



**The World Bank**

Climate Resilient Water Services (P173734)

---

# Project Information Document (PID)

---

Appraisal Stage | Date Prepared/Updated: 17-Feb-2022 | Report No: PIDA32590



## BASIC INFORMATION

### A. Basic Project Data

Country Kyrgyz Republic	Project ID P173734	Project Name Climate Resilient Water Services Project	Parent Project ID (if any)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 21-Feb-2022	Estimated Board Date 31-Mar-2022	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Kyrgyz Republic	Implementing Agency Water Resource Service (WRS), Department of Drinking Water Supply and Wastewater Disposal (DDWSWD)	

#### Proposed Development Objective(s)

The project development objective is to (i) increase access to climate-resilient water services in selected river basins, and (ii) strengthen institutional capacities for climate-resilient water management at local and national level.

#### Components

Infrastructure Investments and Service Improvements

Institutional Strengthening for Climate Resilient Service Delivery, Water Resources Management and Dam Management

Project Management, M&E and Professional Development

Contingent Emergency Response Component

## PROJECT FINANCING DATA (US\$, Millions)

### SUMMARY

Total Project Cost	100.00
Total Financing	100.00
of which IBRD/IDA	100.00
Financing Gap	0.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	100.00
IDA Credit	50.00
IDA Grant	50.00

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

**B. Introduction and Context**

Country Context

1. **Despite solid economic growth, the Kyrgyz Republic is one of the poorest countries in Central Asia.** The country has experienced solid but volatile economic growth over the past decade, averaging 4% per year since 2010. The Kyrgyz economy remained in a deep recession following a contraction of 8.6% in 2020 due to the COVID-19 pandemic and policies to limit its spread, however, 3.6% growth was registered in 2021. In 2020 the Gross National Income per capita was US\$1,160, which is slightly above the threshold for Lower Middle-Income Country status<sup>1</sup>. The country has a population of about 6.6 million with over 60% living in rural areas<sup>2</sup>.
2. **The government has introduced measures to combat the pandemic, such as quarantine and trade and travel restrictions, and to mitigate its socio-economic impacts, but additional support is required.** Global economic factors and especially the economic slowdown in Kazakhstan and Russia will exacerbate the economic shock from COVID-19 to the Kyrgyz economy. The pandemic has affected food prices, the availability of medicines and medical supplies, employment, and the remittances flow. This latter point is particularly important given the economy's dependence on remittances (27% of Gross Domestic Product (GDP)<sup>3</sup>).
3. **The COVID-19 crisis threatens to undo the gains in poverty reduction achieved over the past few years, and a high proportion of the population risks falling back into poverty.** The COVID-19 crisis has adversely affected labor income and remittances, and this, combined with inflation, leaves large segments of the population exposed to the economic consequences of the pandemic. In absolute terms, Jalal-Abad and Osh oblasts host the greatest number of people living below the national poverty line<sup>4</sup>, reaching almost half of the country's total number of

<sup>1</sup> GNI in 2020 declined to 1160, GNI per capita, Atlas method (current US\$) - Kyrgyz Republic. Available from: [data.worldbank.org](http://data.worldbank.org)

<sup>2</sup> Population statistics from [data.worldbank.org](http://data.worldbank.org)

<sup>3</sup> 2020 data from [data.worldbank.org](http://data.worldbank.org).

<sup>4</sup> 391,232 and 198,309 people respectively.



the poor.<sup>5</sup> Batken oblast has the highest poverty rate in relative terms, with more than 30% of the population living below the poverty line<sup>6</sup>.

