Enterprise - design, supply and installation of the Karakol wastewater treatment plant” in the amount of USD 17,830,897.31 with the HAYAT Consortium GROUP LLC and BIOWORKS Verfahrenstechnik GmbH. On January 13, 2023, the facility was officially handed over to the contractor. To expedite construction, the development of the DED is divided into 3 stages: Stage 1. On November 29, 2023, the DED received a positive conclusion from the state expert review; Stage 2. On March 14, 2024, a positive conclusion was received; Stage 3. On August 26, 2024, a positive conclusion was received

During the reporting period, the contractor completed the following work:

All demolition work has been completed. Construction of the administrative and amenity building and the repair shop is underway. Excavation work for the aeration tank and settling basins has been completed. Construction is scheduled for completion in 2025.

Construction of the expansion of sewer networks in the city of Balykchy (10.7 km):

Lot 1 (5.34 km): On January 21, 2022, a contract was signed with Impuls-Osh LLC for the amount of USD 475,802.09. The contractor has completed 100% of the construction and installation work for laying polyethylene pipelines.

Lot 2 (5.32 km): On February 1, 2022, a contract was signed with Profit-Express LLC in the amount of USD 556,775.32. The contractor has completed 100% of the construction and installation work on laying polyethylene pipelines. Objects transferred to the balance of the Balykchy water utility.

Construction of the expansion of sewer networks in the city of Karakol (12.7 km):

Lot 1 (6.71 km): On March 31, 2022, a contract was signed with Minur LLC for the amount of USD 548,072.89. Construction and installation work is 100% complete.

Lot 2 "Severny" (5.94 km): On April 5, 2022, a contract was signed with the Consortium of Inzhenernaya Zashchita LLC and Polymer Snab Asia LLC for USD 549,490.97. Construction and installation work is 100% complete. The facilities have been transferred to the balance of the Karakol water utility.

Additional construction to expand sewer networks in the cities of Balykchy and Karakol (20 km): The assessment report has been submitted to the Asian Development Bank for approval (planned to be financed from savings).

Construction of a 50 m³ wastewater collection tank, the construction of a 0.2 km discharge pipeline and the rehabilitation of 28 wells on the main collector will be revised due to the lack of bidders.

On June 29, 2022, a contract was signed with CIC LLC for the Purchase of 3 pumping units and related equipment for an irrigation pumping station in Karakol for a total of USD 272,474. Pumps are delivered and installed.

Cleaning of one reservoir (daily pondage basin) and ponds from sludge: Within the framework of the project, a Program and Action Plan for Sludge Management was developed for the biological ponds of the Karakol and Balykchy wastewater treatment plants, as well as the irrigation pond (daily pondage basin) of the Ak- Suu District Water Resources Department (DWRD), which was agreed upon with the Karakol water utility and the Ak-Suu DWRD and approved by the ADB. Work is envisaged to clean the basin from sludge over the next 5-6 years by the DWRD's efforts and resources. In this regard, based on the request of the Issyk-Kul Main Water Resources Department, specialized equipment in accordance with ADB procedures was purchased within the framework of the project. In turn, the Ak- Suu DWRD is carrying out all preparatory work for the cleaning and storage of sludge from the basin in accordance with the requirements of national legislation, including environmental legislation. The assessment report was sent to the ADB for the design of a designated area for the storage of sludge from the basin and its fencing.

Supply (purchase) of special techniques.

Lot 1: On January 23, 2023, a contract was signed with Alamudunenergo CJSC for the amount of USD 277,583. Equipment was delivered (2 sewer cleaning machines, 1 sewage disposal truck).

Lot 2: On November 28, 2023, a contract was signed with AT Empire LLC (3 dump trucks) for the amount of USD 290,729. The equipment was delivered.

Lot 3: On February 2, 2023, a contract was signed with Autodom Machinery LLP for USD 492,500. Equipment supplied (3 excavators and 1 lowboy trailer for transporting a crawler excavator).

Purchase of a diesel generator unit for the the Balykchy water utility from Orion LLC for the amount of USD 126,803.

