1 INTRODUCTION

1.1 GENERAL BACKGROUND

This report is a non-technical summary of the completed Environmental and Social Assessment for the Nurek Water and Wastewater Feasibility Study Project. The Summary includes a short project description, a brief summary of possible impacts as well as recommended mitigation measures and a short description of necessary monitoring activities.

1.1.1 Project Description

The City of Nurek, with support from the Government of Tajikistan, has approached the EBRD to request financing for a priority investment program (PIP) to improve water and wastewater services in Nurek City, located 70 km southeast of Dushanbe.

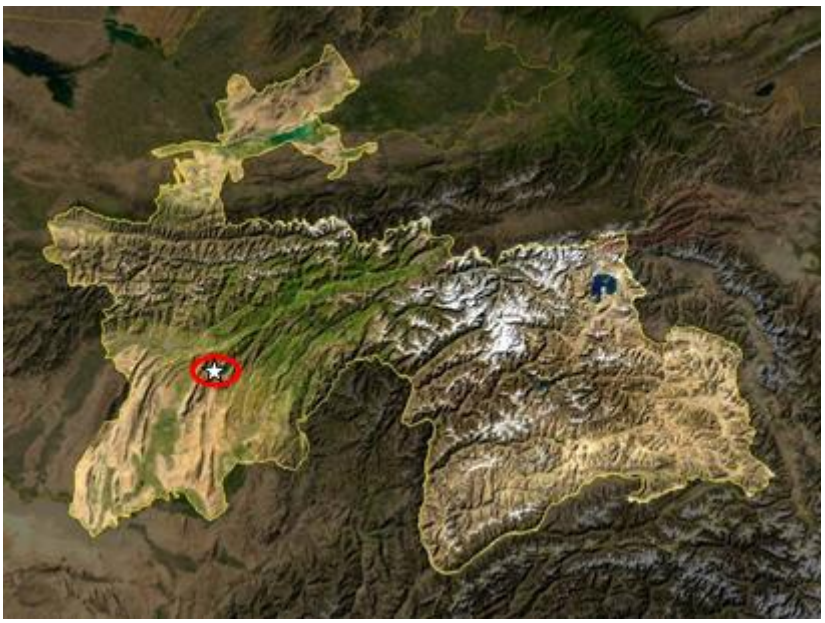

Figure 1-1-1 Location of Nurek project in Tajikistan

EBRD is considering a transaction consisting of a loan of USD 2.5 million from the Bank and a capital expenditure grant of USD 2.5 million from an international donor to finance a priority investment programme in water and wastewater operations (the "Project"). The Project objectives are the following:

- Rehabilitate the water supply system and selected wastewater improvements;
- Improve billing and collection efficiency;
- Improve financial and operational management.

Vodokanal is the company providing water and wastewater services in the City.

1.1.2 Priority Investment Programme (PIP)

The assessment of the water supply situation in Nurek leads to the following urgent investment priorities to be covered under this project:

1. Assurance of water availability by reconstruction of the most affected section of the transmission main
2. Provision of sufficient hygienic safe water quality by modernized chlorination
3. Enabling fair and continuous water availability for all customers: this will be the most expensive component;
    a. Construction of a main distribution chamber at the end of town in order to regulate the water flow into the secondary transmission mains

b. Full re-organization of the secondary transmission main system with construction of major parts for new transmission main system in town and disconnection of parts of the old transmission main system
c. Re-organisation of major parts of the distribution system in the current service area (construction of distribution chambers, cutting of existing connections, construction of new connections, reducing of pressure in high pressure zones)
d. Rehabilitation of existing reservoirs and construction of new reservoirs

4. Rehabilitation of the sewage pumping station in order to assure controlled sewage discharge towards sewage treatment plant

The PIP includes only limited investments related to wastewater systems, which will aim to improve the service reliability and energy efficiency through the reconstruction of the pumping station. Update and modernization of WWTP is foreseen in a later phase when collection network is replaced and extended.

The ESDD showed that the project will have a significant positive impact on public health despite the fact that the project is not able to bring the Company's' operations into EU compliance in the short term. To achieve full EU compliance in water and wastewater systems additional long-term investments of estimated USD 46 million would be necessary would be required (for works including water network rehabilitation and extension, water abstraction, storage, meters, EU compliant wastewater treatment plant, network extension, increase of connection rates, etc.).

1.1.3 Scope of Environmental and Social Due Diligence

ESD has been carried out as part of the Feasibility Study and its scope comprised the following:

- Environmental and Social (ES) Audit of the corporate management and human resources (HR) practices for existing operations;
- ES Analysis of potential environmental and social issues associated with the proposed investments.

The scope of the ESDD undertaken for the Project included an environmental and social audit through a site visit to existing facilities, interviews with staff members at Vodokanal, staff and household surveys, review of available environmental and social documents, and an environmental and social management review and analysis for the Project in relation to national regulatory requirements and relevant international standards. As part of the ESDD, a detailed ESDD Report, an Environmental and Social Action Plan and a Stakeholder Engagement Plan were prepared for the Project.