4. **Beyond the COVID-19 pandemic, climate change is one of the most critical risks to the Kyrgyz Republic's development and stability.** The Kyrgyz Republic is one of the most vulnerable countries to climate change in the Europe and Central Asia region. Temperatures in the Kyrgyz Republic have increased consistently over the past 80 years, at an average rate of 0.1°C/decade<sup>7</sup>. Low socio-economic development, inadequate infrastructure, and a high dependency on climate-sensitive sectors (agriculture and hydropower) result in greater vulnerability to climate-related water shocks. The water sector is the primary medium through which the negative impacts of climate change are felt, as well as a key sector to ensure effective adaptation and build resilience.
5. **Water-related risks are on the rise especially because of climate change.** Floods and droughts are a first set of water risks expected to exacerbate under climate change. Exposure to floods and mudflows in the spring is high. Droughts in summer as well as the severe cold spells in winter have major impacts on rural livelihoods and national food security. Droughts are common, and under climate change the annual probability of severe drought is expected to more than double from 14% in 2020–2039 to 31% in 2040–2059<sup>8</sup>. This is expected to increase demand for irrigation, leading to water deficits and potential yield declines. Beyond drought, floods are also expected to worsen, with rainfall-induced mudflows expected to intensify especially in the country's southern oblasts. In the whole country there are 5,000 zones susceptible to mudflows, of which 3,500 are in the southern region of the country<sup>9</sup>. Further climate change risks include increased variability and changed timing of reservoir inflows (thus affecting hydropower production), reduced water storage in glaciers, increased water and energy demands because of climate warming potentially leading to increased greenhouse gas (GHG) emissions, and disruption to economic production and livelihoods, especially in rural areas.
6. **While water is a source of risk, it is also a resource critical to and embedded within many key sectors of the Kyrgyz economy, notably agriculture, energy and tourism.** Irrigated agriculture is a major livelihood activity, contributing to about 13-15% of GDP and employing about one-fourth of the population<sup>10</sup>. Nearly 90% of water for irrigation is supplied by gravity flow from surface water sources, with lands irrigated by furrows or by free flow<sup>11</sup>. Pumped irrigation water supply is not more than 10%, varying from 1 to 17% of the total volume of supplied water in different regions<sup>12</sup>. Pumping is based on electricity generated from renewable sources (hydropower) and, to a lesser extent, on fossil fuels, thus offering opportunities to shift to lower-carbon options. Most of the agricultural production takes place in small individual farms, many of which have low capacity to adapt to climate change. Water management and healthy aquatic ecosystems also underpin the country's tourism, with tourists attracted by the country's landscapes and lakes<sup>13</sup>, notably the unique Issyk-Kul lake, and also hydropower production which contributes to around 90% of total electricity generation<sup>14</sup>. Integrated water resources management solutions and investments and policies that focus on harnessing water's productive potential underpin the country's prospects of green, resilient, inclusive, and sustainable development.

<sup>5</sup> National Statistical Committee of the Kyrgyz Republic. 2020. Monitoring of the Sustainable Development Goal Indicators in the Kyrgyz Republic.

<sup>6</sup> <http://www.stat.kg/en/opendata/category/120/>

<sup>7</sup> Third National Communication of the Kyrgyz Republic under the UN Framework Convention on Climate Change. 2016.

<sup>8</sup> Climate Risk Profile: Kyrgyz Republic (2021): The World Bank Group and Asian Development Bank.

<sup>9</sup> GFDRR. 2011. Kyrgyz Republic. Climate Risk and Adaptation Country Profile. Washington, D.C.: World Bank.

<sup>10</sup> Climate-smart agriculture profile for the Kyrgyz Republic. Available from: [https://climateknowledgeportal.worldbank.org/sites/default/files/2019-06/CSA%20\\_Profile\\_The%20Kyrgyz%20Republic.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2019-06/CSA%20_Profile_The%20Kyrgyz%20Republic.pdf)

<sup>11</sup> Ministry of Agriculture and Melioration of the Kyrgyz Republic. 2015. Modern irrigation technologies and possibility of their application in Kyrgyzstan. Report produced for the National Dialogue on Integrated Water Resources Management in Kyrgyzstan. Available from: [https://www.oecd.org/env/outreach/KG\\_study\\_irrigation.pdf](https://www.oecd.org/env/outreach/KG_study_irrigation.pdf)

<sup>12</sup> *ibid.*

<sup>13</sup> World Bank. 2020. Feasibility of Measuring Tourism Sustainability in the Kyrgyz Republic: A Technical Report (English). Washington, D.C.: World Bank Group

<sup>14</sup> International Energy Agency. Kyrgyzstan energy profile. Country Report 2020. Available from: <https://www.iea.org/reports/kyrgyzstan-energy-profile>