Component 2 and 3:

On August 10, 2021, contract No. PMO-FPIC-03 was signed with Central Asia Prospects (public foundation) for the amount of USD 60,689 to improve the financial management of municipal water utilities in Balykchy and Karakol (development of accounting and tax policies, assistance with annual audits, etc.). The contract expired in February 2023.

On January 26, 2023 , a contract was signed with JSC SEURECA with subconsultants Baker Tilly Bishkek LLC and Inter Engineering Group LCC. The contractor's initial report has been accepted. Report No. 1 includes the following documents:

- Corporate business plans for Balykchy and Karakol water utilities (vodokanals), approved by municipalities (in Kyrgyz, Russian and English);
- Non-revenue water reduction program (including water balance determination, GIS update, network modeling, recommendations and action plan);
- Technical capacity increase assessment;
- Robust time-bound action plans for achieving financial targets by the district administrations;
- Gender Action Plan (GAP) - a plan and schedule of work according to the submitted form.

Report No. 2 includes the following documents:

- Tariff roadmaps for Balykchy and Karakol water utilities, approved by municipalities (in Kyrgyz, Russian and English);
- Septic Sludge Management Program (in Kyrgyz, Russian and English);
- Training needs assessment.

Reports 1 and 2 have been accepted for the cities of Balykchy and Karakol, they are being finalized by the consultant in accordance with the comments of authorities.

❖ ***Issyk-Kul Environmental Management and Sustainable Tourism Development Project***

This ADB-funded project is currently underway. It aims to (i) increase quality and sustainability of the tourist infrastructure in Cholpon-Ata and improving living conditions through creation green, climate-resilient , safe and inclusive spaces, including ensuring universal access for persons with disabilities and elderly people; (ii) improve the environment and health of the population in Issyk-Kul province. Providing proper cleaning of wastewater generated in Cholpon-Ata to protect the biosphere of Issyk-Kul; and (iii) render support in planning building-up of the capacity of Cholpon-Ata Mayor's office for provision effective management tourism, as well as the capacity of Cholpon-Ata water utility in increasing the quality and reliability of wastewater management for both residents and tourists. Project will contribute to more sustainable, balanced and diversified economic development of the areas surrounding Lake Issyk-Kul the Almaty-Bishkek Economic Corridor (ABEC). Grant and loan agreements have been signed, tendering procedures are underway to select consultants and contractors.

The project will construct a 15-kilometer promenade along the shore of Lake Issyk-Kul, encompassing Cholpon-Ata, the villages of Bosteri and Baktuu-Dolonotu. It will include a bike path, pedestrian sidewalks, benches, and lighting, restrooms, and landscaping along the promenade. A new building for the Issyk-Kul History Museum will also be constructed, and the infrastructure of 3 parks in Cholpon-Ata – Osmonov, Cholpon, and Pobeda – will be improved.

The open-air petroglyph museum in the upper part of Cholpon-Ata, which is a branch of the Issyk-Kul Historical Museum, will also be equipped with additional benches, a modern restroom, parking, a ticket sales area, and a rest area for museum security.

The European Bank for Reconstruction and Development and SECO

The EBRD, in cooperation with the Swiss State Secretariat for Economic Affairs (SECO), is financing projects implemented primarily in cities across the Kyrgyz Republic. The total allocated funds amount to EUR 215 mln and cover 24 cities and 8 villages.

Under the loan and grant agreements between the Kyrgyz Republic and the EBRD, the Kyrgyz Republic (represented by the Ministry of Finance) acts as the borrower. However, responsibility for project implementation lies with the municipalities themselves (city mayors' offices and water utilities). The implementing agencies are the city water utilities (which are the water supply and wastewater treatment service providers in the respective city), which establish PIUs for the direct implementation of the project. In addition, the EBRD and SECO provide additional grant funds to provide technical assistance (TA) to the cities. TA is primarily aimed at hiring consultants to develop feasibility studies, develop and implement corporate development programs and stakeholder participation programs, as well as consultants to support project implementation and provide engineering services. Unlike Public Investment Program projects, loans provided by the EBRD are repaid by the implementing agencies, i.e., the water utilities. The loan repayment amount is included in the water supply and wastewater tariffs.

The Government of the Kyrgyz Republic has applied to the European Bank for Reconstruction and Development for investment financing for the rehabilitation and reconstruction of drinking water supply and sanitation systems, as well as treatment facilities, under the Framework Program for the Rehabilitation and Extension of Water Supply and Sanitation Systems of the Kyrgyz Republic, approved in 2011 and 2015 (OPID No. 42521 and 45747, respectively, hereinafter referred to as the Previous Framework program). Under this program, 21 subprojects were signed in 19 cities, implemented by MWUs in these cities. Financing for these investments is provided through a combination of EBRD loans and capital grants for a total of EUR 124 mln.

In 2020, the EBRD agreed to expand the Previous Framework Program (OPID 50642, hereinafter the New Framework Program) to include new water supply and sanitation subprojects across the country and to cover smaller cities and provinces. These investments will be financed through a combination of an EBRD loan and capital grants totaling EUR 80 mln.

The Ministry of Finance of the Kyrgyz Republic, through the Central Project Implementation Unit (CPIU), will collaborate with municipal water supply and sanitation companies/utilities in cities across the country to implement and monitor subprojects. Project Implementation Units (PIUs) established within each utility will be responsible for the subprojects.

Section 3: Results of activities for the development of the WSS sector in 2024

3.1. Main areas of activity of the DRPVV

The Department for the Development of Drinking Water Supply and Sanitation under the Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic is developing centralized drinking water supply and sanitation in settlements.

It is the legal successor of the Department for the Development of Drinking Water Supply and Sanitation under the State Agency for Architecture, Construction, Housing and Public Utilities under the Cabinet of Ministers of the Kyrgyz Republic.

The aim of the DRPVV is to construct WSS systems for settlements and to create conditions for the sustainable development and operation of the central drinking water supply system and wastewater treatment facilities for settlements of the Kyrgyz Republic.

The main objectives of the DRPVV are as follows:

- development of drinking water supply and sanitation of settlements in accordance with the requirements of regulatory legal acts;
- strengthening the capacity of entities servicing centralized WSS systems, including those providing services in the sector;
- development of international cooperation of the Kyrgyz Republic in the field of drinking water supply and sanitation;
- construction, reconstruction and major repairs of centralized WSS facilities;
- operation of centralized drinking water supply systems, wastewater disposal and treatment facilities in rural areas and cities of regional significance;
- coordination of activities for the construction and rehabilitation of centralized drinking water supply systems, wastewater disposal and treatment facilities, financed by the republican budget and international financial institutions.

To achieve the above objectives, the DRPVV carries out the following functions:

1) The functions of sector-specific policy:

- performing the functions of an executive agency for public investment projects in the field of drinking water supply and sanitation;
- organization and conduct of procurement in accordance with the norms of legislation in the field of public procurement of the Kyrgyz Republic;
- submission of proposals for the development of draft regulatory legal acts in the field of centralized drinking water supply and sanitation of settlements for consideration by the Water Resources Service;
- development of proposals aimed at improving the economic and financial condition of entities servicing centralized water supply and sanitation systems;
- carrying out work to develop the drinking water supply and sanitation sector in settlements;
- participation in the development and implementation of documents related to centralized WSS in settlements;
- development of proposals to improve the technical maintenance and operation of centralized WSS systems in settlements;
- implementation of methodological support for entities servicing centralized WSS systems;
- submitting proposals to LSG bodies and water supply network operating organizations to improve the management of the centralized WSS systems, the economic mechanisms for

providing residents of settlements with clean drinking water, and improving the condition of WSS facilities;
- together with ministries, administrative departments and LSG bodies, participate in the development of national and regional strategies, programs, action plans and business projects related to the use of WSS systems;
- together with LSG bodies, promote the development of sustainable operational capacity of WSS systems;
- in line with established procedures, establish cooperation with domestic and foreign investors in the field of drinking water supply and sanitation, to ensure the implementation of interstate agreements that have entered into force in accordance with the legislation of the Kyrgyz Republic;
- participate in the work of commissions for the acceptance of completed construction and installation works of centralized WSS facilities into operation.

2) The functions of coordination and monitoring:

- monitoring of centralized WSS facilities in settlements;
- coordination of international donor aid, foreign investment in the field of centralized WSS;
- monitoring, coordination and assistance in the implementation of long-term and medium-term programs for the development of WSS systems in settlements;

3) The functions of support:

- organization of training and advanced training of employees of LSG bodies, organizations, and enterprises related to WSS;
- implementation of best practices in organizing the operation, repair and maintenance of WSS systems and their equipment;
- interaction with ministries, administrative departments, organizations, and LSG bodies on issues of monitoring WSS systems;
- creation and maintenance of a database on centralized WSS systems in settlements.

3.2. Implementation of industry policy

Implementation of the National WSS Development Program for Settlements of the Kyrgyz Republic until 2026

In order to improve the quality of WSS services provided, address key issues, identify promising areas, objectives, and functions among stakeholders, ministries, administrative departments, and local governments, the National WSS Development Program for Settlements of the Kyrgyz Republic until 2026 (hereinafter referred to as the Program) was developed, which was approved by Resolution No. 330 of the Government of the Kyrgyz Republic dated June 12, 2020.

The program defines key areas and activities for the sustainable development of WSS systems, taking into account measures to minimize negative impacts on the environment and proactively respond to existing and potential risks in the form of natural disasters, man-made disasters, and climate change.

The program is aimed at improving the quality of WSS services, addressing key issues, and identifying promising areas, objectives, and functions for interested ministries, administrative agencies, and LSG bodies.

The Program until 2026 represents a system of measures aimed at implementing long-term objectives for the development of the WSS sector of the Kyrgyz Republic, taking into account the rational contribution of state, municipal authorities and international partners to solving those problems determined by the real prerequisites and limitations of the sector development.

The Program provides a general assessment of the current situation and existing problems, defines the main directions of the sector development (4 priorities), develops goal and objectives, as well as stages of the Program implementation, which are grouped into the following components.

Component 1 – Implementation of state policy and systemic institutional reforms aimed at strengthening the sustainability of the WSS sector;

Component 2 – High-quality implementation of projects funded by international donor organizations aimed at improving the infrastructure of the sector;

Component 3 - Increasing investment attractiveness and funding for the WSS sector.

The Program also outlines expected outcomes, funding requirements, and financial support for program implementation. Structurally, the document includes the program itself, an action plan for program implementation, and a matrix of monitoring and evaluation indicators. The Program implementation plan includes measures to achieve the stated goals and priority areas for the sector development.

During the Program's implementation from 2014 to 2024, construction and installation work was completed in 294 settlements, providing drinking water to more than 684,000 people.

Additionally, the State Institution for Drinking Water Supply and Sanitation under the Water Resources Service planned to construct and reconstruct drinking water pipelines in 40 villages and 3 cities in 2024, with funding from foreign and domestic investors. To date, construction was completed and commissioned in 14 villages. More detailed information on investment projects under the Program is provided in Section 2 of this report.

Measures taken to reform the WSS sector

Administrative-territorial reform

In order to implement the Decree of the President of the Kyrgyz Republic “On conducting administrative-territorial reform in a pilot mode at the level of aiyl aimaks and cities of the Kyrgyz Republic” dated December 29, 2023 No. 370, the administrative-territorial reform was carried out in all provinces.

On June 20, 2024, the Jogorku Kenesh (Parliament) of the Kyrgyz Republic adopted the Law "On administrative-territorial units at the level of aiyl aimaks and cities of the Kyrgyz Republic." The law was adopted in implementation of the principle of "organizing a new administrative-territorial structure that ensures reform of the governance system in the Kyrgyz Republic". The aim of the Law is to establish and approve administrative-territorial units in all regions of the country based on the results of the administrative-territorial reform being conducted in a pilot mode at the level of aiyl aimaks and cities of the Kyrgyz Republic. This Law provides for the formation of enlarged administrative-territorial units in the Kyrgyz Republic and the approval of their administrative boundaries. In total, the administrative boundaries of 235 united aiyl aimaks and 33 cities of national, provincial, and district significance were approved.

Following the completion of the reform, unified municipal enterprises were established in all rural districts. These enterprises not only provide drinking water but also other municipal services

(collection and disposal of solid household waste, heat supply, pasture maintenance, road construction and repair, municipal transport, veterinary services, landscaping, and others).

Changes in legislation

According to the Law “On amendments and additions to certain legislative acts of the Kyrgyz Republic within the framework of administrative-territorial reform” No. 152, dated July 29, 2024, corresponding amendments and additions were made to the following legislative acts:

1. The Civil Code - municipal enterprises based on the right of economic management have been added to state enterprises (Article 158);

2. The Land Code - amendments have been made to the organization of work on the management and use of state pasture lands;

3. The Housing Code - amendments have been made related to water meters: in the absence of metering devices for goods, the amount of payment is determined according to consumption standards and accumulation standards;

4. The Budget Code - amendments have been made to the procedure for using reserve funds of local budgets and subsidizing municipal enterprises;

5. The Law of the Kyrgyz Republic "On pastures" – the words "pasture user associations" have been replaced with the words "municipal enterprises." It has also been added that the LSG body or municipal enterprise to which authority for organizing pasture use has been delegated shall annually develop a pasture use plan; the tariff for the use of pasture lands shall be determined annually by the LSG body and/or municipal enterprise and approved by the local kenesh (council);

6. Other relevant changes and additions have been made to other legal acts, namely:

In April 2024, the Cabinet of Ministers adopted the Resolution "On the effective management and development of water resources," which sets out the following decisions:

- Delegate the authority to approve tariffs for services for the supply of irrigation water from state water management systems, water supply and sanitation outside of settlements with city status to the authorized state body in the field of water resources.
- Amend the Resolution of the Cabinet of Ministers of the Kyrgyz Republic “On the delegation of certain rule-making powers of the Cabinet of Ministers of the Kyrgyz Republic to state bodies and executive bodies of local self-government” No. 115 dated March 3, 2023, adding powers to approve the procedure for setting tariffs for irrigation water supply, water supply and sanitation services of the MWRAPI;
- The Water Resources Service under the MWRAPI will take over municipal on-farm irrigation and drainage systems and transfer them, in accordance with established procedures, to the balance sheets of the territorial organizations of the Water Resources Service. Thus, municipal irrigation system assets will be transferred to state ownership.

To improve the efficiency of WSS systems in rural areas and district-level cities, the Cabinet of Ministers of the Kyrgyz Republic adopted Resolution No. 239 dated December 6, 2024, "On amending Resolution No. 207 dated April 29, 2024, 'On the effective management and development of water resources.'" According to it, 3 districts— Tyup district of the Issyk-Kul province, Kochkor district of Naryn province, and the Suzak district of Jalal-Abad province – have been designated as pilot territories for the transfer of functions for the operation and maintenance of WSS systems to district water management departments.

Section 4: Analysis of the performance of WSS service providers and service quality

Currently, following the implementation of administrative-territorial reform in the Kyrgyz Republic, 200 municipal enterprises have been created and are operating, which, in addition to other municipal services, are also responsible for drinking water supply and sanitation.

Insufficient management practices and infrastructure are among the constraints to the successful development of the country's WSS systems. The purpose of this analysis is to identify the factors affecting the efficiency of WSS systems. Therefore, the key performance indicators of service providers will be examined.

4.1. Supplier performance indicators

We will consider the following groups as the main performance indicators of suppliers:

- economic indicators;
- technical indicators;
- social indicators.

Economic indicators

When analyzing these indicators, it is important to take in consideration the following:

- revenue from WSS services;
- analysis of revenues from services, tariff structure, and their level of return on investment;
- costs of maintenance and operation of systems;
- level of costs for repair, modernization and maintenance of infrastructure;
- financial stability :
- level of profitability and creditworthiness of suppliers.

The level of income in the WSS sector is currently very low and this is influenced by a number of factors such as:

- willingness to pay for services;
- right calculation tariff ;
- level of profitability ;
- technical condition of the WSS infrastructure;
- availability of a billing system;
- support from the local government.

It should be noted that currently, not all users pay for WSS services on time or in full. However, it has been observed that a subscriber's financial situation does not influence their willingness to pay on time. Lower-income individuals often pay more diligently than those with higher incomes.

Accurate and complete tariff calculation also impacts revenues. Currently, only a few service providers can accurately calculate tariffs for their services. Due to incomplete accounting of all expenses, service providers incur significant losses. A simplified, single-rate tariff mechanism is used for tariff formation. This mechanism is not feasible in the context of frequent migration processes. A transition to dual-rate tariffs is necessary to ensure the normal operation and maintenance of the systems due to fluctuations in subscriber numbers throughout the year. It is also necessary to apply separate tariff rates for residential consumers and those using business services.

The profitability level of WSS service providers in rural areas is negative due to incorrect tariff setting. Inaccurate tariff calculations are caused by a lack of specialized training programs and tools, as well as a lack of qualified specialists in rural areas. To simplify tariff calculations, it's necessary to develop a simple program that will calculate tariffs. Water utility employees only need to enter the required cost values. This will significantly improve the profitability and economic sustainability of WSS service providers.

A broad information and training program for local council deputies is also needed to increase their knowledge of the formation of tariffs for WSS services.

The technical condition of the WSS infrastructure is in poor condition. This can be explained by a number of factors such as:

- absence of qualified staff ;
- incorrect tariff policies;
- lack of understanding on the part of local council deputies;
- unwillingness or insufficient understanding of the real situation and possible negative consequences in the future on the part of subscribers, etc.

A comparison of revenues with the actual costs of infrastructure maintenance and operation shows that they are meager and are allocated only for routine repairs. The tariff structure does not include provisions for depreciation due to local governments' desire to provide affordable and low tariffs for the population. However, this has negative consequences in the medium and long terms. Depreciation charges must be made a mandatory component of the tariff to ensure the functioning of the system and the population’s access to safe drinking water.

Depreciation charges will ensure the proper functioning of the WSS system and will allow for the necessary repairs and modernization of the system, if necessary.

Revenue levels are affected by indicators such as accounts payable and accounts receivable. Even if tariffs are set correctly, there is a risk of poor financial standing for the service provider due to poor payment collection. Such a negative situation exists in every municipality in the Kyrgyz Republic, and it is a very negative indicator.

Low payment receipts and subscribers’ willingness to pay affect the quality of drinking water supply and sanitation services. To turn things around it is necessary to take next measures:

- introduce billing systems;
- conclude contracts with all subscribers;
- organize and strengthen the work of commissions on offenses under LSG bodies;
- simplify and accelerate debt collection mechanisms for utility bills.

Based on global practice, ensuring high-quality WSS services requires mandatory support from state and local governments, both financial and organizational. This will accelerate the process of achieving economic sustainability for WSS service providers and ensure access to quality services for the population.

Technical indicators

The quality of services is also influenced by the technical performance of suppliers, i.e. the state of the infrastructure.

The analysis of technical indicators includes such factors as:

- wear and tear of networks and equipment (percentage of worn-out WSS networks, frequency of breakdowns, accidents, need for equipment replacement);

- proportion of worn-out objects, the need for major repairs;
- ensuring uninterrupted water supply (number and duration of water outages, water losses in networks: leaks, unauthorized connections);
- frequency of outages, water losses in networks;
- compliance with environmental standards (efficiency of wastewater treatment systems, level of pollution of water bodies as a result of discharge of untreated water, introduction of technologies that minimize environmental damage);
- treatment and disposal of wastewater in accordance with established standards.

While drinking water supply infrastructure exists in most of the republic, wastewater disposal infrastructure exists only in some cities and is completely absent in rural areas, with the exception of local wastewater disposal systems.

Therefore, the state's primary task in the near future is to develop a national program for the development and implementation of wastewater disposal systems throughout the country. This is acute in the light of the deteriorating global environmental situation in Kyrgyzstan and around the world.

Social indicators

Social indicators are also of great importance, they are as follows:

- availability of services for the population (the share of the population connected to centralized WSS systems, the level of availability of services in rural and urban areas);
- level of coverage of water supply and sanitation services:
- quality of service (water quality assessment: transparency, impurity content, compliance with sanitary standards);
- assessing customer satisfaction (surveys, complaints);
- subsidies and support for vulnerable groups (the amount of subsidies allocated to cover the expenses of vulnerable categories of the population, the availability of programs aimed at ensuring equal access to services);
- availability of preferential conditions for low-income groups of the population.

Social indicators are only partially met, primarily due to the lack of necessary financial resources. They provide food for thought and adjustment of state and local programs for the development of drinking water supply and sanitation systems.

4.2. Comparative analysis of suppliers' performance

The performance of suppliers is influenced by their geographical location.

Urban and rural areas

Cities are characterized by high consumer density, more modern infrastructure, high coverage.

While in rural areas one can observe low centralized water supply, high dependence on local water sources, low subscriber density, high unit costs.

Based on the current situation in the Kyrgyz Republic, we observe that suppliers located in urban areas have a better economic position. This can be explained by the following factors:

- large subscriber bases;
- high subscriber density (multi-storey buildings);
- good infrastructure ;
- ability of local governments to finance suppliers;

- high potential human resources ;
- implementation of various methods to increase the level of payments.

Regional differences in efficiency

The efficiency of suppliers is also influenced by regional characteristics, such as the presence of open or underground water sources, water flow, climatic features (highlands/plains, low/high temperatures, water flow, etc.).

Geographic location is also important, as suppliers located near mountain river sources can use open drinking water sources with minimal energy and water extraction costs. In contrast, suppliers using groundwater incur significant costs associated with groundwater extraction. The depth of freshwater also influences groundwater extraction costs.

Some municipalities use springs for drinking water supply, but the capacity of many springs does not cover the drinking water needs of all subscribers. Winter also affects the flow rate of springs and open mountain springs. High consumption in the summer leads to water shortages for some subscribers.

Therefore, the characteristics of the geographical location have an important impact on determining the cost of drinking water supply services.

Selecting the business model for organizing the service

Wastewater disposal in the Kyrgyz Republic is in poor condition, as the vast majority of municipalities lack wastewater disposal systems. It is impossible to resolve this issue due to the high cost of constructing centralized wastewater disposal infrastructure. Therefore, one solution to this problem in rural areas is to introduce mandatory requirements for the installation of standard individual wastewater treatment systems for households.

The administrative-territorial reform being implemented in the Kyrgyz Republic also impacted the performance of service providers. This reform proposed pilot testing of a municipal enterprise-based service provider model. However, it was strongly recommended that Community Drinking Water Users Unions (SOOPPV) transfer their infrastructure and functions to municipal enterprises and liquidate themselves.

At the direction and under the supervision of district authorities, municipal enterprises (MEs) were established in all municipalities. However, local governments in rural areas lack experience in managing MEs, skilled labor, or providing WSS services. The negative consequences of this process are observed in many municipalities, including the following factors:

- lack of experience in managing a municipal enterprise;
- lack of knowledge in calculating an economically sustainable tariff;
- lack of knowledge in the proper organization of the structure, staffing, functional powers, hiring of personnel, calculation of wage rates, and other issues related to municipal enterprises;
- absence of qualified personnel ;
- liquidation of successfully providing service providers;
- restriction of businesses, investment capital inflows, and new technologies;
- decrease in quality services;
- increasing burden on local budgets due to rising costs of subsidizing municipal enterprises and alike.

Section 5: Conclusions and Recommendations

Based on the analyses in the above sections, the following measures must be taken for the further development of the WSS sector:

1. Increase funding for network modernization through government and international grants;
2. Introduce digital management systems (billing);
3. Increase accessibility of services in rural areas through subsidy programs;
4. Develop public-private partnerships to attract investment;
5. Strengthen monitoring of compliance with environmental standards and introduce wastewater recycling mechanisms;
6. Develop and adopt a state program for the development of drinking water supply and sanitation.
7. Strengthen efforts to improve tariff policy;
8. Increasing the capacity of employees of WSS enterprises;
9. Create conditions for the development of various forms and business models for the organization of WSS (PPP, outsourcing, municipal enterprises).