The Project has been designated as a category B project in accordance with the EBRD's 2014 Environmental and Social Policy.

1.2 POTENTIAL IMPACTS OF PROJECT AND MITIGATION MEASURES

1.2.1 Summary of Potential Impacts of Priority Investments

The project will also help improve the public health by improving the water quality through on-site disinfection, reducing infiltration into water supply system, increasing the availability and reliability of water services, and better control of water quality through investments in laboratory equipment.

The project will increase the total population benefitting from improved access to tap water from 57,551 in 2016 to 61,434 in 2019. In addition, total population benefiting from wastewater collection will increase from 20,142 in 2016 to 24,573 in 2019. The project will also improve the water quality due to chlorination and replacement of water mains. The pipe replacements will reduce water losses in turn reducing water abstraction from approx. 6.0 Mio m³/year in 2015 to approx. 4.5 Mio m³/year in 2019 with water loss reduction due pipe replacements. W*ith the new distribution chamber to be constructed within PIP, especially chlorination practice will be updated and put into state of the art, making water quality more stable and reliable.*

Currently water storage capacity is sufficient but location is partly inappropriate for reliable distribution. Relocation and reconstruction of storage reservoir will guarantee reliable supply and system pressure re-location and construction of storage is necessary within PIP.

On the other hand, in addition to its benefits, the Project could potentially result in some negative impacts on the environment and people, if not managed carefully. In addition, the ESDD determined areas for improvement related to the existing operations. Therefore, Vodokanal will be implementing certain mitigation measures to prevent, reduce, or mitigate any potential negative impacts of the Project, including the existing water supply and wastewater services.

The following table shows the proposed investments during PIP and a brief description of the impacts on the environment and the society. Potential positive impacts are indicated with a "+" sign where as potential negative are indicated with a " – " sign.

Table 4-1: E&S impacts of Priority Investments

ID No	Component	Impacts on the environment, staff and the society
General impacts during Construction phase		- higher risk of accidents, injuries, chemical exposure, exposure to pathogens and vectors for Vodokanal workers and neighbouring population - increase of traffic → increase of air emissions and dust appearance - increase of noise and vibrations at construction sites - increase of risk of soil, groundwater and surface water pollution - generation of solid wastes - temporary impact on water availability
A. Water Supply		
A.1	Water Abstraction and Major Trunk Main	+ Improved water availability (flow and pressure) in the distribution system → higher level of service for the population + Increase of reliability of water supply operations → higher service reliability for the population + Reduction of water losses (Non-Revenue-Water) → lower impact on the water sources due to lower water abstraction + Improved safety of water quality due to reduction of pipe leaking and higher system pressure[1] → Lower risk of water pollution in the supply system & lower risk of waterborne diseases
A.2	Main Water Distribution and Treatment	+ Increased water quality through on-site disinfection and improved safety of water quality due to appropriate water chlorination → lower risk of bacteria, pathogens, etc. in the water supply system → lower risk of waterborne diseases + Reduction of costs for procurement of chlorine due to on-site production → adjustment of tariffs for the consumers and possible increase of income of VK workers - Higher energy consumption → higher air emissions + Higher risk of workers' accidents with chemicals

[1] Low system pressure or phases without water supply allows infiltration of groundwater, sewage water, irrigation water and stormwater, which are all very likely polluted in some way (e.g. bacteria, fertilizer, nitrogen, pesticides, herbicides, heavy metals)

ID No	Component	Impacts on the environment, staff and the society
A.3	Secondary Transmission Network in Distribution Area	+ Improved water availability (flow and pressure) in the distribution system → higher level of service for the population + Increase of reliability of water supply operations → higher service reliability for the population + Reduction of water losses (Non-Revenue-Water) → lower impact on the water sources due to lower water abstraction + Improved safety of water quality due to reduction of pipe leaking and higher system pressure[2] → Lower risk of water pollution in the supply system & lower risk of waterborne diseases
A.4	Water Storage	+ Improved water availability (flow and pressure) in the distribution system → higher level of service for the population + Increase of reliability of water supply operations → higher service reliability for the population + Reduction of water losses (Non-Revenue-Water) → lower impact on the water sources due to lower water abstraction + Improved safety of water quality due to reduction of pipe leaking and higher system pressure[3] → Lower risk of water pollution in the supply system & lower risk of waterborne diseases + Reduction of energy consumption, due to gravity supply → lower air emissions & higher energy efficiency (per supplied inhabitant)
A.5	Distribution Network	+ Improved water availability (flow and pressure) in the distribution system → higher level of service for the population + Increase of reliability of water supply operations → higher service reliability for the population + Reduction of water losses (Non-Revenue-Water) → lower impact on the water sources due to lower water abstraction Improved safety of water quality due to reduction of pipe leaking and higher system pressure[4] → Lower risk of water pollution in the supply system & lower risk of waterborne diseases
A.6	Service connections and Water Meters	+ Improved water availability (flow and pressure) in the distribution system → higher level of service for the population + Increase of reliability of water supply operations → higher service reliability for the population + Reduction of water losses (Non-Revenue-Water) → lower impact on the water sources due to lower water abstraction + Improved safety of water quality due to reduction of pipe leaking and higher system pressure[5] → Lower risk of water pollution in the supply system & lower risk of waterborne diseases