## Sectoral and Institutional Context

7. **The Kyrgyz Republic is well-endowed with water resources.** However, they are spatially and seasonally variable, a situation exacerbated by climate change. Of the 8-9 billion cubic meters (BCM) consumed in the Kyrgyz Republic, close to 93% is used for irrigated agriculture, 4% for industry and 3% for domestic water supply uses<sup>15</sup>. Many efforts are underway to modernize the water sector and improve water management.
8. **Access to and quality of water and sanitation services (WSS) remains a significant challenge.** According to the World Health Organization/UNICEF Joint Monitoring Program, urban access to safely managed drinking water supplies<sup>16</sup> is around 93.5%, while rural access is around 53.9% (2020).<sup>17</sup> However, based on the most recent data of the Kyrgyz Republic's rural WSS monitoring and evaluation (M&E) system SIASAR<sup>18</sup>, the access to safely managed water in rural areas is as low 18.79%.<sup>19</sup> In most schools and health care facilities in rural areas, the WASH situation is poor: around 38% of rural schools and 58% of rural health centers do not have access to improved water sources and lack adequate hygiene<sup>20</sup>. Access to at least basic sanitation is reported to be 34% in rural areas<sup>21</sup>.
9. **WSS infrastructure is outdated and not designed for climate change adaptation, operation and maintenance (O&M) costs are relatively high, and the institutions' capacity is low.** Outdated pumps and distribution networks with excessive energy consumption<sup>22</sup> and high non-revenue water losses affect the financial performance of WSS service providers as energy costs represent a large share of O&M costs, with latest available estimates suggesting that energy costs account for more than 20% of operational expenses<sup>23</sup>. The services sector revenues are too low to cover a sustainable operation of service providers. Maintenance is limited to quick fixes of apparent system breakdowns, affecting the system operational performance in the long term. These infrastructure issues, combined with institutional capacity constraints, have resulted in a stagnation or decline in water service quality acutely affecting rural areas, and district towns (or small and medium-sized cities), where most of the population resides.
10. **Batken oblast lags behind country averages for WSS coverage.** The population (548,247 as of 2021) of Batken oblast suffers from very poor and limited WSS services. The oblast comprises 6 urban centers and 218 villages (as of 2021). Safe drinking water supply coverage ranges from nearly 90% of the population in the city of Batken to 70-80% in other urban centers. In rural areas, the share of the population with access to safely managed drinking water services ranges from 0 to 70%<sup>24</sup>; however, these statistics mask severe gaps in service quality. The wastewater collection and treatment situation is particularly concerning, with low coverage of sewage systems and discharge of untreated wastewater into the environment. Only a small percentage of collected wastewater in cities and villages undergoes secondary treatment, with most raw sewage and fecal sludge being disposed without any treatment into the environment. In rural areas, there is no centralized sewerage and people rely on pit latrines and cesspits for sanitation.

<sup>15</sup> FAO AQUASTAT data [accessed on December 29<sup>th</sup>, 2021]

<sup>16</sup> Safely managed drinking water includes three dimensions: i) available on premises, ii) reliably available when needed, and iii) free of key pollutants (chemical and bacteriological).

<sup>17</sup> Joint Monitoring Programme (JMP) data from <https://washdata.org/data>. Data is based on trend extrapolation of national surveys where definitions may be differently defined. For example, all private piped connections from individual wells may be interpreted as safely managed without being provided as a public service. As such it is difficult to compare these data with SIASAR data that provides more accurate and detailed data on service levels.

<sup>18</sup> SIASAR, introduced in the country in 2018 under the World Bank-financed SRWSSDP, provides data collected in rural areas across the country over 2019-2021.

<sup>19</sup> SIASAR data (January 2022) from <http://data.globalsiasar.org/sdgs>.

<sup>20</sup> SIASAR data (January 2022) from <http://data.globalsiasar.org/schools> and <http://data.globalsiasar.org/health-centers>. Only 10% of rural schools and 16% of rural health centers were reported to have soap at the time of the surveys.

<sup>21</sup> JMP data states 99% basic sanitation in rural areas; however, estimates are assuming that all pit latrines are improved, which in reality is not the case.

<sup>22</sup> SIASAR indicates that around 60% of rural WSS systems use pumps to produce water.

<sup>23</sup> The IBNET Water Supply and Sanitation Blue Book 2014 : The International Benchmarking Network for Water and Sanitation Utilities Databook.

<sup>24</sup> According to SIASAR, the access to improved water sources in rural areas is around 29% in Batken oblast.



11. **Climate change will exacerbate sanitation-related risks to public health.** Sanitation-related public health risks tend to be higher during/after the occurrence of extreme weather events such as floods and droughts. Floods and droughts are expected to become more intense and frequent, and this will further exacerbate the spread and transmission of water-related diseases. The impact of climate change on the incidence, transmission season duration and spread of diseases represents a major threat.<sup>25</sup> The economic impact of poor WSS is estimated to cost the country about US\$120 million per year or 1.64% of GDP (2017).<sup>26</sup>
12. **Irrigation and drainage (I&D) infrastructure is key to incomes and food security, however, it is largely underperforming and it was not designed to account for climate change.** Rainfall patterns in the country are variable and generally inadequate to support anything other than extensive subsistence cultivation of a few drought-resistant crops. Financing remains the most significant challenge for all 362 irrigation schemes nationwide (1.1 million hectares), including 27,000 km of irrigation canals including pipelines and associated pumping stations. Water Users Associations (WUAs) are well-established and 80% of the on-farm irrigation systems has been transferred from the state to WUAs. The most common irrigation methods are gravity furrow irrigation (80%) and basin irrigation (20%). The main advantage of furrow irrigation is that no electricity/fuel is needed. Water consumption varies from 1,200 to 8,000 m<sup>3</sup> per hectare for different crops. The average national irrigation norm has decreased to 7,400 m<sup>3</sup>/ha (lowest in Central Asia where the irrigation norm elsewhere ranges from 15,500 in Turkmenistan to 9,700 in South Kazakhstan). Due to low investments in drainage infrastructure, inadequate maintenance and poor water management, some irrigated areas are affected by salinization and waterlogging. On average, about 27% of the harvest is lost on saline land and up to 38% where the groundwater table is too high. Overall estimates put the losses due to poor management of irrigation systems and resulting water logging and salinization at US\$81 million per year.<sup>27</sup> Overall, underperformance of the I&D infrastructure has increased the vulnerability of the Kyrgyz Republic's population to climate change.

## INSTITUTIONAL AND POLICY CONTEXT

13. **The National Development Strategy 2018-2040 is guiding efforts to modernize the Kyrgyz economy.** The aim is to move towards a competitive digital economy and promote green growth through application of innovative and environmentally friendly technologies<sup>28</sup>. The development of energy and water efficient irrigation networks and the construction of WSS systems are key pillars in this strategy, complemented by priorities of the new administration focused on private sector development, job creation and health system strengthening in response to the pandemic. One of the priorities is to achieve food security and modernization of irrigation schemes; this is recognized as an important element for improving agricultural production. Higher standards in public accountability, better enforcement of control over the budget, and stronger management of public assets continue to be important goals of the governance reform program.
14. **The Water Code is a central element of the country's water policy and institutional framework.** Implementation of the Water Code<sup>29</sup>, issued in 2005, is ongoing, including through the National Water Resources Management Project (NWRMP) financed by the Swiss Agency for Development and Cooperation (SDC) and administered by the World Bank<sup>30</sup>. The Water Code has created a legal basis for pursuing the key principles of integrated water

<sup>25</sup> <https://www.nature.com/articles/s41590-020-0648-y>

<sup>26</sup> The World Bank. 2019. Central Asia: Regional Water Security (internal report). Washington, DC: World Bank.

<sup>27</sup> Swiss Agency for Development and Cooperation. 2017. Rethinking water in Central Asia. Swiss Agency for Development and Cooperation (SDC).

<sup>28</sup> National Development Strategy 2018-2040. Available from: [https://policy.thinkbluedata.com/sites/default/files/National%20Development%20Strategy%20of%20the%20Kyrgyz%20Republic%20for%2018-2040%20\(EN\).pdf](https://policy.thinkbluedata.com/sites/default/files/National%20Development%20Strategy%20of%20the%20Kyrgyz%20Republic%20for%202018-2040%20(EN).pdf)

<sup>29</sup> Water Code of the Kyrgyz Republic dated January 12, 2005 (as amended). The English version is available at: <http://extwprlegs1.fao.org/docs/pdf/kyr49854E.pdf>

<sup>30</sup> <https://nwrmp.water.gov.kg/>



resources management (IWRM) and the management of resources at the level of river basin, through multi-stakeholder councils and supported by basin administrations. The nodal agency responsible for the implementation of the Water Code is the WRS, under the Ministry of Agriculture<sup>31</sup>. The National Land and Water Council is the advisory body providing coordination between the activities of ministries, state committees/agencies, and other administrative bodies such as local administrations, as well as self-governance bodies<sup>32</sup> involved in water resources management, protection, and service delivery.

15. **The mandate for drinking water supply, wastewater, and sanitation services in terms of policy making and planning is anchored within the Department for Development of Drinking Water Supply and Wastewater Disposal (DDWSWD), under the State Agency for Architecture, Construction and Communal Services<sup>33</sup>.** Service provision is decentralized to urban WSS utilities in the major cities and oblast/district capitals through municipal *vodokanals* as well as in rural areas through smaller municipal water enterprises and community drinking water user unions (CDWUU). The sector's economic regulation is a responsibility of the State Agency on Anti-Monopoly Regulation, now under the Ministry of Finance. Tariffs are agreed with the State Agency on Anti-monopoly Regulation and approved by local Keneses.<sup>34</sup> The quality of potable water is monitored by the Department for Disease Prevention and Sanitary and Epidemiological Expertise under the Ministry of Health. MNRETS is responsible for the development and implementation of policies related to the environment protection, ecology, climate, geology, subsoil use, utilization and protection of natural resources including the effluent standards for wastewater discharge and enforcement.
16. **The Community Drinking Water Supply and Wastewater Disposal National Development Program<sup>35</sup> set out ambitious targets for increasing access to potable water and improved sanitation.** The goal is to reach 90% coverage for water services and 70% coverage for wastewater services by 2026 at national level<sup>36</sup>. The national program reports that around 10% of the rural population obtains water from a public water supply system, with 67.9% collecting water from standposts, and 22.1% use water obtained from irrigation canals, rivers, channels, springs, water trucks, as well as private wells among others. The rural WSS M&E system reports that around 13% of the water quality tests in rural areas do not comply with the national standards<sup>37</sup> The national program indicates that out of 1,905 villages, some 715 villages require new water supply systems, while some 448 villages require substantial investments for system rehabilitation and expansion.
17. **The government has adopted the National Irrigation Program for 2017-2026.** According to this program, climate-resilient irrigation infrastructure should be modernized and built with a view to (i) create new jobs, improve socio-economic conditions, and reduce migration, (ii) develop crop farming; and (iii) increase tax revenues and the country's GDP. To implement this program, US\$860 million is estimated to be required. Furthermore, the Water Code provides options to finance I&D improvement through variable irrigation service fees set for each system. At the level of the river basins, five River Basin Management Plan have been developed and endorsed and will continue to be updated with support of the NWRMP. Under NWRMP, the government is developing an Integrated Water Sector Strategy 2040.

<sup>31</sup> Renamed on November 6, 2021 from the Ministry of Agriculture, Water Resources and Regional Development.

<sup>32</sup> Aiy Okmotus, mayors of towns, local Keneses.

<sup>33</sup> The State Agency (GOSSTROY) directly reports to the Cabinet of Ministers; this departs a recent change from the previous situation where it was for a short period of time moved under the SWRA. Before 2018, the DDWSWD was also housed under GOSSTROY.

<sup>34</sup> Law on Self-Governance Bodies of July 15, 2011.

<sup>35</sup> Adopted by Government Resolution #330 dated June 12, 2020.

<sup>36</sup> The National program definitions are not yet fully aligned with the definitions of safely managed services by JMP to monitor progress against the SDGs.

<sup>37</sup> SIASAR data (May 2021).



18. **The establishment of water quantity monitoring systems is underway, though gaps remain.** As a part of the implementation of the Water Code, monitoring systems are being established in each river basin. Databases have been established for main and secondary canals. Flow measurements are done at all irrigation headworks sites and are used to determine water volumes supplied and the irrigation service fees (ISF) to be paid by the users (WUAs). Flows are measured hourly, and the information is passed on to the oblasts' water authorities on a daily basis. River flow monitoring is done by the Kyrgyzhydromet. There are 78 hydrological posts, 3 of them have automatic hydrological complexes, and 23 hydro-chemical posts on rivers, lakes, and reservoirs<sup>38</sup>.
19. **Despite these advances, the country lacks a unified water quality monitoring system, which is an integral part of Integrated Water Resources Management (IWRM).** The consolidation and management of data collected by various monitoring services has been complicated due to inadequate coordination between the involved entities. Monitoring of Karadarya--Syrdarya-Amudarya (KSA) basin has not been carried out from 1995 due to lack of financing. The State Ecological Laboratory under the DEM of MNRETS in Bishkek is yet to be accredited (ISO17025) and needs to meet requirements on facilities, equipment, and qualifications. Branch laboratories in Batken, Osh, Jalal-Abad, Talas and Naryn oblasts are not functioning. Soil salinization and water logging is monitored partially, by different agencies. Strengthening capacity of DEM will enable monitoring of soil quality.
20. **Climate change is a priority issue for the government: the Kyrgyz Republic seeks to lead in Central Asia on climate change mitigation and adaptation policies, and institutional development.** The Kyrgyz government recognizes the need to develop a long-term national strategy for low-carbon development and has signed and ratified 13 international environmental conventions<sup>39</sup> and submitted its National Communications in compliance with the United Nations Framework Convention on Climate Change (UNFCCC). By ratifying the Paris Agreement on Climate Change on November 11, 2019, the country committed to reducing greenhouse gas emissions unconditionally by 16% by 2025 and 15% by 2030, and conditional to international support, by 36% by 2025 and 43% by 2030 and confirmed its intention to transform economic activities to a low-carbon model and to increase climate resilience<sup>40</sup>.
21. **Within the Third National Communication of the Kyrgyz Republic under the UNFCCC, submitted in 2016, a range of climate-related water challenges and mitigation and adaptation priorities were identified.** Water resources were identified as the sector facing the highest estimated economic losses in the absence of climate change adaptation measures, more than energy, agriculture, environment, and health<sup>41</sup>. The 2021 Updated Nationally Determined Contribution (NDC) describes the goal of improving climate resilience of irrigation infrastructure and improving climatic resilience of drinking water supply and sanitation infrastructure as key adaptation measures to counter climate change impacts on the water sector<sup>42</sup>. Against this backdrop, this project aims to achieve energy efficiency improvements and climate resilience through rehabilitation and modernization of water supply and irrigation systems.
22. **In 2019, the Kyrgyz Government rearranged the institutional settings to coordinate activities related to climate change.** It established the Green Economy and Climate Change Coordination Committee consisting of the heads of key ministries and divisions which are concerned with climate-related policies and activities. These include the

<sup>38</sup>Country Hydromet Diagnostics: Kyrgyz Hydromet Peer Review Report (2021). <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/201341626098692283/country-hydromet-diagnostic-kyrgyzhydromet-peer-review-report>.

<sup>39</sup><https://www.oecd-ilibrary.org/sites/0617b71a-en/index.html?itemId=/content/component/0617b71a-en#>

<sup>40</sup> Kyrgyz Republic. 2021. Updated Nationally Determined Contribution 2021. Available from:

<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Kyrgyzstan%20First/%D0%9E%D0%9D%D0%A3%D0%92%20ENG%20%D0%BE%D1%82%2008102021.pdf>

<sup>41</sup> See table 3.2 in the Third National Communication of the Kyrgyz Republic under the UNFCCC. Available from: [https://unfccc.int/sites/default/files/resource/NC3\\_Kyrgyzstan\\_English\\_24Jan2017\\_0.pdf](https://unfccc.int/sites/default/files/resource/NC3_Kyrgyzstan_English_24Jan2017_0.pdf)

<sup>42</sup> See Annex 2 in the Updated Nationally Determined Contribution 2021.



Ministry of Finance, MNRETS and its Climate Finance Center and to a certain extent also Kyrgyzhydromet. In terms of research, the Kyrgyz Institute of Water Problems and Hydropower is the key research institution working on quantifying the impacts of climate change on mass balances and dynamics of glaciers in the Tien Shan mountains.

23. **This institutional and policy context is rapidly evolving following recent (October 2021) changes to the Cabinet of Ministers.** In particular, the mandate of MNRETS has been expanded to include regulation and allocation of water resources. MNRETS is now also a Secretariat for National Land and Water Council that used to be under the State Water Resources Agency (SWRA). Under the above shift, the WRS still retains full responsibility for irrigation service delivery and related improvements. Given this project's focus on service delivery improvement, this shift is not expected to influence overall project ambition, structure, and implementation.

### C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

24. **The project development objective is to (i) increase access to climate resilient water services in selected river basins, and (ii) strengthen institutional capacities for climate resilient water management at local and national levels.**
25. Water services include water supply and sanitation services as well as irrigation services. The project will improve the coverage and quality of water supply, sanitation, and irrigation services, and strengthen capacity for improved integrated water resources management and of relevant service providers in selected river basins. At national level the project will increase institutional capacities for climate-resilient water management. With regards to the first part of the PDO, climate resilient water services are defined as water services that achieve coverage and quality standards despite possible climate risks (droughts, high temperature and extreme heat, urban flooding and sewerage overflows, floods and mudflows). With regards to the second part of the PDO, climate-resilient water management is defined as the ability of water sector institutions at the local and national levels to prepare for disruptions and recover from shocks related to climate risks.

Key Results

26. **Key results towards the specific Project Development Objective (PDO) will be measured with the following indicators:**
- People provided with access to safely managed water supply services (Number)
    - a. Out of which female (percentage)
  - People provided with access to safely managed sanitation services (Number)
    - a. Out of which female (percentage)
  - Farmers provided with improved irrigation and drainage services (Number)
    - a. Out of which female (percentage)
  - Area provided with improved irrigation and drainage services (Hectare) - CRI
  - National Program for climate resilient water services aligned with National Water Resources Strategy 2040 developed (Yes/No)
  - Reduction in the specific energy consumption of water supply delivery (Percentage)



#### D. Project Description

27. **The project is designed to ensure consistent policy, investment, and institutional approaches to deliver climate resilient water services.** The project includes national-level activities, basin-level activities (KSA basin and Issyk-Kul river basins<sup>43</sup>), and rural level activities. The proposed project is structured in four components.
28. **Component 1: Infrastructure Investments and Service Improvements (US\$90 million).** This component contributes to the implementation of high priority investments aligned with the river basin management plans<sup>44</sup> and with the country's climate change adaptation and mitigation agendas. It finances civil works, goods, equipment, and related services to reduce climate risks in the provision of drinking water and sanitation services, I&D services, and resource utilization efficiency. The infrastructure investments will also help reduce (i) environmental pollution of the Issyk-Kul lake; (ii) public health risks associated with exposure to untreated wastewater in the event of flooding induced by climate change, and (iii) energy and GHG footprint of service provision.
29. **Subcomponent 1.1: Water Supply and Sanitation Infrastructure (US\$45 million).** This subcomponent covers investments to increase the climate resilience of drinking water supply and sanitation services, and to enhance wastewater treatment capacity. The subcomponent finances civil and electrical/mechanical installations for water supply production, works for transmission and distribution of water to households in the project areas, along with wastewater management infrastructure, sewerage collection, conveyance, treatment, and disposal facilities. These investments help small-town utilities and rural service providers to adapt to the anticipated impacts of climate change, diversify their water supply sources to better confront droughts and reduce their overall water consumption through efficiency improvements. This subcomponent will benefit (i) 95,000 people in 31 villages around Issyk-Kul lake and Batken oblast with climate resilient drinking water services; (ii) 43,000 people with climate resilient sanitation services in three villages around Issyk-Kul lake through either sewers or on-site solutions. The project will also support reconstruction of WASH facilities in selected schools, kindergartens, rural health centers in the project areas to ensure that they are female-friendly and disability inclusive.
30. **Subcomponent 1.2: Irrigation and Drainage Services Improvement (US\$45 million).** This subcomponent covers modernization of three existing I&D schemes (Kara-Unkur in Jalal-Abad, Shakhimardan in Batken and Kurshab-Sai in Osh) located in the KSA basin covering 28,000 ha. At the level of infrastructure assets, the project finances rehabilitation and modernization of two irrigation headworks and irrigation canals (234 km) and appurtenant structures<sup>45</sup>. These activities support adaptation to drought risks through improved conveyance efficiency and control of water use with modern structures, and to flood and mud-flow risks through improved bypasses and protection structures. At the farm level, the project will promote climate-smart irrigation practices and resource utilization through (i) improved on-farm water management practices, (ii) deep ripping, and (iii) laser land levelling. This will address the rising impact of drought, high temperature and extreme heat risks related to climate change on crop yields and agricultural production. This will also help reduce soil erosion while enhancing soil carbon sequestration and fertility.
31. **Component 2: Institutional Strengthening for Climate Resilient Service Delivery, Water Resources Management and Dam Management (US\$7 million).** This component finances the acquisition and installation of equipment

<sup>43</sup> This subdivision is based on a Kyrgyz Republic classification of its water bodies according to the Resolution "On Approval of the List of Main River Basins of the Kyrgyz Republic and Their Hydrographic Borders".

<sup>44</sup> River basin management plans for the Issyk-Kul and KSA river basins were developed under the World Bank executed National Water Resources Management Project (NWRMP) and identified improvements in water service delivery as a key priority area for investment.

<sup>45</sup> Note: structures include: water control/distribution; outlets; mudflows, tunnels, small bridges and volumetric measurement structures.



and services to facilitate the uptake of innovations and best-practices for water management based on climate resilience and low-carbon principles. The component is designed to strengthen water resources planning, management and decision making in the target areas and at the national level. The focus is on improving the institutional knowledge and preparedness with regards to aspects of integrated water resources management and climate resilience, including (i) regulatory and oversight capacity at the national level, (ii) operational capacity for service delivery at local level, (iii) water and soil quality, and (iv) dam management. Activities under this component are grouped into four subcomponents.

32. **Component 3: Project Management, M&E and Professional Development (US\$3 million).** This component will finance the required staff, consultant services, professional development and operating costs that will allow the Project Implementation Units to carry out their responsibilities for implementation. These responsibilities include project management and coordination, procurement and financial management, monitoring and evaluation, social and environmental standards management and oversight, communications, and outreach. This component will also finance the preparation of a feasibility study for future investments aimed at improving water services. Finally, this component includes professional development and other interventions to promote gender diversity in water sector entities.
33. **Component 4: Contingent Emergency Response Component (CERC) (US\$ 0 million).** Providing immediate response to an Eligible Crisis or Emergency, as needed. This component allows the Government to request the World Bank to recategorize and reallocate uncommitted financing from other project components to cover emergency response and recovery costs.

#### Legal Operational Policies

##### Triggered?

Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

#### Summary of Assessment of Environmental and Social Risks and Impacts

34. **The environmental risk rating is Substantial, and the social is Substantial.** The project's overall E&S risk rating is Substantial. ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, and ESS10 are relevant to the project activities. The project follows a framework approach as not all investment subprojects have been identified in sufficient detail and site-specific design studies will be completed within the first year of the project. Accordingly, the WRS and the DDWSWD have jointly prepared, consulted on, and disclosed the following draft instruments during project preparation: (i) Environmental and Social Management Framework (ESMF); (ii) Labor Management Procedures (LMP); (iii) Resettlement Framework (RF); (iv) Stakeholder Engagement Plan (SEP); and (v) Environmental and Social Commitment Plan (ESCP). These instruments cover the activities to be implemented by the WRS and DDWSWD.

#### E. Implementation



## Institutional and Implementation Arrangements

35. **The Ministry of Agriculture through the Water Resource Service and the State Agency for Architecture, Construction and Communal Services (GOSSTROY) through the Department of Drinking Water Supply and Wastewater Disposal (DDWSWD) will share the overall responsibility for project implementation.** Each implementing entity will take the lead on project elements under their respective institutional mandate and capacity. Each implementing entity will be supported through a PIU tasked to carry out the fiduciary function (disbursement, financial management, procurement), environmental/social standards, and monitoring & evaluation. This will be done in compliance with the requirements and environmental and social policies, including occupational, health and safety standards. The PIUs will each develop separate procurement plans and manage the flow of funds on behalf of the Ministry of Agriculture and GOSSTROY. It is envisaged that engineering consultancies will be hired under each PIU to support engineering, construction supervision and quality control.
36. **The project advisory committee will provide strategic guidance, oversight, and coordination.** The committee will be convened once a year by the Secretariat of the Land and Water Council, with the first meeting expected shortly after the project starting date. The committee acts as a forum for (i) reviewing annual work plans prepared by the PIUs, (ii) providing relevant technical inputs, especially those at a strategic and policy level or on issues related to the implementation of the Water Code, (iii) reviewing progress against performance indicators, and (iv) continuing policy dialogue among the involved entities. The advisory committee includes representatives of the Ministry of Agriculture, GOSSTROY, Ministry of Finance and Plenipotentiaries of the Batken, Issyk-Kul, Jalal-Abad and Osh oblasts.
- 37.

**CONTACT POINT****World Bank**

Abdulhamid Azad  
Lead Water Resources Management Specialist

Aidai Bayalieva  
Environmental Specialist

Khairy Al-Jamal  
Senior Water Supply and Sanitation Specialist

**Borrower/Client/Recipient**

Kyrgyz Republic

**Implementing Agencies**



Water Resource Service (WRS)

Almazbek Sokeyev

Director

basssein@mail.ru

Department of Drinking Water Supply and Wastewater Disposal (DDWSWD)

Saipidin Momunov

Director

saypidin@mail.ru

**FOR MORE INFORMATION CONTACT**

The World Bank

1818 H Street, NW

Washington, D.C. 20433

Telephone: (202) 473-1000

Web: <http://www.worldbank.org/projects>

**APPROVAL**

Task Team Leader(s):	Abdulhamid Azad Aidai Bayalieva Khairy Al-Jamal
----------------------	---

**Approved By**

Practice Manager/Manager:		
Country Director:	Naveed Hassan Naqvi	18-Feb-2022