[2] Low system pressure or phases without water supply allows infiltration of groundwater, sewage water, irrigation water and stormwater, which are all very likely polluted in some way (e.g. bacteria, fertilizer, nitrogen, pesticides, herbicides, heavy metals)
[3] Low system pressure or phases without water supply allows infiltration of groundwater, sewage water, irrigation water and stormwater, which are all very likely polluted in some way (e.g. bacteria, fertilizer, nitrogen, pesticides, herbicides, heavy metals)
[4] Low system pressure or phases without water supply allows infiltration of groundwater, sewage water, irrigation water and stormwater, which are all very likely polluted in some way (e.g. bacteria, fertilizer, nitrogen, pesticides, herbicides, heavy metals)
[5] Low system pressure or phases without water supply allows infiltration of groundwater, sewage water, irrigation water and stormwater, which are all very likely polluted in some way (e.g. bacteria, fertilizer, nitrogen, pesticides, herbicides, heavy metals)

ID No	Component	Impacts on the environment, staff and the society
B. Wastewater Disposal and Treatment		
B.4	Reconstruction of Waste Water Pumping Station	+ Improved service reliability → higher level of service for the population + Improved service reliability → lower risk of environmental pollution and reduction of health risks for the population + Reduction of the retention periods at the temporary storage at the pumping station → Lower gas emissions in the city, reduction of air pollution and reduction of health risks & odour trouble to the population + Reduction of energy consumption, due to modern pumping equipment → lower air emissions & higher energy efficiency
B. Wastewater Disposal and Treatment: Main Benefits With focus on improvement of current water supply situation within PIP, only minor improvements within the Waste Water Sector are feasible. Wastewater treatment will be not part of PIP. *Note: Update and modernization of WWTP is foreseen in a later phase when collection network is replaced and extended.*		
C. Other Buildings and Equipment		
C.1	Administration Building	+ Central contact point for VK clients → easier communication with Vodokanal
C.3	Operation Equipment Water	+ Higher operation and maintenance performance of Vodokanal → lower risk of environmental pollution (oil leaking trucks, etc.) + Reduction of future water losses, due to correct maintenance of water supply facilities → lower impact on the groundwater sources and reduction of surface water abstraction (irrigation channel) & lower risk of water pollution in the supply system + Reduction of future wastewater leakages due to correct maintenance of wastewater facilities → Lower risk of environmental pollution and diseases + Reduction of blocked pipes → higher level of service for the population → reduction of uncontrolled wastewater disposal into the ground, irrigation or storm water ditches + Increase of life span of goods → lower waste production - Increase of fuel consumption → increase of air emissions + Increase of collected wastewater (cesspool truck) → potential risk of environmental pollution & diseases, due to low treatment capacity of existing WWTP
C.4	Operation Equipment Sewage	

1.2.2 Summary of Mitigation Measures

The following table shows the proposed mitigation measures based on the PRs and provides an overview of indications and responsible entities.

PR No	Mitigation measure
PR1 Assessment and Management of Environmental and Social Impacts and Issues	Setting up a proper internal management system including policies, documentation, routines and monitoring
	Full implementation of the ESAP
	Allocation of extra budget for Environmental, Health and Safety issues

PR No	Mitigation measure
	Development and implementation of a non-discrimination and gender/diversity policy
PR2 Labour and Working Conditions	Development of clear procedures related to recruitment
	Development and implementation of personal and organizational development tools and measures
	Development and implementation of internal grievance mechanisms
PR3 Resource Efficiency and Pollution Prevention and Control	Keeping traffic as low as possible during construction
	Step by step improvement of water supply and sewage collection, treatment and disposal
	Provision of designated areas for construction waste
	Installing a monitoring system to measure compliance with objectives during construction and operation of facilities
PR3 Health and Safety	Updating of existing health and safety trainings
	Carrying out H&S trainings on a regular basis
	Procurement of personal protection equipment and fire-fighting equipment
	Restricting water treatment facilities' access
	Development of an adequate concept for construction works
	Information to population about planned construction and possible impacts
PR 5 Land Acquisition, Involuntary Resettlement and Economic Displacement	Construction of water and wastewater treatment facilities only at public property
PR 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	Rehabilitation and proper maintenance and operation of all facilities
	Installation of metering systems
	Setting up a close cooperation between the design office and the environmental department
	Compensation in the case tree cutting is necessary
	Planning of new trees in the case tree cutting is necessary
	Setting up public awareness campaigns
	Installing a monitoring system
PR 8 Cultural Heritage	Development of an internal written policy that clearly state the procedures in case of Chance Finds
PR 10 Information Disclosure and Stakeholder Engagement	Implementation and use of the SEP
	Improving the cooperation with the Mayor's office as well as with the heads of Mahallas
	Improving communication concerning external grievance mechanism

CONTACT INFORMATION FOR THE PROJECT

Contact information for enquiries and grievances related to the Project: