State Institution for Drinking Water and Wastewater Disposal under the Ministry of Water Resources, Agriculture, and Processing Industry of the Kyrgyz Republic

Environmental and Social Management Framework
"Rural Sanitation and Fecal Sludge Management" Project

April 2025

CONTENT

ABBREVIATIONS 4
I. EXECUTIVE SUMMARY 7
II. PROJECT DESCRIPTION 11
2.1. Project components 11
2.2. Project beneficiaries 13
III. GOALS AND OBJECTIVES OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK 13
IV. REGULATORY AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT 15
4.1. Gap Analysis between the national legislation and the World Bank ESSs 15
4.2 National Institutional system for the environmental and social management 23
V. ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION 26
5.1 Climate change impact 26
5.2. Description of potential project sites 28
VI. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES 29
6.1. Brief description of the project's planned activities 29
6.2 Classification of environmental and social risks 30
6.3 Social and environmental impacts and mitigation measures 31
VII. ESMF IMPLEMENTATION MECHANISM 61
7.1. Procedure for environmental and social assessment and management of Project activities 63
7.1.1. Environmental and social screening of subprojects 63
7.1.2. Risk classification and preparation of ES documents 63
7.1.3. Procedure for conducting social and environmental assessment for the Project 65
7.2. Environmental Impact Assessment (EIA) Procedure in the Kyrgyz Republic 66
VIII. INSTITUTIONAL ARRANGEMENT FOR THE IMPLEMENTATION OF THE ESMF 67
8.1 Project Implementation Arrangements 67
8.2 ESMF implementation arrangements 69
IX. MONITORING AND REPORTING 72
9.1. General requirements 72
9.2. Environmental and Social monitoring 72
9.3. Environmental and Social Performance Report 73
9.4. ESMF integration into project documentation 74
X. GRIEVANCE REDRESS MECHANISM 77
10.1 Grievance review and resolution process 77
10.2 PIU GRM Channels 77
XI. PUBLIC CONSULTATIONS AND INFORMATION DISCLOSURE 77
11.1 ESMF Disclosure 77
11.2 Public consultations 77
XII. BUDGET FOR ESMF IMPLEMENTATION 77
XIII. CONCLUSIONS 80
XIV. ANNEXES 82
Annex 1. ESF process for subproject development and implementation 82
Annex 2. Main provisions of the national environmental legislation, national legislation on social guarantees and citizen engagement, Environmental and Social Framework of World Bank 83
Annex 3:Environmental and social Screening Form 87
Annex 4. Risk rating justification Form and WB Exclusion List 92
Annex 5. Environmental and Social Management Plan (ESMP) Template 95
Annex 6. Indicative outline of ESIA 97
Annex 7. Grievance Form 99

Annex 8. Asbestos Containing Material Management Plan (Example) 100
Annex 9. Format of halfyear Environmental and Social Safeguards Monitoring Report 102
Annex 10: Septic Tanks Code of Practice 106
Annex 11: IFCs Environmental, Health, and Safety Guidelinesfor Water and Sanitation 106
Annex 12: WBG 2022 publication by the Water Department on Wastewater Treatment and Reuse- A Guide to Help Small Towns Select Appropriate Options. 107

ABBREVIATIONS

AP	Atmospheric precipitation
ACM	Asbestos-containing materials
AEE	Areas of expected earthquakes
BMP	Biodiversity management plan
BP	World Bank Procedure
CAP	Corrective action plans
CIA	Cumulative Impact Assessment
DMFES	Department for Monitoring and Forecasting Emergency Situations
DDPSSES	Department of Disease Prevention and State Sanitary and Epidemiological Surveillance
EA	Executive Agency
EBOQ	Environmental Bill of Quantities
EBRD	European Bank for Reconstruction and Development
EDSC	Erosion, Drainage and Sediment Control
EHS	World Bank's Environmental, Health, and Safety Guidelines
EIA	Environmental impact assessment
ES	Environmental and Social
ESS	Environmental and Social Standarts
ESIA	Environmental and Social Impact Assessment
ESF	World Bank Environmental and Social Framework
ESCP	Environmental and social commitment plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMP	Simplified ESMP for moderate and low risk category
ESS	World Bank Environmental and social standards
FSM	Fecal Sludge Management
GIIP	Good International Industry Practice
GRM	Grievance redress mechanism
GBV/SEA/SH	Gender based violence\Sexual Exploitation and Abuse\Sexual harassment
JSDF	Japan Social Development Fund
HI	Human impact
IPF	Investment Project Financing
IFC	International Financial Corporation\

ILO	International Labor organization
LMP	Labor management plan
ME	Municipal enterprises
M&E	Monitoring and Evaluation
MWRAPI	Ministry of Water Resources, Agriculture and Processing Industry
MLSSM	Ministry of Labor, Social Security and Migration
MNRETS	Ministry of Natural Resources, Ecology and Technical Supervision
MOM	Management, operation and maintenance
MPA	Multiphase program approach
MoES	Ministry of Emergency Situation
MWU	Municipal Water Utilities
NGO	Nongovernmental organization
NCHPMC	National Center for Health Promotion and Mass Communication
OHS	Occupational Health and Safety Plan
OSH	Occupational safety and health
PAP	Project Affected People
PEE	Public environmental expertise
PBGs	Performance-based grants
PIU	Project implementation unit
PMU	Project Management Unit
PPE	Personal protective equipment
RAP	Resettlement Action Plans
RPADWC	Rural Public Associations of Drinking Water Consumers
RPF	Resettlement Policy Framework
SIDWSWD	State Institution for Drinking Water Supply and Wastewater Disposal
SEE	State Environmental Expertise
SEP	Stakeholder Engagement Plan
SOP	Standard operating procedure
SDG	Sustainable Development Goal
SEA/SH	Sexual exploitation and sexual abuse/sexual harassment
SOEs	State-owned enterprises
SPZ	Sanitary protection zones
VEC	Valued Environmental and Social Component

WASH	Water, sanitation, and hygiene
WRS	Water recources service
WB	World Bank
WSS	Water supply and sanitation
WHO	World Health Organization
WWTP	Wastewater treatment plant

I. EXECUTIVE SUMMARY

Project Description, goals, objectives and main activities of the project

The Kyrgyz Republic closely cooperates with international financial institutions on a long-term basis for alleviation of poverty and facilitation of the sustainable development and economic growth in the Kyrgyz Republic.

Ensuring the population's access to safe drinking water and sanitation services is one of the priority areas of state policy of the Kyrgyz Republic.

The Cabinet of Ministers of the Kyrgyz Republic strives to ensure universal access to at least basic water supply and sanitation services by 2030 in accordance with the country's National Sustainable Development Strategy for the years 2018–2040. To help quick start a pilot for safely managed sanitation services in rural areas, the State Institution for Drinking Water Supply and Wastewater Disposal (SIDWSWD), under the Water Resources Service (WRS) under the Ministry of Water Resources, Agriculture and Processing Industry (MWRAPI) has requested support from the World Bank and JSDF to test a FSM service model that addresses market, technological, and infrastructure barriers. The project will pilot FSM in rural areas of the Kyrgyz Republic, promoting circular economy approaches, private sector engagement, community participation, and support for small and women-led businesses. The JSDF grant offers a platform to test pro-poor solutions and expand access to services and livelihoods for vulnerable communities, building on successful pilots in countries like Mozambique. It also allows the Kyrgyz Republic to leverage Japan’s expertise in sustainable FSM technologies, such as portable dewatering systems and bio-toilets. Applying these solutions in Ak-Suu District will strengthen sanitation, resilience, and economic opportunities, aligning with SDG 6.

The Project has the potential to complement ongoing WB-financed interventions in the Kyrgyz Republic while piloting service delivery options for FSM for potential scale-up under Phase 2 of the Water Supply and Sanitation Universal Access Program-1 Project. The project will complement two ongoing World-Bank financed investment operations, namely, the ongoing Sustainable Rural Water Supply and Sanitation Development Project and Climate Resilient Water Services Project, and Phase 1 of the 10-years countrywide engagement through the WASUAP, with some investments aimed at increasing access to safely managed sanitation services at the household level in the rural areas of the country, including in Ak-Suu District. The JSDF-financed project will benefit from technical assistance from the WASUAP and ongoing sanitation interventions on the FSM strategic planning, engineering design, and overall stakeholders’ engagement and awareness creation for the products being developed under the grant-financed Project.

The Project is aligned with the World Bank's Country Partnership Framework for the Kyrgyz Republic for Fiscal Year 2024–2028. SIDWSWD acts as state executive body that implements the state policy in the sector of water supply and wastewater disposal. The implementation of the Program will be carried out by the Project Implementation Unit under the SIDWSWD. WRS of the MWRAPI will be supported through the Project Implementation Unit, which will be entrusted with fiduciary functions (disbursement, financial management, procurement, environmental and social standards, monitoring and evaluation).

Existing ES risk management capacity is at a good level. Thus, currently PIU under SIDWSWD successfully implementing ES safeguard measures in “Climate resilient services project’ financed by the World Bank. In addition, the Program will attract the necessary additional qualified specialists and consultants to the PIU team at the central and regional levels. The implementation mechanism of each stage of this project will be implemented in accordance with the requirements and environmental and social standards of the World Bank, which will be set out in the Financing Agreement.

The World Bank has agreed to finance project in accordance and in full compliance with the Bank’s Environmental and Social Framework (ESF) comprising, inter alia, the Environmental and Social Standards (ESSs).

Goals, objectives and main activities of the project

The Project aims to improve livelihoods in Aksu district—particularly for vulnerable groups—by expanding sanitation access, creating jobs, and strengthening climate resilience. With 80 percent of the population lacking adequate sanitation, it will help reduce disease and pollution while generating employment through FSM and reuse-related opportunities. Treated sludge will be promoted as fertilizer for non-food crops, cutting reliance on costly chemical inputs and supporting climate adaptation. Community-led efforts will drive health, economic, and environmental improvements, building a more resilient and empowered Aksu community. The Project includes three components:

*Component 1: Developing Sanitation and Fecal Sludge Treatment Infrastructure***.** This component will finance works, goods and services for the construction of wastewater and fecal sludge treatment infrastructure as well as for onsite sanitation improvements for households.

Component 2: Establishing FSM Services, Local Job Creation and Community Awareness. This component

will finance works, goods and services to establish sanitation and FSM services, promote circular economy and raise community awareness of the benefits of FSM and re-use in the Project area.
Component 3: "Project Management and Administration, Monitoring and Evaluation, and Knowledge Dissemination". This component will finance project management and administration, including incremental operating expenses, Monitoring and Evaluation (M&E), stakeholder engagement and knowledge dissemination.

Goals and objectives of the Environmental and Social Management Framework
This Environmental and Social Management Framework (ESMF) was prepared to assist the Government of the Kyrgyz Republic develop environmental and social instruments that are consistent with national regulations. The framework approach was chosen because the project finances small and medium-scale activities, most of which the specific interventions will not be fully defined until implementation begins. Thus, only at the stage of preparing the detailed design of the wastewater system scope of intervention and sites for system components.
The ESMF ensures that identified projects are properly assessed from an environmental and social perspective to meet the requirements of the ESSs and the World Bank's Environmental, Health and Safety (EHS) Guidelines along with environmental and social laws and regulations of the Kyrgyz Republic to adequately mitigate residual and unavoidable impacts (if any).
The ESMF will guide project implementation through the provision of the following:general guidelines and procedures for preventing, mitigating, or minimizing the adverse environmental and social impacts of potential activities; description of implementation mechanisms, including details on how environmental and social risks will be managed; descriptions of the environmental and social screening processes that will help determine the appropriate site-specific environmental and social instruments; checklists for preparation of ESIA/ESMP for specific sites; environmental and social monitoring and reporting requirements; a section on proposed capacity building activities to help the PIU comply with the World Bank ESF.

Regulatory and institutional framework for environmental and social assessment
This document describes the background, policy and legal framework, and possible environmental and social impacts related to the project interventions. This includes ESIA procedures and guidelines, institutional arrangements, consultations, and disclosure procedures. The ESMF provides guidance on the development of appropriate measures to mitigate and compensate for adverse impacts caused by project activities.
According to the planned activities within the framework of the Project, out of the ESSs, six will be related to the activities of the Project at this stage of project. These 6 ESSs set the standards that the PIU as the Executing Agency (EA) and the Project should meet throughout the life cycle of the project, namely:

- ESS 1: Assessment and management of environmental and social risks and impacts;
- ESS 2: Labor and working conditions;
- ESS 3: Resource Efficiency and pollution prevention and management;
- ESS 4: Community health and safety;
- ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
- ESS 10: Stakeholder engagement and information disclosure.

A summary of the ESSs, their relevance to the project, and a gap analysis in national legislation within the considered World Bank standards are discussed in Table 2.
In general, the main provisions and requirements of the ESF are taken into account by national legislation, and where certain issues are not considered, the ESF instruments will be developed or enhanced (site-specific ESMPs, OHS plans, RAPs, SEPs etc.), and these not considered issues will be included in these documents.
Potential environmental and social impacts and Mitigation Measures
Environmental risk rating is **Substantial**, and the social risk rating is **Moderate** for an **overall ESF risk rating of Substantial**. The main social and environmental risks and mitigation measures will revolve around the activities of Components 1 "Developing Sanitation and Fecal Sludge Treatment Infrastructure".
The project's environmental risk rating is based on risks potentially arising from infrastructure construction and possible water and soil pollution. The risks will be mitigated through the preparation, implementation, and monitoring of E&S instruments and capacity-building for project staff and service providers.
In general, the project is expected to have the following environmental and social impacts: surface water pollution, ground water and soil pollution, increased noise and vibration levels; soil and water pollution; risk of water quality degradation, impacts on drainage, soil and waste generation and disposal, increased energy usage leading to greenhouse gas emissions; air pollution from vehicle exhaust gases and dust generation;

clearing of vegetation; traffic and asbestos containing materials (ACM); work safety issues; possible restriction of road access; land acquisition, temporary restriction of land use, involuntary resettlement; impact on the health of workers; influx of workers; impacts to vulnerable groups which may be adversely impacted due to increase of tariffs; limited access of vulnerable groups to project information; transparency and governance issues and gender issues etc.

The proposed project will finance a wastewater and faecal sludge treatment plant designed to treat and safely dispose of human waste collected from sewered and non-sewered sanitation systems and thus is expected to have overall environmental and social benefits to the surrounding environment and the population. However, while they provide essential sanitation services, the construction and operations of wastewater and fecal sludge treatment facilities can pose significant environmental risks and impacts that must be carefully considered to ensure sustainable and safe operations. The potentially significant environmental risks resulting from the proposed project include: (i) Soil contamination as faecal sludge may contain heavy metals, pathogens, and other pollutants that can degrade soil quality and affect plant growth; (ii) Surface Water Pollution -the effluent from these plants can contaminate nearby surface water bodies. This can happen through direct discharge of untreated or inadequately treated water, or through leachate from sludge storage sites; (iii) Ground Water and Soil contamination can also affect groundwater quality; (iv) Air Pollution Faecal sludge processing can emit harmful gases such as methane, ammonia, and hydrogen sulfide; (v) Odor Nuisance: The processing of faecal sludge often produces unpleasant odors, which can be a significant nuisance to nearby communities. (vi) Greenhouse Gas Emissions: The processing of faecal sludge generates greenhouse gases, primarily methane and carbon dioxide; and (vii) Resource Depletion Fecal sludge processing plants require water, energy, and chemicals. These proposed activities are small in size and geographical spread. In addition, the envisaged impacts are site specific and can be mitigated by routine measure including the choice of technology, construction designs and implementation of site specific ESF instruments such as ESIA/ESMP and national building codes in a manner that is consitent with the risk mitigation heirarchy. For instance, this ESMF has Exclusion List depicting activities that will not be eligible for financing and screen out locations that can impact biodiversity.

In addition, on-site sewerage infrastructure, including septic tanks and ancillary civil works such pipe connection, entail a variety of risks that must be mitigated to ensure public safety, environmental protection, and operational efficiency. These risks which could materialize during construction and operation include risk of bad location, poorly designed, constructed, or maintained septic systems which can lead to the seepage of untreated wastewater into the groundwater, contamination of aquifers. runoff of untreated wastewater into nearby streams, rivers, and lakes, causing eutrophication, which harms aquatic life. The infiltration of untreated sewage into the soil can degrade soil quality and harm plant life. The construction and installation of septic tanks pose significant Occupational Health and Safety (OHS) risks to workers. These risks include exposure to harmful substances, physical injuries, and hazardous working conditions. During operation, there are also OHS related risks due to exposure of workers and communities to pathogens. Failing Septic systems can expose local communities to harmful pathogens, including bacteria, viruses, and parasites, leading to waterborne diseases such as cholera, dysentery, and hepatitis. In addition, poorly managed wastewater can attract disease-carrying vectors such as mosquitoes, flies, and rodents, increasing the risk of vector-borne illnesses in the communities.

To mitigate these risks, the client will prepare site specific ESMPs that will be consistent with the risk mitigation hierarchy of the ESF and GIIP including " Septic Tanks Code of Practice, IFCs Environmental, Health, and Safety Guidelinesfor Water and Sanitation, and "WBG 2022 publication by the Water Department on Wastewater Treatment and Reuse- A Guide to Help Small Towns Select Appropriate Options."(see annexes 10-12). Specific design guidelines as part of the E and S due diligence can help ensure client teams manage these. The following are some areas for specific focus during the preparation of the site specific ESMP, the POM and other E & S guidance documents.

The Social Risk is rated as Moderate based on the information about the project to date. The project will finance the construction of a wastewater and fecal sludge treatment facility located in the district center of Aksu, capable of safely processing waste from septic tanks and pit latrines from households in the surrounding rural area. Additionally, local residents, particularly vulnerable groups (such as women and the unemployed), will be trained and employed to participate in fecal sludge management (including collection, transport, treatment, and end use/reuse). The Project is expected to have positive social impacts, such as improved hygiene and sanitation standards, and will create healthier, more resilient, and economically empowered communities. The potential exclusion risks of beneficiaries from the Project activities will be managed through participatory monitoring and evaluation, public awareness, and stakeholder engagement under Component 3.

However, the Project may adversely impact vulnerable groups due to new costs and user fees for sludge collection and transportation. These financial burdens need to be carefully assessed and mitigated during project implementation to ensure that they do not disproportionately affect vulnerable populations, drawing on the approaches used in active water supply projects to support low-income families. Regarding potential land acquisition and resettlement impacts, as well as workers' and community health and safety risks, the Project will assess and mitigate such risks using the same approach utilized in other World Bank- funded projects, particularly under the WASUAP.

Occupational Health and Safety (OHS) Risks and Mitigation: The construction, installation and operation of septic tanks pose significant Occupational Health and Safety (OHS) risks to workers. These risks include exposure to harmful substances, Manual Handling and Ergonomic Risks, Slip, Trip, and Fall Hazards, Entrapment and Restricted Movement. physical injuries, and hazardous working conditions. Mitigating OHS risks during the construction, installation and operation of septic tanks requires a comprehensive approach that will include the good site selection, engineering designs, provision of PPE, training and education, safe working practices, emergency preparedness, health monitoring, and effective site management. These potential risks and corresponding mitigation measures will be elaborated in the ESMP and other ESF due diligence instruments including the MOP.

This ESMF provides guidance on the screening of the proposed Project interventions to ensure that they do not affect negatively the natural and social environments. It outlines several principles in this respect, including:

- a systematic procedure for participatory screening for project specific sites and activities related to environmental and social considerations.
- a step-by-step procedure for predicting the main potential environmental and social impacts of the planned activities.
- a generic environmental and social management plan for addressing negative externalities during activities implementation (planning, construction, and operation);
- a step-by-step monitoring and evaluation system for implementation of mitigation measures.
- an outline of recommended capacity building measures for environmental and social planning and monitoring of the activities.

This ESMF was prepared in accordance with the requirements of national legislation and the ESF. The ESMF will be used in conjunction with the Labor Management Procedures (LMP). Stakeholder Engagement Plan (SEP) and Resettlement Policy Framework (RPF) prepared separately to assist the borrower in addressing the risks and impacts and concerns of stakeholders that may be affected by or interested in the project.

Institutional arrangement for the implementation of the ESMF

The proposed grant-financed activity will be implemented by the State Institution for Drinking Water and Wastewater Disposal (SIDWSWD) under the Ministry of Water Resources, Agriculture, and Processing Industry (MWRAPI) of the Kyrgyz Republic. The existing Project Implementation Unit (PIU) of the SIDWSWD, responsible for the implementation of the ongoing World Bank financed Climate Resilient Water Services Project will manage the proposed WASUAP and grant-financed activity.

The existing PIU of the SIDWSWD will be expanded and further strengthened to manage the proposed WASUAP and the JSDF grant-financed project. The PIU will be restructured into a Project Coordination Unit (PCU) at the central level based in Bishkek, with a dedicated team of specialists, including an environmental specialist, a social development specialist, an institutional development specialist, an M&E specialist, and a communications specialist. At the district level, a technical team will be established to support project implementation, which will include an environmental and social officer. The technical teams will work closely with the PCU at the SIDWSWD and be responsible for day-to-day project oversight, including environmental and social aspects. In addition, capacity-building on the ESF requirements and project implementation needs will be provided for all relevant project staff with the support of the WB team, as needed, throughout project implementation.

Monitoring and reporting

Environmental and social monitoring during implementation should provide information about key environmental and social aspects of the sub-projects, particularly its environmental impacts, social consequences of impacts and the effectiveness of taken mitigation measures. Such information enables the PIU to evaluate the success of mitigation measures as part of project supervision and allows corrective action(s) to be implemented in a timely manner, when needed. The status of the compliance with the ESMPs' requirements shall be regularly provided by contractors to the PIU (via the supervision consultant / company) /or by the contract manager, and then to the Bank by the PIU, in a consolidated way, in form of their semi-annual report.

Integration of the ESMPs into bidding documents

The ESMP provisions will form part of the bidding documents for the project and will be included in construction contracts in case of civil works for selected subprojects, both into specifications and bills of quantities. Respectively the Contractors will be required to include the cost of ESMP requirements in their financial bids and required to comply with them while implementing the project activities. The bidding documents for selecting the contractors will include specifications that would ensure effective implementation of environmental, health and safety performance criteria by the winning bidder.

Public consultations and information disclosure

As required by World Bank ESS 10, the PIU will disclose the draft ESMF to the public, including all information on potential environmental and social risks and impacts. Such information will be posted on the website of PIU in an accessible form and in an accessible language for the public and stakeholders so that they can fully contribute to project design and mitigation measures.

In general, the process of interaction with stakeholders (district authorities, state bodies, representatives of the Bank, etc.) is also carried out at the stage of preparing a ESMF/ project, through meetings, discussions and recommendations, and consideration of potential target sites.

Stakeholder Engagement Plan (SEP) identifies the various stakeholders and provides an approach for engaging with them throughout the project life cycle. The ESMF provides mechanisms for effective community engagement through disclosure of project-related information, consultations, input, and feedback.

Labor Management Procedures (LMP) provides guidelines and procedures for managing labor and employment practices within the project. LMP intended to ensure that the Project complies with all applicable labor laws and regulations and provides fair and safe working conditions for workers. LMP can help to identify potential labor risks and impacts associated with the project and provide guidelines for how to manage them. By adhering to the LMP, the project can ensure that it meets the labor requirements of both national legislation and the ESS of the World Bank.

Resettlement Policy Framework (RPF) - The tool that will be used throughout project implementation. The RPF sets out the resettlement's objectives and principles, organizational arrangements and financing mechanisms for any resettlement that may be required during project implementation. The RPF guides the preparation of resettlement action plans of individual subprojects to address the needs of people who may be affected by the project.

Environmental and Social Management Plan (ESMP) is a tool that details (a) the measures to be taken during project implementation and operation to eliminate or offset adverse environmental and social impacts or to reduce them to an acceptable level; (b) the actions required to implement those measures.

Budget for ESMF implementation

Implementation of ESMF is included in the preliminary budget for the Project with an estimated cost. Costs associated with the coordination of ESMF implementation by the PIU will be fully costed after final design. The preliminary cost of ESMF implementation is US$ 32 000.

Conclusions

During the project implementation period, the PIU will be responsible for preparing relevant environmental and social documents and providing information to the WB, as well as for addressing environmental and social risks within the ESMF and will be responsible for compliance with the requirements of the ESMF.

During construction, earthworks will be carried out, such as excavation, clearing, mass transfer of soil and stones, soil cultivation, which can potentially damage the vegetation cover and lead to the clearing of vegetation. Therefore, the movement and storage of building materials, disposal of surplus, waste and construction debris can affect the natural environment and biodiversity habitat, if not adequately managed. Identified impacts can be avoided or minimized with the appropriate mitigation measures.

In the medium and long term, the project is expected to bring significant environmental benefits, such as promoting the protection of ground and surface water by promoting the construction and use of environmentally friendly sanitation facilities; sustainable management of modernized infrastructure.

Environmental risks are considered "substantial", social risks - "moderate" and can be predicted, avoided or mitigated through assessment, adequate management and monitoring.

II. PROJECT DESCRIPTION

2.1. Project components

The Project aims to improve livelihoods in Aksu district—particularly for vulnerable groups—by expanding sanitation access, creating jobs, and strengthening climate resilience. With 80 percent of the population lacking adequate sanitation, it will help reduce disease and pollution while generating employment through FSM and

reuse-related opportunities. Treated sludge will be promoted as fertilizer for non-food crops, cutting reliance on costly chemical inputs and supporting climate adaptation. Community-led efforts will drive health, economic, and environmental improvements, building a more resilient and empowered Aksu community. The Project includes three components

Component 1: Developing Sanitation and Fecal Sludge Treatment Infrastructure. This component will finance works, goods and services for the construction of wastewater and fecal sludge treatment infrastructure as well as for onsite sanitation improvements for households.

Sub-component 1.1: Combined Wastewater and Fecal Sludge Treatment Plant. This subcomponent will finance the construction of a combined wastewater and fecal sludge treatment plant located in Aksu district center that is capable of safely processing sewage and fecal sludge from households and social institutions across the district. The treatment plant will be designed to enable sludge reuse and generate secondary by-products for productive use by converting sludge into a nutrientrich organic fertilizer for agriculture for non-consumptive crops and other purposes (e.g., landscaping, reforestation, horticulture), and into biogas for on-site use.

Sub-component 1.2: On-Site Sanitation Improvements. This subcomponent will finance the construction and rehabilitation/retrofitting of on-site sanitation improvements, including latrine and septic tank upgrades (with unit costs ranging from US$1,000-1,900), for around 900 households or 4,530 people) of which 50 percent are vulnerable.

Component 2: Establishing FSM Services, Local Job Creation and Community Awareness. This component will finance works, goods and services to establish sanitation and FSM services, promote circular economy and raise community awareness of the benefits of FSM and re-use in the Project area.

Sub-component 2.1: Establishment of Sanitation and FSM operators and Vocational Training. This subcomponent will provide TA in developing a FSM model and support the establishment of dedicated sanitation/FSM units within the four existing MEs in Aksu district which will be responsible for management, operation and maintenance (MOM) of the treatment facility, as well as of sanitation and FSM services across the district. The Project will target residents, particularly vulnerable, to be employed and trained in managing the entire service delivery chain (including collection, transport, treatment and end use/reuse). A Consultant will develop standard operating procedures for sludge collection and transportation, and an operations manual covering equipment maintenance, hygiene, and worker safety. The Consultant will also define a pricing structure for the FSM model including subsidies for vulnerable households to ensure long-term financial sustainability, including for the MOM of the treatment facilities.

This subcomponent will also finance a certified vocational training program. A Consultant will develop and deliver a training program to build technical, safety, and entrepreneurial skills in sanitation and FSM for Aksu's MEs as well as partner institutions (e.g., Sanitary Epidemiological Services (SES) under the Ministry of Health, agricultural research centers) in the Project area–and be open to other residents. The program aims to empower residents, especially vulnerable, to take on technical or leadership roles in the field of sanitation and FSM.

Further, it will provide quality assurance and support marketing of the sludge-by products being developed under the Project. Aksu's ME's and partner institutions will be provided with the necessary equipment for ongoing monitoring and quality control of sludge, treatment processes, and sludge by-products to ensure treated sludge meets health, safety, and environmental standards before disposal, conversion into or distribution of generated by-products. In addition, a Consultant will support product certification and branding to validate quality and market credibility and to highlight environmental benefits and boost acceptance among residents. The ME in Aksu center will serve as local hub for storage and distribution. The fertilizers will be distributed at no cost to farmers, particularly vulnerable farmers, under this pilot Project to test its demand and market value. The long-term aim is to promote it as a cost-effective, soil-friendly alternative to chemical fertilizers for scale-up under WASUAP Phase 2.

Sub-component 2.2: Community Awareness and Behavior Change Campaign. This subcomponent will support a community awareness and behavior change campaign focused on community-level FSM awareness and on the benefits The World Bank Kyrgyz Republic: Rural Sanitation and Fecal Sludge Management Project (P509563) Activity Summary/ Initiation Note Apr 22, 2025 Page 9 of 12 of resource recovery, highlighting the safe use of sludge by-products. Educational efforts will illustrate the importance of proper sludge emptying and transport, and how treated sludge can become valuable compost. Campaigns will also emphasize compost use in enhancing soil for non-consumptive crops, to address safety concerns and boost acceptance. Community events and farmer fairs will showcase sludge by-products and demonstrate their role in supporting sustainable

agriculture. This approach ensures that residents are well-informed, engaged, and motivated to support the FSM system and recognize its practical benefits.

Component 3: "Project Management and Administration, Monitoring and Evaluation, and Knowledge Dissemination". This component will finance project management and administration, including incremental operating expenses, Monitoring and Evaluation (M&E), stakeholder engagement and knowledge dissemination.

The Project will utilize the M&E system of the WASUAP and introduce a participatory approach involving community members. Community members will receive training for project monitoring, and a feedback mechanism via social media accessible to all residents will further ensure transparency and responsiveness. The Project will also hire a Consultant to conduct baseline, mid-term, and final evaluation.

A strong focus will be set on knowledge sharing and dissemination. A Project launching workshop will be held with local authorities, civil society, and other stakeholders to share the Project's objectives. During implementation, the PIU Communications Specialist will document and share lessons learned, good practices, and Project impacts. Knowledge will be disseminated through established networks at local, national, regional, and global levels. The Project will also engage international partners, such as Japanese experts in FSM, to integrate advanced technologies and global best practices.

FIGURE 1. MAP OF THE ADMINISTRATIVE-TERRITORIAL DIVISION OF THE KYRGYZ REPUBLIC, WITH PLANNED AKSU DISRTICT PROJECT ZONE.

2.2. Project beneficiaries

The Project will directly benefit 4,730 people through improved access to sanitation and improved entrepreneurial skills and access to employment in the Project area. Under Component 1, it will finance on-site household sanitation improvements for 4,530 people (of which 50 percent vulnerable) in 906 households across Aksu district. Under Component 2, it will implement a certified vocational training program to improve entrepreneurial skills in the field of sanitation and FSM and to participate in emerging market opportunities for selling sludge by-products, benefiting 200 people (of which 50 percent vulnerable). The Project will also set up dedicated sanitation/FSM units in the four MEs, which will create at least 30 new or better jobs. The Project will indirectly benefit the entire district population (68,421 people) who will be provided with access to FSM services.

III. GOALS AND OBJECTIVES OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

This Environmental and Social Management Framework (ESMF) was prepared to assist the Government of the Kyrgyz Republic to develop environmental and social instruments that are consistent with national regulations.

Since the technical assessment (e.g. feasibility study, detailed designs) and specific intervention sites within the project are not fully defined and their specific impact is not known, a framework approach is applied in project assessment. Accordingly, in accordance with ESS1, an ESMF is being prepared which defines the rules and procedures for activities and provides a screening tool to determine the need for an Environmental and

Social Impact Assessment (ESIA) of specific sub-component sites, as well as to prepare the corresponding Environmental and Social Management Plans (ESMPs). The main purpose of the ESMF is to identify measures, methods, and mechanisms for preventing, minimizing and/or mitigating potential negative environmental and related social impacts that may arise from the project's implementation. The ESMF ensures that identified projects are properly assessed from an environmental and social perspective to meet the requirements of the ESSs and the World Bank's Environmental, Health and Safety (EHS) Guidelines along with environmental and social laws and regulations of the Kyrgyz Republic to adequately mitigate residual and unavoidable impacts (if any).

This document describes the background, policy, and legal framework, as well as the possible environmental and social impacts of the project interventions. This includes ESIA procedures and guidelines, institutional arrangements, consultation, and disclosure procedures. The ESMF provides guidance on the development of appropriate measures to mitigate and compensate for adverse impacts caused by project activities.

The ESMF will guide project implementation through the provision of the following:

- General guidelines and procedures for preventing, mitigating, or minimizing the adverse environmental and social impacts of potential activities.
- Description of implementation mechanisms, including details on how environmental and social risks will be managed.
- Descriptions of the environmental and social screening processes that will help determine the appropriate site-specific environmental and social instruments.
- Checklists for preparation of ESIA/ESMP for specific sites.
- Environmental and social monitoring and reporting requirements.
- A section on proposed capacity building activities to help the PIU comply with the World Bank ESF.

Project activities may also result in temporary restriction of land use and access to land resources, possibly in some subprojects to temporary land acquisition, resulting in the community or groups within the community being temporarily restricted in access to resource use in areas, areas of biodiversity (water, forest, etc.) to be rehabilitated in connection with the project. To address this risk, the process scheme below provides ways in which local communities, stakeholders can participate in land and natural resource management through informed and meaningful consultation and negotiation to develop and implement action plans. There will be such action plans:

- identify and quantify the impact these restrictions may have on different segments of the local community;
- identify mechanisms for mitigating impacts;
- propose, implement and monitor measures to compensate for possible loss of assets and related income;
- livelihood recovery programs

The Resettlement Policy Framework (RPF) framework document identifies potential impacts, an appropriate entitlement matrix with types of compensation due, a livelihood restoration programme, grievance mechanisms for project-affected people, and implementation, monitoring and evaluation mechanisms.

After final identification of the target sites, detailed designs will be developed and prepared for construction/rehabilitation works, the development of which will identify which specific sites may have ESS 5 issues. Further, if any of the impacts discussed in ESS 5 are confirmed, Resettlement Action Plans (RAPs) will be prepared for each specifically identified site, following the instructions of the RPF document.

A Stakeholder Engagement Plan (SEP) that identifies the various stakeholders and outlines the approach for engaging with them throughout the project life cycle is also being provided.
Furthermore, the ESMF provides mechanisms for effective community engagement through disclosure of project-related information, consultations, input and feedback.

IV. REGULATORY AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

TABLE 1. LIST OF RELEVANT INTERNATIONAL ENVIRONMENTAL TREATIES AND CONVENTIONS RATIFIED BY THE KYRGYZ REPUBLIC

Conventions	Objective
UNECE Aarhus Convention "On Access to Environmental Information and Public Participation in Decision-making and Access to Justice in Environmental Matters", 25 June 1998, (Law of the Kyrgyz Republic on Ratification of 12 January 2001, No. 5).	The Convention's purpose is to support the protection of human rights to a healthy environment for health and well-being, access to information, public participation in decision-making and access to justice in environmental matters.
Stockholm Convention on Persistent Organic Pollutants (POPS), May 22, 2001, (Law of the Kyrgyz Republic on Ratification, July 19, 2006, No. 114).	The Convention aims to protect human health and the environment from persistent organic pollutants.
UN Framework Convention on Climate Change (Law of the Kyrgyz Republic on Accession of 14.01.2000, No. 11).	The Convention aims to combine efforts to prevent dangerous climate change and achieve stabilization of greenhouse gas concentrations in the atmosphere at a relatively safe level.
Paris Agreement on the UN Framework Convention on Climate Change, signed on December 12, 2015, in Paris (Law of the Kyrgyz Republic on Ratification of November 11, 2019, No. 125)	The Agreement aims to strengthen the global response to the threat of climate change in the context of sustainable development, by keeping global average temperature growth well below 2° C above pre-industrial levels; improving the ability to adapt to the adverse impacts of climate change; and aligning financial flows with a trajectory towards low-emission and climate resilience.

Source: SIDWSWD

4.1. Gap Analysis between the national legislation and the World Bank ESSs

A summary of the ESSs, their relevance to the project, as well as a gap analysis in national legislation within the considered World Bank standards are discussed in Table 2.

TABLE 2. GAP ANALYSES IN THE REQUIREMENTS OF NATIONAL LEGISLATION AND THE REQUIREMENTS OF THE ESS OF THE WORLD BANK WITHIN THE FRAMEWORK OF THE PROJECT.

In the event of any dissonance between the KG national laws and those of the Bank, those of the Bank shall prevail.

WB ESS requirements	Environmental and social requirements of national legislation	Gaps	Actions by Project
ESS 1 - Assessment and management of environmental and social risks and impacts - Applicable			
ESS1 identifies, assesses and manages the environmental and social risks and impacts of the project in accordance with the ESS. This standard uses a mitigation hierarchy approach: a) anticipate and avoid risks and impacts; b) if not avoidable, minimize or reduce risks and impacts to acceptable levels; c) once risks and impacts have been minimized or reduced, proceed to mitigate them; and (d) where significant residual impacts remain, offset them if technically and financially feasible. Take differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and that they do not suffer from the sharing of benefits and development opportunities arising from the project. Use national environmental and social institutions, systems, laws, regulations and procedures in the evaluation, development and	• Law "On Ecological Expertise" No. 54 of 1999 (as amended on 04 May 2015). • Law on Environmental Protection No. 53 of 1999 • Law "General technical regulations for ensuring environmental safety". No. 151 of 2009 • Regulations on the procedure for conducting environmental impact assessment in the Kyrgyz Republic (February 13, 2015, No. 60). • Regulations on the procedure for conducting state environmental expertise in the Kyrgyz Republic (May 7, 2014, No. 248).	The environmental risk classification system under Kyrgyz Republic law is based on the inclusion of a "List" of activities that are either subject to or not subject to EIA. According to the Law "On Environmental Protection No. 53 of 1999", the Law "On General Technical Regulation in the Field of Environmental Safety". No. 151 of 2009, Appendix 1 of the Regulations on the procedure for conducting environmental impact assessment in the Kyrgyz Republic in accordance with Government Decree No. 60 dated February 13, 2015 – *Facilities for wastewater and flue gas treatment* are included in the mandatory List of economic activities subject to environmental impact assessment (EIA). The project will be required to undergo the third stage of EIA - assessment of the environmental impact of the proposed activity accompanying the project documentation (Project, Detailed Design). The results of the impact assessment should be formalized as the "Environment" section of the Project (Detailed Design), which includes the Environmental Management Plan.	The following tools were prepared for the actions: • ESMF; • SEP; • LMP; • RPF; The ESMF covers the applicable WB ESS and the EHS Guidelines of the World Bank Group. In accordance with the ESF, the more stringent of the national and WB Group regulations will apply. The ESMF includes screening checklists to determine where and when Environmental and Social Impact Assessment (ESIA)/ Environmental and Social Management Plans (ESMPs) are required. Stakeholder Engagement Plan (SEP) outlines strategies and mechanisms for engaging with stakeholders, including affected communities, local authorities, civil society organizations, and other relevant actors. It bridges the gaps between national legislation and the World Bank's ESS by: a. Enhancing Participation: SEP ensures that stakeholders have opportunities to participate in decision-making processes, as required by the World Bank's ESS. It promotes meaningful

implementation of projects, where appropriate. Contribute to the improvement of environmental and social performance in a manner that recognizes and enhances the Borrower's capabilities.		Whereas under the ESF, risk is classified based on due diligence and according to the Bank's classification. However, some provisions of ESS 1 are not fully reflected in national legislation – for example, in relation to social risk assessment, the need to identify vulnerable and disadvantaged groups, and the application of differentiated measures to prevent disproportionate impacts or adverse impacts when sharing development benefits. National legislation also lacks other types of social risk assessment and mitigation, such as public health and safety, although some of these aspects are present in other government regulations, such as air or water pollution, and food safety.	engagement, thereby providing affected communities a platform to voice their concerns. b. Addressing Communication Gaps: National legislation may not adequately address the communication and information needs of stakeholders. SEP fills this gap by establishing mechanisms for transparent information sharing, disclosure of project-related documents, and effective communication between the project and stakeholders. c. Promoting Social Accountability: SEP strengthens social accountability by establishing grievance redress mechanisms and channels for feedback from stakeholders. This helps address any gaps in national legislation concerning stakeholder grievances and ensures that affected communities have avenues to seek resolution for their concerns. Labor Management Procedures (LMP) provides guidelines and procedures for managing labor and employment practices within the project. LMP intended to ensure that the Project complies with all applicable labor laws and regulations and provides fair and safe working conditions for workers. LMP can help to identify potential labor risks and impacts associated with the project and provide guidelines for how to manage them. By adhering to the LMP, the project can ensure that it meets the labor requirements of both national

			legislation and the ESS of the World Bank. The Resettlement Policy Framework (RPF) provides guidance for developing appropriate mitigation measures and providing compensation, rehabilitation assistance for Project impacts in land acquisition, land use restrictions, and involuntary resettlement whose exact location is unknown.
ESS 2 - Labor and Working Conditions - Applicable			
ESS2 recognizes the importance of job creation and income generation in the pursuit of poverty reduction and inclusive economic growth. The standard applies to project workers, including full-time, part-time, temporary, seasonal and migrant workers. Subject to these requirements, the Borrower shall develop and implement written workforce management procedures applicable to the project. These procedures shall define how project workers are managed in accordance with the requirements of national legislation and this ESS. Procedures should consider how this ESS will apply to different categories of project workers, including direct workers, and how the Borrower will require third	• Labor Code of the Kyrgyz Republic, 2004. • Law of the Kyrgyz Republic on labor protection of 2003 (Article 2). • Law of the Kyrgyz Republic "On Occupational Safety and Health", 2003 • International Labor Organization March 31, 1992	The Kyrgyz Republic has ratified eleven ILO conventions on issues such as forced and child labor, freedom of association, the right to organize and conduct collective bargaining, non-discrimination and labor inspection. The National Labor Law, with the latest amendments in April 2021, establishes state guarantees of labor rights and freedoms of citizens, creates favorable working conditions, and protects the rights and interests of workers and employers. In addition to this Law, the government has approved fourteen other laws and more than twelve regulatory legal acts that directly relate to labor relations. Taken together, the laws adopted in the country cover many of the goals and requirements of ESS 2. Registration of complaints and subsequent procedures are available in the Law on Citizens' Petitions; however, they are common to all project affected persons and do not define a specific grievance	The project will be implemented in accordance with the applicable requirements of ESS 2 by implementing appropriate health and safety measures, including emergency preparedness and response measures; determination of mechanisms for communication with project workers and inclusion of OHS requirements as technical specifications in tender documents and contracts with contractors and supervisory firm. The EA prepared the LMP, including Code of Conduct and GRM for project workers, within the framework of ESS 2. Component activities will employ direct and contracted workers subject to national labor law requirements and the World Bank Group EHS Guidelines in accordance with ESS 2, which will be addressed in the LMP. PIU will develop the GRM for direct and contracted workers before the project starts.

parties to manage its workers in accordance with ESS 2. The standard recognizes the promotion of occupational safety and health and fair treatment, non-discrimination and equal opportunity for project workers; prevents the use of all forms of forced and child labor and upholds the principles of freedom of association and collective bargaining with workers, in accordance with national law.		redress process for employees as required in ESS 2.	Civil works contracts will include EHS-based social and environmental mitigation measures and the ESMF. Each Contractor will prepare its LMP and site specific ESMP (for the construction period) addressing the above labor issues. In accordance with ESS 2 and relevant national legislation, the Project prohibits the use of forced and child labor.
ESS 3 - Resources and Efficiency, Pollution Prevention and Management - Applicable			
ESS3 recognizes that economic activity and urbanization often generate air, water and land pollution and consume limited resources that can threaten people, ecosystem services and the environment at the local, regional and global levels. The standard sets out requirements for resource efficiency, pollution prevention and management throughout the life of the project in accordance with Good International Industry Practice (GIIP).	• Law on Environmental Protection 1999. • Water Law, 2009 • Law on Production and Consumption Wastes of 2001	The national regulatory framework for pollution prevention prioritizes the protection of public health and is based on the definition of threshold values for permissible concentrations of pollutants to which people may be exposed. The environmental regulation requires the calculation of expected negative impacts such as emissions, noise, wastewater discharges, waste generation as part of the EIA, to prove the compliance of the proposed project with the established threshold values.	The ESMF covers issues of resource efficiency, pollution prevention and management, it requires that risk definitions and proposed mitigation measures related to the relevant requirements of ESS 3, including raw materials, water use, air pollution, waste generation, be included in the Contractor's ESMP, if applicable. Design, construction/rehabilitation of wastewater treatments as well as the main equipment, mechanization and automation means must comply with national legal norms and the requirements of international technical regulations and standards. The Contractors will prepare an ESMPs covering all types of possible waste generated during the implementation process including dirt and debris, household waste, hazardous waste if found.
ESS 4 - Community Health and Safety - Relevance - Applicable			

ESS4 considers the community health and safety risks and impacts affected by the project and the Borrowers' respective responsibilities for preventing or minimizing such risks and impacts, with particular attention to individuals who, due to their circumstances, may be vulnerable.	• Law on Environmental Protection • Labor Code of the Kyrgyz Republic, 2004. • Law of the Kyrgyz Republic on labor protection	The general principles of protecting the health and safety of citizens and communities are enshrined in the Constitution of the Kyrgyz Republic and the Law on Environmental Protection. These laws provide that everyone has the right to live in a natural environment that does not harm his health. To achieve this goal, thresholds are established to limit human exposure to hazardous environments based on several physical, chemical and biological parameters.	The following tools were prepared for the solution: • ESMF; • SEP with Project GRM LMP with Code of Conduct The ESMF covers the applicable ESSs and the EHS Guidelines of the World Bank Group. The PIU will take measures, including requiring contractors to develop a health and safety plan as part of the ESMP (during construction phase) to address the impact of moving construction equipment on local communities; measures and actions designed to assess and manage the specific risks and impacts outlined in the ESMF and subsequent ESMPs. All activities will comply with applicable national regulations and ESS 4.
ESS 5 - Land Acquisition, Land Use Restrictions and Involuntary Resettlement - Applicable -			
ESS5 mitigates the inevitable adverse social and economic impacts of land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost, and (b) assist displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or pre-project levels, as appropriate, which is higher.	• Civil Code, 1996, 2021. • Land Code, 1999, 2021, (Article 49, paragraph 1, subparagraph 5; Article 66, paragraphs 1, 4; Article 68, paragraphs 1, 3, 4; Article 78, paragraphs 2, 3). • Law on State Registration of Rights to Real Estate and Transactions Therewith, 1998 2021 • Decree of the Government of the Kyrgyz Republic "Standards for the valuation of property, mandatory for use by all subjects of valuation activities in the Kyrgyz Republic", dated April 3, 2006, No. 217.	The Land Code of the Kyrgyz Republic states that the withdrawal of land is an exceptional measure for the termination of the right to a land plot. The constitution and several laws refer to the need for compensation for land acquisition, although there are no specific requirements for the preparation of action plans for land acquisition or resettlement with a detailed procedure. In accordance with the national legislation of the Kyrgyz Republic, affected persons are those who have formal legal rights to land or property and/or have a right to land or property recognized under national law.	Component 1 "Developing Sanitation and Fecal Sludge Treatment Infrastructure" may have potential impacts on land acquisition and temporary restriction of land use in the area around the utility facilities if new facilities or additional land for infrastructure improvements are required for project activities. Due to construction work there may be physical displacement as well as economic displacement of households. Construction activities are expected to take place on available state and/or municipally owned land.

This standard improves the lives of poor or vulnerable people who are physically displaced by providing adequate housing, access to services and amenities, and security of tenure.		The latter mainly concerns land rights allocated by the relevant authorities, but not yet registered in accordance with the law. Users of land or property without proof of such a claim are not entitled to compensation. This is one of the main legal gaps that exist between national legislation and the ESF. The national legislation does not say anything about the rehabilitation and improvement of the living conditions of the households affected by the project, or about special attention to vulnerable persons and additional assistance to them.	PIU will avoid or at least minimize the need for involuntary resettlement, temporary and/or permanent land acquisition. To prevent negative impacts, within the framework of ESS5, a Resettlement Policy Framework (RPF). Social-environmental screening check-list was prepared. If during the project implementation (target sites are finalized, scopes of work are determined and designs are prepared), any unanticipated impacts or additional impacts are identified a site-specific Resettlement Action Plans (RAPs) will be prepared in accordance with RPF and implemented prior to the commencement of civil works.
ESS 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources - Not applicable			
ESS 7 - Indigenous Peoples - Not applicable			
ESS 8 - Cultural Heritage – Not applicable			
ESS 9 – Financial Intermediaries– Not applicable			
ESS 10 - Stakeholder Engagement and Information Disclosure – Applicable			
ESS 10 recognizes the importance of open and transparent communication between the Borrower and project stakeholders as an important element of international best practice. Effective stakeholder engagement can enhance the environmental and social sustainability of projects, increase their acceptability, and make a significant contribution to the successful design and implementation of a project.	• Constitution of the Kyrgyz Republic • Civil Code • Land Code • Labor Code • Law on labor protection • Law on guarantees and freedom of access to information; • Law on Access to Information of State Bodies and Local Self-Government Bodies; • Law on the Procedure for Considering Citizens' Appeals; • Law on local self-government	In general, sound legislation exists, but it needs to be applied consistently. Regarding investment projects, national legislation and regulations are focused mainly on stakeholders, interaction at the stage of project preparation. The existing legal framework describes in detail the procedure for dealing with complaints without the division into local, regional/central levels, as in projects funded by IFIs. There are no special rules in national legislation concerning the participation of vulnerable or disadvantaged individuals	The project's priority is to identify the stakeholders that can be positively and negatively impacted by project activities, in particular the impact on people's lives and the sustainability of livelihoods. In this regard, a list of key stakeholder groups was compiled. The information and consultation process shall be started at early stage of Project preparation, including project design, environmental and social assessment, identification of impact mitigation measures, development of the

The Borrower will engage with stakeholders throughout the life cycle of the project, commencing such engagement as early as possible in the project development process and at a time that allows for meaningful stakeholder consultation on project development. The nature, extent and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts. In consultation with the Bank, the Borrower will develop and implement a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of the project and its potential risks and impacts.	• Law on the rights and guarantees of persons with disabilities	and groups in public consultations and project activities. Provisions for disclosure of information and meaningful consultation with project-affected persons are not as clear as in the ESF.	ESF instruments in order to get people's opinions on the project. The project has prepared a SEP outlining all the different types of stakeholders, including vulnerable groups, timing and modalities of communication and consultation. The SEP describes a Grievance Redress Mechanism (GRM) for the Project o address the issue of transparency and feedback.

Source: SIDWSWD

4.2 National Institutional system for the environmental and social management

In the Kyrgyz Republic, state power is divided into legislative, executive and judicial. Each of them is carried out by special bodies intended for this purpose. The most important is executive power, because through it the implementation of laws, the implementation of laws, the application of laws in real life are carried out.

TABLE 3. GOVERNMENT AGENCIES INVOLVED IN SOCIAL AND ENVIRONMENTAL ISSUES IN THIS PROJECT

#	Name	Description
1	**Government institutions involved in the environment and social issues**	**The Ministry of Natural Resources, Ecology and Technical Supervision (MNRETS)**, in accordance with the Regulations on the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic (Resolution of the Cabinet of Ministers of the Kyrgyz Republic dated November 15, 2021 No. 263), exercises protection and control in the field of flora and fauna, protected areas, biodiversity , radiation protection, protection of the ozone layer, industrial ecology, protection of the quality of water, land resources and atmospheric air, forest ecosystems, etc.
		Environmental and Technical Supervision Service under the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic, in terms of implementation of control functions on compliance with the norms and rules of environmental management and protection.
		Kyrgyz Integrated Hydrogeological Expedition under the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic, in terms of data collection on quantity and quality of groundwater, data on groundwater reserves, mineral resources and their use.
		Department of Disease Prevention and State Sanitary and Epidemiologic Surveillance of the Ministry of Health, in terms of bacteriologic and chemical monitoring of drinking water quality (drinking water quality, population disease incidence).
		Agency for Hydrometeorology under the Ministry of Emergency Situations of the Kyrgyz Republic, in terms of monitoring of atmospheric air and surface water.
		Water Resources Service of the Ministry of Water Resources, Agriculture and Processing Industry of the Kyrgyz Republic, in terms of planning, organization and implementation of measures of administrative, economic and normative-legal regulation of water use in the operation of water facilities, protection of water fund lands, as well as regulation of interstate water relations on the use of water resources formed on the territory of the Kyrgyz Republic.
		National Academy of Sciences, regarding the implementation of scientific work on the problems of scientific, technical and social progress, contributing to the strengthening of the economic sovereignty of the Republic, national and universal human values, and environmental protection.
		The Ministry of Water Resources, Agriculture and Processing Industry (MWRAPI) is involved in protecting and increasing the country's forest fund, managing and protecting surface water resources.
		Ministry of Labour, Social Security and Migration (MLSSM) The purpose of the Ministry is to implement the state policy in the field of: – labor, including issues of labor protection and promotion of employment of the population; – social protection of the population, including support for socially unprotected categories of citizens, children in difficult life situations, persons with disabilities and the elderly; – social security and gender equality; – protection and protection from domestic violence;

		migration, including issues of immigrants, ethnic Kyrgyz and refugees, as well as prevention and combating human trafficking.
		Ministry of Health of the Kyrgyz Republic The objectives of the Ministry are: – protection and strengthening of the health of citizens in the Kyrgyz Republic; – medical insurance of citizens in the Kyrgyz Republic.
		State Agency for Civil Service and Local Self-Government under the Cabinet of Ministers of the Kyrgyz Republic The tasks of the Agency are: – improvement of the unified state policy in the field of civil service, municipal service and local self-government; – ensuring the rights and legitimate interests of state and municipal employees (hereinafter referred to as employees); – improvement and optimization of the system of state administration and local self-government; – assistance in strengthening the organizational, legal, financial and economic foundations of local self-government.
		The State Agency for Land Resources, Cadastre, Geodesy and Cartography under the Cabinet of Ministers of the Kyrgyz Republic implements a unified state policy on the land cadastre, land relations, cadastral mapping, land management, registration of rights to real estate and transactions with it, analysis of the land and real estate market.
		The **Ministry of Emergency Situations of the Kyrgyz Republic (MoES**) is an authorized state executive body of the Kyrgyz Republic that implements a unified state policy and management, coordination, control and response in the field of civil protection, fire safety, safety of people at water bodies, hydrometeorology, management of the system of state material reserve. The MoES is also engaged in monitoring and forecasting natural disasters, and creating an early warning system, which are carried out by structural units of the MoES with the participation of the Department for Monitoring and Forecasting Emergency Situations (DMFES), Kyrgyz Hydromet, the Operational Directorate and Directorate for the Protection of the Population and Territories, as well as the Directorate of Selvodzashchita (protection against mudflows).
3	**State, LSG institutions, NGOs related to the implementation of the Project**	State Institution for Drinking Water and Wastewater Disposal (SIDWSWD) under the Ministry of Water Resources, Agriculture, and Processing Industry (MWRAPI) of the Kyrgyz Republic. The purpose of the Department's activity is to create conditions for sustainable development and operation of the centralized system of drinking water supply and sanitation in the settlements of the Kyrgyz Republic. The objectives of the Department are: -development of drinking water supply and sanitation in settlements in accordance with the requirements of regulatory legal acts; - strengthening the capacity of entities servicing centralized water supply and sanitation systems, including those providing services in the drinking water supply and sanitation sector; - development of international cooperation of the Kyrgyz Republic in the sphere of drinking water supply and sanitation; - construction, reconstruction, overhaul and operation of facilities of centralized drinking water supply and sanitation systems by establishing a state enterprise for operation and construction; - implementation of the policy on the development of centralized drinking water supply and sanitation in settlements; - coordination of activities on construction and rehabilitation of facilities of centralized drinking water supply and sanitation systems financed from the republican budget and international financial institutions.

		The Department is also responsible for the investment viability of the Project and for the Project's contribution to the economic development, poverty reduction and overall prosperity of the region.
		Local public administration. The local public administration exercises executive power in the district/rayon, a state executive authority that ensures on the relevant territory the coordinated activity of territorial subdivisions of state executive authorities, their interaction with local self-government bodies and exercises state control over the execution of delegated powers. The head of the local public administration (hereinafter - akim) shall manage the activity of the local public administration on the principles of one-man management.
		Local self-government bodies. Local government is an independent activity of the local community in its own interests and under its own responsibility, aimed at solving issues of local significance. Local self-governance is carried out by local communities through representative and executive bodies, as well as through direct participation of citizens. The executive body of local self-government in aiyl aimak is aiyl okmotu.
		The **Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic** is an authorized state executive body in the field of environmental protection, environmental safety (including chemical, biological, radiation and nuclear), nature management, hydrometeorology, which exercises state supervision and control over environmental safety issues. The **Department of Environmental Monitoring** conducts monitoring and assessment of the state of the environment to provide state bodies and economic entities with information on actual changes in the state of the environment and the reasons for these changes to prevent and reduce damage.

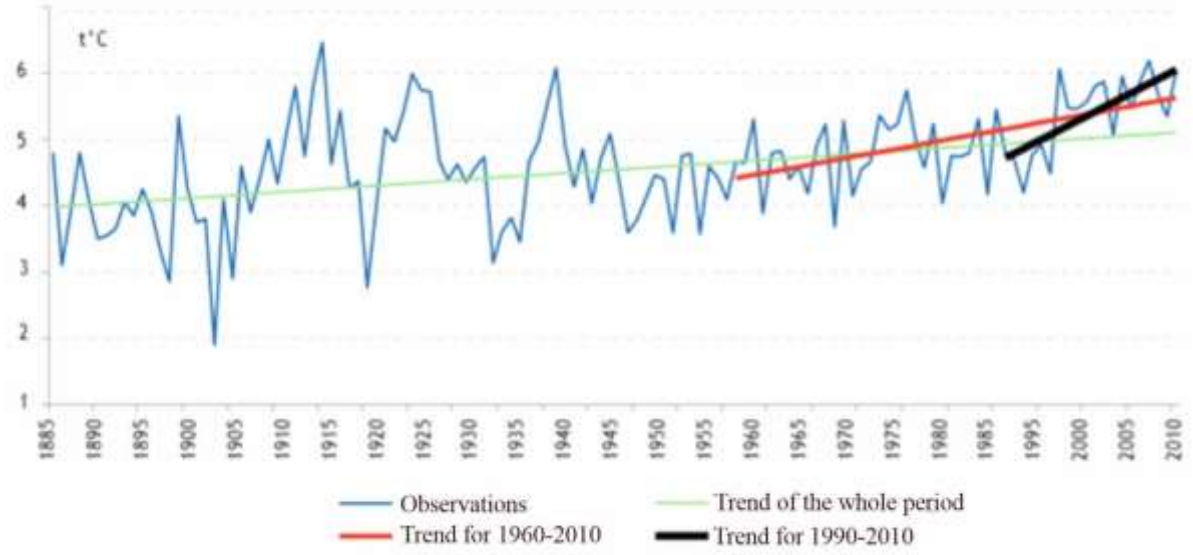
V. ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION

5.1 Climate change impact

The Kyrgyz Republic is a mountainous country with a sharply arid continental climate. Relief features, geological structure and climatic characteristics determine the vulnerability of the territory to over 20 types of natural disasters. Natural emergencies annually cause certain damage to the economy of the republic and jeopardize the country's food security.

The negative impact of climate change leads to degradation of pastures, environment and land conditions; affects the availability of water resources; leads to an increase in climate-related natural disasters; affect the socio-economic well-being of the population, especially in rural areas.

The temperature regime of the territory of the Kyrgyz Republic is characterized by a significant increase in temperature over the last decades (Fig. 2). Over the entire observation period, the average yearly temperature increased at a rate of 0.0104 °C per year across the country, while the rate more than doubled between 1960 and 2010 (reaching 0.0248 °C per year) and was already 0.0701 °C per year between 1990 and 2010.



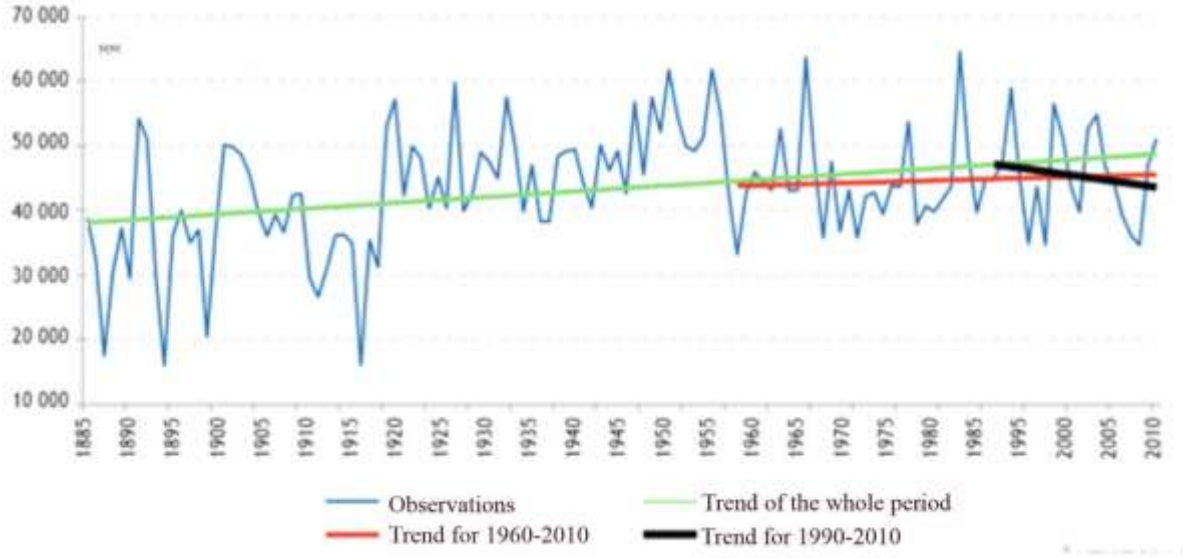
Source: Ilyasov et al., Climate profile of the Kyrgyz Republic 2013

Figure 2. Trend in average yearly temperature in the Kyrgyz Republic.

According to climate scenarios, for 2030-2050, the temperature increase in Central Asia is expected to be about 1-3 °C, while it could reach 3-6 °C at the end of the 21st century. The average yearly temperature increase during the 20th century for the entire country was 1.6°C, significantly higher than the projected global warming of 0.6°C. The highest temperature increase was observed during the winter months (2.6 °C), while the increase was not significant during the summer (1.2 °C). At the same time, significant differences are observed within and between different climatic regions.

It is expected that a 1°C increase in air temperature would increase the evaporation rate by 16 percent. Even if the level of precipitation remains the same, this will result in reduced river flows. However, the intense melting of glaciers will first lead to a dramatic increase in flow. It is estimated that glacier runoff in Central Asia could triple by 2050, leading to significant changes in regional water structure and land use. The rapid melting of glaciers is expected to increase the frequency of glacial lake outbursts, which could lead to destructive landslides in mountainous areas of the Kyrgyz Republic. Another negative manifestation of increased drainage is increased erosion processes.

At the same time, very small (statistically insignificant) changes in annual precipitation occurred over the observation period (Fig. 3). However, in some regions there were quite abrupt changes, both upward and downward (e.g., Suusamyr Valley).



Source: Ilyasov et al., Climate profile of the Kyrgyz Republic 2013

Figure 3. Trend of annual precipitation over the period of instrumental observations (1885-2010).

The negative impact of climate change is expected to adversely affect the quality of land conditions, particularly agricultural land; on pastures increasing the country's food security risks. Will lead to reduced water availability, environmental degradation and increased natural disasters frequency, and will affect rural households particularly low-income groups.

The project is planned to be implemented in one rayon of the Kyrgyz Republic, in Ak-Suu rayon of Issyk-Kul oblast. The full socio-economic, socio-environmental characteristics of the rayon are given below.

AK-SUU RAYON

Socio-economic characteristics. Ak-Suu rayon was founded in 1973. Aksu district, situated in the northeastern part of the Kyrgyz Republic, within the Issyk-Kul Region. To the west, the district borders Lake Issyk-Kul, the world's second-largest saline lake, which is recognized as a Ramsar site due to its globally significant biodiversity. The district consists of the district center Aksu (formerly: Teploklyuchenka) and and four Aiyl Aimaks encompassing 44 villages. As of 2024, the district had a population of 68,421 of which 48.7 percent women. The majority (80 percent) reside in rural villages, and 20 percent (14,153 people) live in the district center. 962 out of 12,834 households live below the poverty line.

Agriculture forms the backbone of the district's economy and employs about 75 percent of the population. 46,600 hectares of land suitable for agriculture, 35,200 hectares under cultivation by 12,834 farms. There are some challenges in agriculture: seasonal nature of work and low productivity, soil degradation, depleting nutrients, and climate change impacts, low wheat yields due to high fertilizer prices.

Hydrology. The hydrography of the area is represented by the rivers Karakol, Zhyrgalan (maximum flow rate 70 m3/sec) and Sary-Dzhaz (258 m3/sec) and numerous mountain rivers and sai, and the Merzbacher high-mountain lake with a catchment area of 318 km2, with a mirror area of 4.5 km2, and a volume of 129 million m3.

Climate. The climatic conditions of the district are characterized by the following data: the average air temperature in January is -8° C in the valley and -26° C in the mountainous part. In July, the average monthly temperature varies from +14° C in the valley to +9° C in the mountains. The minimum air temperature is -40° C. The average values from maximum air temperatures vary from +30° C in the valley to +15° C in the mountains. The amount of precipitation is 300-400 mm in the valley, 500-600 mm in the mountains, up to 150 mm in the valley during the warm period and 250 mm in the mountains during the cold season. The height of the snow cover in the valley reaches 40 cm. The highest possible wind speed is 34 m/sec every 20 years.

Danger zones and forecasts of possible activation of hazardous processes and phenomena. In Ak-Suu rayon, about 93% are mountainous, and the remaining 7% are valley-shaped. The areal extent of dangerous natural processes and phenomena is shown on the maps-schemes of seismic, avalanche, mudflow and flooding hazards.

Seismic Hazard. On the territory of the rayon, six AEE (areas of expected earthquakes) - of the second category of hazard with the class of expected earthquakes 12.6-14.5, intensity of 5-7 points is allocated.

Landslide Hazard. About 23% of the district's area, which mainly covers high-mountain mid-mountain tiers, is characterized by a second degree of danger. About 48% of the area of the district, which occupies mid-mountain zones, has a third degree of mudflow hazard. About 21% of the district's territory, represented by low-mountain terrain and some foothill parts of the valleys, is characterized by a fourth degree of mudflow hazard. Mudflows and floods. Residential buildings, water dams, communications, roads and other facilities are at risk.

During the fall of intense, area-concentrated atmospheric precipitation, mudflows of a torrential nature and areas of storm flooding that are not indicated on the map may occur.

Outburst lakes. Activation of 28 outburst lakes located in the high-mountain glacial zone on the northern sides of the eastern part of the Teskey Ala-Too Mountain range in the upper reaches of the Karakol, Arasan, Ak-Suu, Yrdyk, Boz-Uchuk, Dzhergez, and Turgen-Ak-Suu River basins. Mountain lakes are located in the absolute range from 3092 to 4200 m and have: 1 lake is the first, 1 lake is the second, 17 is the third, and the 9 is the fourth hazard category.

Avalanche Hazard. 17% of the study area in the high-mountainous part of the Teskey Ala-Too, Ak-Shiyrak, Khan-Tengri, Sary-Dzhaz, Kokshaal-Too, Enylchek-Too and Adyr-Ter ranges belong to the territory with the first degree of hazard. Up to 38% of the area, which is located below the relief, mainly covers mid-mountain tiers, is classified as the second degree of avalanche hazard. About 14% of the area of the district, which covers the lower parts of the middle mountains and the high foothills, is an area with a third degree of avalanche hazard. The area with the fourth degree of avalanche hazard occupies up to 5.5% of the district's area and is confined to low-mountain tiers of the terrain.

In the Turgen-Aksuu River basin, a 45-50 km section of the road is classified as moderate avalanche hazard, with possible avalanches ranging from 5 to 25 000 m3 and blocking the highway for 220 m. Here, 72-82 km on the north side of the Chon-Ashuu Pass, there is an area where avalanches from 5 to 120 thousand m3 can occur and the road is blocked for 1200 m. In the Ottuk River basin, on a section of the 82-88 km highway on the southern side of the Tee-Ashuu Pass, an area with a moderate degree of avalanche risk has been identified, where avalanches can occur with volumes ranging from 5 000 to 130 000 m3 and a total road closure length of 350 m. The activation of avalanches in the winter-spring period will be determined by weather conditions.

Underflooding. Areas with high groundwater levels are located in the northwestern part of the district in the form of a narrow strip along the Zhyrgalan River bed and the lower part of the Karakol River. In flood zones, earthquakes increase the likelihood of destruction of buildings and structures. Residential buildings in flood zones are also deformed due to violations of building codes and regulations and poor construction quality.

Landslide Hazard. About 1.3% of the territory located in the northern part falls into category I of vulnerability, which has a third degree of risk of landslide hazard. About 2% of the area of the district, located on two sites in the central and northern parts, is identified as the second category of vulnerability with the first degree of risk. Up to 4% of the area located in 4 sites (the first in the central part, the remaining 3% in the northern and north-western ends of the study area) fall into the second category of vulnerability, which has a second degree of risk from landslides and phenomena. About 86% of the territories occupied by high- and mid-mountain tiers of relief fall into the third category of vulnerability, which, due to the expected level of anxiety, has the first degree of risk.

Rockfalls and landslides. The areas of possible increase in rockfalls and landslides that pose a risk to the Karakol—Enilchek and Karakol-Echkili-Tash highways.

Surging glaciers. Surging glaciers are located in the upper reaches of the Sary-Dzhaz River basin, at the Khan-Tengri Mountain knot: Mushketov in the upper reaches of a tributary of the Adyr-Ter River; Unnamed on a separated tributary of the Mushketov Glacier; Kaiyndy in the upper tributary of the Kaiynda River. The following surging glaciers are located on the Ak-Shiyrak mountain range: Unnamed in the upper reaches of a tributary of the Sary-Chat River; Chomoy in the upper reaches of the tributary of the Chomoy River. These surging glaciers may have an impact on the territory of the Enilchek aiyl aymak.
The district has a tailing dump, which is owned by the Manas Kyrgyz-Russian enterprise, located between the Enilchek-Kaiyndy rivers. The main pollutants are arsenic, copper, zinc, bismuth.

5.2. Description of potential project sites

At the project preparation stage, the Ak-Suu rayon was selected as priority for inclusion in the project based on the following selection criteria: current condition of the existing wastewater system (e.g. age, level of deterioration, coverage, etc.); public health problems (cases of diseases); and readiness of local authorities and

public organizations to participate in the project and introduction of modern wastewater operation systems (introduction of cost-reflective tariffs).

Rehabilitation and construction works will improve access to basic sanitation,entrepreneurial skills, and access to employment—providing rapid and demonstrable benefits to vulnerable groups. However, it is only during the design stage that sites for wastewater infrastructure will be identified when defining the design technical solution. During the design stage, a socio-environmental screening will be conducted to determine whether construction/rehabilitation of wastewater systems will take place on existing sites or whether land acquisition for new construction will be conducted.

The district's infrastructure is underdeveloped, especially in the remote mountainous areas, and limited access to clean water remains a major socioeconomic barrier, impacting public health and quality of life. The situation regarding sanitation is even more alarming. In Teploklyuchenka, a wastewater treatment plant (WWTP) and sewer network were built in the 1960s, but only 20 percent of the population are connected to the sewer system. The remaining 80 percent of the population relies on onsite sanitation systems such as septic tanks and pit latrines.

Rural Water Supply Issues: only 25% of villages have a functioning water supply scheme; 64% of villages need significant rehabilitation; 11% of villages have no water supply system. The project would complement the proposed Water Supply and Sanitation Universal Access Program-1 Project (WASUAP, P500620) with some investments aimed at increasing access to safely managed sanitation services at the household level in Aksu district.

VI. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

At the stage of project preparation, the exact location of project sites and areas is not clearly defined, so this framework document contains the basic requirements and recommendations for environmental and social management.

6.1. Brief description of the project's planned activities

The physical impacts are expected only within Component 1 – **Developing Sanitation and Fecal Sludge Treatment Infrastructure.**

- Sub-component 1.1: Combined Wastewater and Fecal Sludge Treatment Plant

This subcomponent will finance the construction of a combined wastewater and fecal sludge treatment plant located in Aksu district center that is capable of safely processing sewage and fecal sludge from households and social institutions across the district.

Earthworks: This includes removal of top soils, excavation, cutting/filling, trimming, stockpiling of cut materials, and compaction works. Earthworks will be carried out in compliance with the requirements of current construction norms and rules (SNiP 3.02.01-87 "Earthworks, bases and foundations', SNiP KR12-01-2002 "Safety in construction", SNiP KR12-02:2004 "Organization of construction production").

Construction of Treatment Units: This includes the construction of unplanted drying beds for solid treatment, waste stabilization ponds for liquid part treatment, constructed wetlands for tertiary treatment, and storage facilities for dry sludge treatment

Ancillary Works: Construction of office buildings, guard houses, internal paves and access roads, laboratories, warehouses, fencing and gates and electrical connections.

Concrete works during the construction will be performed in strict accordance with the design documentation, the work program (WP) and applicable building codes and regulations. The selection and acceptance of cements for the preparation of concrete mixtures shall be made in accordance with GOST 30515-97 "Cements. General conditions". The composition of the concrete mix, preparation, acceptance and control methods shall comply with GOST 7473-2010 "Concrete mixes. Technical conditions" The concrete design is carried out by the manufacturer's laboratory according to the approved process task in accordance with GOST 27006-86 "Concrete. Rules for mix design".

- Sub-component 1.2: On-Site Sanitation Improvements

This subcomponent will finance the construction and rehabilitation/retrofitting of on-site sanitation improvements, including latrine and septic tank upgrades.

Earthworks. Work is planned to excavate pits for septic tanks and latrines. Earthworks will be carried out in compliance with the requirements of applicable building regulations. The depth of excavations, trench cross-section, is regulated by the project.

Installation of pipeline and manholes. It is planned to lay sewer pipelines in trenches with preliminary soft soil bedding. Reinforced concrete manholes are installed according to the designed project. Outdoor pipes are used as sewer pipes. Laying of sewer pipes is done with a slope.

Septic tank construction. Construction of a septic tank is done on the educational institution territory according to the standard project 902-3-072.87 with a capacity of 6 m^3/day. The septic tank consists of factory-made 1.5 m diameter filter wells and a clarified water filtration field.

Component 2 – **: Establishing FSM Services, Local Job Creation and Community Awareness**will not have a physical impact on the environment. This component will finance works, goods and services to establish sanitation and FSM services, promote circular economy and raise community awareness of the benefits of FSM and re-use in the Project area.

Component 3 - **Project Management and Administration, Monitoring and Evaluation, and Knowledge Dissemination** will not have a physical impact on the environment. This component will finance project management and administration, including incremental operating expenses, Monitoring and Evaluation (M&E), stakeholder engagement and knowledge dissemination.

6.2 Classification of environmental and social risks

Actions planned under the Project may have certain environmental and social impacts, both positive and negative, as the Project involves the development of socially important local infrastructure and services.

Potential positive impact of the project.

Overall, the environmental impact of the project is expected to be positive, including (i) promoting ground and surface water protection by advancing the construction and use of environmentally safe sanitation facilities; (ii) increasing public skills and awareness in planning and implementing activities at the local level, necessarily taking into account environmental protection; and (iii) sustainable management of upgraded infrastructure by local communities, which will provide environmental and social benefits related to environmental management.

Possible negative impacts of the project.

The Social risk is assessed as Moderate.

In addition to environmental aspects, it is also important to consider social impacts, which include issues related to social issues as gender equality and the occurrence of conflict situations for resources during Project implementation. Therefore, in order to successfully implement and achieve the goals and objectives of the Project, it is crucial to take timely measures to ensure social safety in the project areas by achieving equal participation, consideration and reflection of the interests and opinions of the vulnerable population (especially women) throughout the Project implementation period. Potential social risks are: road traffic, OHS issues, community safety, exclusion of vulnerable groups, risk of child and forced labor, labor risks associated with the influx of labor, gender-based violence/sexual exploitation and harassment (GBV/SEA/SH), Involuntary Resettlement and Land Acquisition, possible social resistance against an increase of tariff, perception or actual delays in implementation, transparency and governance issues.

The environmental risk of the project is assessed as Substantial. Despite the positive environmental impacts of the project, some negative aspects are also possible. Potential adverse impacts that may result from project implementation related to construction works and operational stage.

Design Stage: Measures (e.g., siting, technology, and material) will be considered during the subprojects' design stage to minimize the potential negative environmental impact of implementing them.

- The site selection during the planning stage will be undertaken to avoid sensitive ecosystems and biodiversity hotspots (adopting the mitigation hierarchy) to mitigate the loss of vegetation and habitat. By optimizing the project layout, engineers will minimize land clearing and preserve critical habitats.
- Proper planning for material storage and disposal will be undertaken to mitigate environmental damage during the construction stage. These would be included in the ESMP for ensuing implementation during the construction stage.

Bidding stage: The ESMP provisions will form part of the bidding documents for the project and will be included in construction contracts in case of civil works for selected subprojects, both into specifications and bills of quantities. Respectively the Contractors will be required to include the cost of ESMP requirements in their financial bids and required to comply with them while implementing the project activities. The bidding documents for selecting the contractors will include specifications that would ensure effective implementation of environmental, health and safety performance criteria by the winning bidder.

Construction stage: The following negative environmental impacts are expected during the construction phase: loss of vegetation due to cutting and removal of trees and exposure of land; fuel spills, hazardous liquids, hydrocarbons and other chemical pollutants spilling and discharged on the site/onto the ground; increased dust near the settlements along the traffic route, in quarry/borrow pit areas during site preparatory works; increased noise levels on subprojects sites and near the settlements; vibration from vehicles and heavy plant equipment on site and impacting settlements during earthworks and site preparations; landslide and soil erosion (some construction sites may be in areas at risk of soil erosion and landslides; very wet conditions may trigger slope failures, and in many areas, construction is feasible only during the dry season); risks to biodiversity (local ichthyofauna, flora and small fauna of river ecosystems); loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities; soil contamination from construction activities; construction waste on site and potentially in surrounding villages; construction hazardous waste (asbestos).

Operation Stage: Some negative impacts are also possible during operation phase.

(i) Soil contamination as faecal sludge may contain heavy metals, pathogens, and other pollutants that can degrade soil quality and affect plant growth;

(ii) Surface Water Pollution -the effluent from these plants can contaminate nearby surface water bodies. This can happen through direct discharge of untreated or inadequately treated water, or through leachate from sludge storage sites;

(iii) Ground Water and Soil contamination can also affect groundwater quality;

(iv) Air Pollution Faecal sludge processing can emit harmful gases such as methane, ammonia, and hydrogen sulfide;

(v) Odor Nuisance: The processing of faecal sludge often produces unpleasant odors, which can be a significant nuisance to nearby communities.

(vi) Greenhouse Gas Emissions: The processing of faecal sludge generates greenhouse gases, primarily methane and carbon dioxide; and

(vii) Resource Depletion Fecal sludge processing plants require water, energy, and chemicals.

The listed potential environmental problems in connection with the implementation of small- and medium-scale activities would be limited, in the form of temporary inconvenience due to construction works. Such potential environmental impacts are easily identified, minor in scale and of minimal impact and can therefore be effectively avoided, minimized or mitigated through the inclusion of specific measures in the works contracts, which contractors will be required to implement under the supervision of PIU specialists.

Given the scale of the Project and environmental sensitivity (impact on all environmental components) the Project will avoid activities that may affect environmentally sensitive areas (wetlands, forests, etc.). The project will not have irreversible impacts, will not affect vulnerable national minorities and cultural heritage sites. All potential negative impacts will be mitigated through this framework document and individual plans to be developed for each subproject to prevent pollution, contamination and depletion of natural resources.

The bidding documents will require the Contractors to implement ESMP, LMP, SEP and GRM security protocol. Contractors/subcontractors shall duly comply with the requirements of these documents. The contractor, in turn, will have to develop its own set of documents (site-specific ESMP, occupational health and safety plan) to ensure social and environmental safety.

6.3 Social and environmental impacts and mitigation measures

A) Potential social conflict factors and preliminary ways to address and/or mitigate them in order to reduce social tensions among the residents of the project areas are presented below.

Road traffic. Every effort will be made to minimize the time spent transporting workers to the job site, moving construction equipment, machinery and other special vehicles to prevent any incident or damage to property.

Mitigation Measures: Drivers will be warned to drive with caution. Speed limits in work areas and the movement of heavy equipment will also be regulated. Proper organization of traffic will also prevent negative impacts as much as possible. The measures will be included in the site-specific ESMPs.

OHS. Hazardous production factors as a result of construction work. A variety of factors can have a direct impact on the safety and health of people, such as: the operation of machinery with moving and rotating mechanisms, dust, noise, vibration; work at heights; operation of excavators and bulldozers; welding and electric shock; health status, etc.

Mitigation Measures: Contractors will follow safety guidelines for various types of work. Logs will be kept of the conduct and training of briefings. Will provide workers with the necessary equipment and means of protection and PPE. The measures will be included in the site-specific ESMPs.

Community safety. The increase in traffic due to the movement of trucks and vehicles to construction sites can also create inconvenience for the local population. In addition, some construction/rehabilitation works will cause temporary blocking of household access. Untimely and inefficient disposal of municipal solid waste and inadequate sanitary conditions created by construction workers at construction sites and labor camps can lead to environmental pollution and affect the health of the local population. In addition, the movement of heavy tracks can destroy or worsen the condition of roads inside settlements.

Mitigation Measures: Necessary safety measures will be installed during construction works, in the form of fences, signs. A campaign will be held to inform the public about the planned work and periods, as part of the SEP. To receive grievances during the period of work, the project provides for a grievance redress mechanism (GRM). Mitigation measures will be considered in the site specific ESMPs.

Under the project, at the level of each subproject, the development and compliance with Environmental and Social Management Plans (ESMPs) will be regulated. Also, compliance with health and safety and occupational health and safety rules and regulations (ESMP, OHS) will be monitored and will be required to be developed by the Contractors. The population will be notified in a timely manner about the schedules of upcoming construction works through WhatsApp groups established under the Project in each subproject.

Exclusion of vulnerable groups. Persons from socially disadvantaged groups may have limited access to various opportunities and resources, for example, women, female-headed households have weak links with government structures, as a result of low awareness and lack of interest in public life.

Mitigation measures: Risks will be eliminated and/or mitigated through an information campaign in accordance with the project SEP. Consultations ensure that all relevant stakeholders have a voice in the planning, design, implementation, and evaluation of a project. Consultations help in tailoring project interventions to the local context. By involving local communities, their traditional knowledge, practices can be considered, leading to more effective and sustainable solutions. Transparent information sharing and clear communication about project benefits, goals, objectives, and potential impacts reduce the risk of exclusion.

Risk of child and forced labor. In rural areas, where child labor is widely seen as supporting parents to spend their free time without being distracted from school, there is still a risk of using it in contravention of national legislation that establishes a minimum age for admission to work. According to the Labor Code of the Kyrgyz Republic, “an employee may be a person who has reached the age of 16. In exceptional cases, in agreement with the representative body of employees of the organization or the authorized state body in the field of labor, persons who have reached the age of 15 may be hired, "students who have reached the age of 14 may enter into an employment contract with the written consent of one of the parents (guardian, trustee) or a guardianship and guardianship body, to perform light work in their free time from study that does not harm health and does not violate the learning process.

Mitigation measures: The risks associated with child and forced labor in this project are considered low, and mitigation measures are included in the LMP, which details the applicable sections of national labor laws and measures in order to ensure consistency with WB ESS 2. Also, according to the LMP, persons under the age of 16 are prohibited from working or entering into contracts within the framework of the Project. Compliance by contractors/subcontractors with national legislation as well as ESS 2 on the use of forced child labor will be strictly monitored and awareness raising efforts will be undertaken.

Labor risks associated with the influx of labor.

The majority of the workforce is expected to be local. Sourcing of labor and implications of any potential labor influx will be closely monitored by the safeguard’s specialists. Civil works contractors will be advised to recruit necessary labor, where feasible, locally. Labor recruited from outside the community where civil works will be done will abide by a 'code of conduct'. The workers involved in fecal sludge management are at risk due to the lack of proper personal protective equipment (PPE) and inadequate hygiene practices.

Gender-based violence/sexual exploitation and harassment (GBV/SEA/SH). The SEA/SH risk is assessed as moderate due to the project’s sensitive receptors (i.e., communities and remote settings). To prevent and address GBV/SEA/SH risks there will be established guidelines, codes of conduct, and monitoring systems in place. Use of Site Management and Security Measures: restricted access to the site, identity verification for personnel, and regular monitoring.

Mitigation measures: All employees must complete GBV/SEA/SH training and sign a code of conduct. The SEP, LMP also describe a Grievance Redress Mechanism (GRM) that will receive, review and seek to resolve any issues or feedback related to the project and will be easily accessible to project-affected parties and local communities, among other stakeholders.

The project will take steps on gender aspects in areas such as (i) gender analysis, (ii) specific actions to address the special needs of women and girls or men and boys, and (iii) mechanisms to monitor gender impacts or facilitate the gender-disaggregated analysis. This means the inclusion of certain activities designed to address specific gender issues and to mainstream gender in support of the coverage of such issues and equality in general.

Involuntary Resettlement and Land Acquisition. Project activities may have potential impacts on land acquisition, temporary restriction of land use in the area around the utility facilities, and temporary restriction to sanitation facilities.

Mitigation measures: At this stage the exact location of the physical footprint of the subprojects is not known, therefore a Resettlement Policy Framework, Social Impacts Screening Check List has been prepared to prevent, avoid, and mitigate those impacts.

In case of impacts on temporary and/or permanent land acquisition, which will be identified at the stage of subproject implementation (target sites are finalized, scopes of work are determined and designs are prepared), a site-specific Resettlement Action Plans (RAPs) will be prepared based on the RPF.

Any project activity will be carried out only after the full implementation of the relevant RAPs and the preparation of a report on its implementation. Until such documents are developed, disclosed and approved by the WB, the IA will not start implementing specific sub-projects for which the impacts of temporary or permanent land acquisition, temporary restrictions in access to land has been identified.

Possible social resistance against an increase of tariff - perhaps this issue will be a potential source of tension/conflict. On the part of the Project, during the information and education campaign, the importance of wastewater tariff will be explained, which covers operational and maintenance costs of the system, which will ensure sustainable use of the wastewater system for many years.

B) The main potential environmental impacts and preliminary ways to address and/or mitigate them are presented below.

C)

Construction phase

Flora and fauna

This ESMF has Exclusion List depicting activities that will not be eligible for financing and screen out locations that can impact biodiversity. Trees and shrubs may be pruned or removed during the construction process. Only after all necessary permits from local environmental agencies are obtained, in coordination with local authorities. No trees owned by the municipality will be cut down until all necessary permits are obtained. In the event of cutting municipal trees, the contractor must request permission to cut down from the local self-government body. Then the local self-government body, with the consent of local environmental authorities, will issue a Resolution authorizing the cutting down of the specified number of trees. In the event of cutting private trees, the RAP will be prepared. If there will be cutting of trees of several owners, it will be possible to prepare a single RAP for subproject.

There is a risk of degradation of habitat quality due to construction activities and construction camps, and presence of workers which could impact wildlife as well as domesticated animals. Noise generated due to construction and transport could disrupt communication systems of fauna. Lighting from the vehicles during their movements could result in behavioral change, collision of animals and road kills.

The following mitigation and management measures have been identified to further avoid and reduce the impacts of the above risks.

Soil and Water Quality

Pollution of surface and groundwater as a result of construction works could occur from spillages and leaks from construction equipment and vehicles, site waste and wastewater, materials and stockpiled waste, and wash from disturbed and/or polluted soils.

To avoid or mitigate impact, construction works should be performed with due consideration of the following environmental risk mitigation and management measures:

- Most of the sensitive works which could impact water quality or quantity will be mainly implemented during the dry season, so as to avoid potential risks to water quality and damage and loss during the rainy season.
- Avoid discharge of water on to unstable slopes.
- Discharge of storm-water run-off from construction areas over a vegetated surface to trap sediments
- Staff trained in small spill response measures;
- Onsite vehicles and equipment repairs /maintenance and fueling activities avoided.
- On-site vehicles and equipment inspected regularly for leaks; immediate repair of damages;
- Incoming vehicles and equipment checked for leaks. (Leaking vehicles/equipment shall not be allowed on-site);
- Washing of the vehicles on site prohibited;
- Provision of mobile toilets advisable;
- Untreated effluents discharge into the environment banned;
- Discharge of cement contaminated water avoided as cement pollution results in high alkalinity and raises the pH, which can be toxic to aquatic life;
- Materials and waste stockpiled to avoid erosion and washing off into watercourses;
- Waste removed from the site regularly, the sites kept clean and tidy;
- Blockage of the sources and streams avoided through proper management of material/waste;
- Waste collection area sited to avoid receiving a substantial amount of runoff from upland areas and draining directly to a water body;
- In disturbed soil areas sediment control measures implemented;
- Construction equipment removed from proximity to the riverine environment at the end of each working day or if heavy rainfall is predicted;
- Discharge of sediment-laden construction water (e.g., from areas containing dredged soil) directly into surface watercourses prohibited. (Sediment laden construction water will be discharged into settling lagoons or tanks prior to final discharge);
- Staff trained/briefed in and aware of construction best practice.
- Should any temporary fuel tank be required onsite, it must be located within at least 100m from the riverbed. The tank must be placed in covered areas with berms or dikes installed to intercept spills, if any. Any spill should be immediately intercepted and cleaned up with absorbent materials;
- If case emergency repair is required, any spill of oil/lubricant material must be adequately addressed without delay

Air Quality

The subproject areas are predominantly village or rural in character. Existing air quality reflects those environments, with dust being the main air quality nuisance. The proposed sub-project is not expected to contribute significantly to air pollution and as such long-term adverse impacts to air quality are not anticipated. None the less, all construction activities have the potential to cause air quality nuisance. Mitigation measures should include:

- Restricting active construction activities to not more than a total of 500 meters' sections at a time to minimize dust as far as practicable
- Use of labour-based methods
- Provide masks for the workers
- Dampen/spray all unpaved roads and significant areas of uncovered soil with water at regular intervals (as required) on working days, during dry and windy weather;
- Cover loose material (if any), with tarpaulins when transported to or off-site on trucks;
- Proper maintenance of vehicles and machinery to minimise emissions;
- Optimum speed while moving through the communities set to reduce dust emissions;
- Prohibit leaving vehicles with the engine idling;
- Staff trained/briefed in, and aware of, construction best practice.

Noise and Vibration

All construction and operation activities have the potential to cause noise nuisance. The use of machinery or introduction of noise generating facilities could have an adverse effect on the environment and residents if not appropriately managed. Potential noise sources during construction may include:heavy construction machinery; power tools and compressors; delivery vehicles.

Noise from vehicles is a concern in the areas around the sub-project area as traffic from construction vehicles will increase. Vibration disturbance to nearby residents and sensitive habitats is likely caused by vibrating equipment. Blasting is not required to be undertaken as part of the sub-project. Contractors involved in construction activities should be familiar with methods of controlling noisy machines and alternative construction procedures.

Mitigation measures should include:

- Restrictions on working hours on weekdays, weekends or public holidays set and complied with, no night-time working allowed;
- Issue protective equipment to onsite employees and those operating heavy machine and power tools
- Install silencers and mufflers as appropriate to site plant and equipment
- Optimum travel speed during offsite travel set and complied with;
- Travel speed in residential areas reduced to reduce vibration
- Prohibit leaving vehicles with the engine idling;
- Staff trained/briefed in and aware of construction best practice.

Erosion, drainage and sediment control

Some construction sites may be in areas at risk of soil erosion and landslides. Very wet conditions may trigger slope failures, and in many areas, construction is feasible only during the dry season. Landslides and erosion are two of the most common environmental risks in the project areas, resulting from interactions between water flow and soil.

The following additional mitigation measures have been identified for erosion drainage and sediment control during construction

- Vegetation on the project site and adjacent area preserved;
- Site revegetated after completion of construction works;
- Slope stabilisation provided - slope drainage, contour drainage trenches (where required);
- Erosion and sediment control devices installed, inspected and maintained as required;
- Works scheduled/staged to minimise cleared areas and exposed soils at all times;
- Major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds;
- Topsoil removed from all areas required for permanent and temporary needs of the project, stored separately from subsoil;
- Stockpiles of removed topsoil and subsoil properly designed and managed - the piles must be placed and managed so as to avoid erosion and washing off. Stockpile storage areas located away from erosion sensitive locations. Drainage trenches around the piles must be provided.
- Soil compaction reduced by strictly keeping to temporary roads (if required) and operation ground boundaries.

Waste Management

Various wastes will be produced throughout the construction process. The main waste producing areas will be construction sites and construction camps (in case of existence). Small amounts of waste are expected along the access and heavy equipment movement routes with ground and soil pollution.

The following types of waste will be produced during construction activities:

- Inert construction waste – cement and concrete residue, loose and debris, stones and gravel, wood etc.
- Excavation waste unsuitable for re-use during earthworks;
- Small amount of hazardous waste – from cleaning, repairing and maintenance of the equipment, polluted soil and water from leakage or spillage of fuels/oils, polluted rags and oil absorbing fabric, polluted personal safety equipment and clothing;
- Non-hazardous waste - paper, glass, plastic and biodegradable waste;
- Sewage - generated through the use of workers' facilities like toilets.

The preferred waste management hierarchy and principles for achieving good waste management is as follows:

- waste avoidance (avoid using unnecessary material on the projects); waste re-use (re-use material and reduce disposing);
- waste recycling (recycle material such as cans, bottles, etc.); and
- waste disposal (all putrescible and/or contaminated waste to be dumped at approved landfills).

Workers involved in construction and operational activities should be familiar with methods minimising the impacts of clearing vegetation to minimise the footprint to that essential for the works and rehabilitate disturbed areas. By doing these activities, the projects should minimise the impact of waste generated by the sub-project.

Waste will be collected and removed from the work camps and disposed in waste disposal areas which will be agreed with local government bodies (Aiyl Okmotu); Segregation of hazardous wastes (oily wastes, used batteries, fuel drums) to ensure that storage, transport, and disposal shall not cause pollution, consistent with national regulations.

- On-site vehicles and equipment will be inspected regularly for leaks. All leaks/damages immediately repaired.
- Incoming vehicles and equipment will be checked for leaks. Leaking vehicles/equipment will not be allowed on-site;
- waste will be regularly removed from the site; littering prohibited. Sites kept clean and tidy;
- untreated effluents discharge into the environment banned;
- staff trained/briefed in and aware of construction best practice.

Handling of asbestos-containing materials (ACM).

Some risks associated with the project activities are conditioned by improper utilization of asbestos – containing materials. Use of construction materials that are hazardous to human health (e.g., asbestos, asbestos contained materials) will not be permitted.

In most villages of the Kyrgyz Republic existing water distribution network is made of asbestos cement (AC) pipes. During water system rehabilitation, existing old asbestos cement pipes will not be removed. Every effort will be made to leave the old pipes in the ground. New pipelines will be installed parallel to the existing ones. In the event of removal of asbestos cement pipes asbestos contained materials waste will be collected, transported and finally disposed by applying special protective measures in accordance with the hazardous waste handling standards. In this case, the Contractor will develop an Asbestos-containing materials Management Plan and must implement it. *Main issues regarding asbestos containing materials (acm) and asbestos waste to be considered within the site-specific ESMP*

Occupational Health and Safety (OHS) Risks and Exposure of Workers and Mitigation During Construction and Installation of Septic Tanks:

The construction and installation of septic tanks involve various Occupational Health and Safety (OHS) risks and exposures that must be managed to ensure worker safety. Septic tank projects, often undertaken in residential or commercial settings, require meticulous planning and adherence to safety protocols to protect workers from potential hazards. This document provides an overview of the primary OHS risks and exposures faced by workers during these projects and highlights best practices for mitigating these risks.

Physical Risks:

*Manual Handling and Ergonomic Risks***:** Construction and installation tasks often involve heavy lifting, carrying, and maneuvering of septic tank components. Workers are at risk of musculoskeletal injuries due to improper lifting techniques, repetitive motions, and awkward postures. It is crucial to provide training on safe lifting practices, utilize mechanical aids, and implement ergonomic solutions to minimize these risks.

*Slip, Trip, and Fall Hazards***:** Worksites for septic tank installation can present uneven terrain, slippery surfaces, and obstacles that increase the likelihood of slips, trips, and falls. Ensuring that the work area is well-organized, clear of unnecessary debris, and adequately marked for hazards is essential. Workers should also wear appropriate footwear with slip-resistant soles and receive training on navigating challenging environments.

Chemical and Biological Exposure

Exposure to Hazardous Substances: Septic tank construction may involve exposure to various chemicals, including adhesives, sealants, and cleaning agents. Workers can be at risk of skin irritation, respiratory issues, and other health problems if they come into contact with these substances without proper protection. It is important to provide Personal Protective Equipment (PPE) such as gloves, masks, and goggles, and ensure that workers are trained in the safe handling and disposal of chemicals.

Biological Hazards

Septic tanks contain human waste and other organic matter, posing biological hazards such as harmful bacteria, viruses, and parasites. Workers may be exposed to these pathogens during installation or maintenance activities. To mitigate these risks, employers should enforce strict hygiene practices, provide PPE, and ensure that workers are vaccinated against relevant diseases.

Confined Space Risks

Limited Ventilation and Hazardous Atmospheres: Septic tanks are classified as confined spaces, meaning they have limited entry and exit points and may lack adequate ventilation. Workers can be exposed to hazardous atmospheres, including toxic gases (e.g., methane, hydrogen sulfide) or oxygen-deficient environments. Proper monitoring of air quality, implementation of ventilation systems, and use of gas detection devices are critical to safeguarding workers in confined spaces.

Entrapment and Restricted Movement: The construction and installation process often requires workers to operate within constrained areas, increasing the risk of entrapment and restricted movement. Employers should establish confined space entry protocols, provide appropriate rescue equipment, and ensure that workers are trained in emergency procedures.

*Weather Conditions***:** Outdoor septic tank installation projects are subject to varying weather conditions, including extreme heat, cold, rain, and wind. Workers' exposure to harsh weather can lead to heat stress, hypothermia, and other weather-related health issues. It is important to monitor weather forecasts, provide suitable clothing, and schedule work to avoid the most severe conditions.

Noise and Vibration: Construction activities often generate significant noise and vibration, which can affect workers' hearing and overall well-being. Implementing noise control measures, such as sound barriers and mufflers, and providing hearing protection equipment are essential steps in reducing noise exposure.

Best Practices for Mitigating OHS Risks

Risk Assessment and Planning: Conducting thorough risk assessments and planning for potential hazards before starting septic tank construction is crucial. This involves identifying risks, assessing their severity, and implementing control measures to minimize exposure.

Training and Education: Providing comprehensive training and education to workers on OHS protocols is vital. Workers should be trained in safe work practices, emergency procedures, and the proper use of PPE. Workers should receive comprehensive training on the risks of fecal sludge exposure and the correct use of PPE. Topics should include: (i) Recognizing hazard signs; (ii) Proper hygiene practices; (iii) Emergency procedures.

Personal Protective Equipment (PPE): Ensuring that workers have access to and use appropriate PPE is essential for protecting them from various hazards. Providing appropriate PPE is essential for worker protection. This includes: (i) Respiratory protection (e.g., masks, respirators); (ii) Hand protection (e.g., gloves); (iii) Eye protection (e.g., goggles); and (iv) Body protection (e.g., coveralls, boots).

Regular inspection and maintenance of PPE should be conducted to ensure its effectiveness.

Safety Monitoring and Supervision: Continuous monitoring of the worksite and supervision of workers are necessary to ensure compliance with safety protocols. This includes air quality monitoring, regular safety inspections, and prompt corrective actions when hazards are identified.

Conclusion: The construction and installation of septic tanks pose numerous OHS risks and exposures that demand careful management to ensure worker safety. By implementing best practices, providing comprehensive training, and ensuring the use of appropriate PPE, employers can significantly reduce the likelihood of accidents and health issues. Prioritizing worker safety not only enhances productivity but also fosters a culture of safety and well-being within the workplace.These mitigation measures will be included in site specific ESMPs, Cotractors ESMPs and Project Operations Manual.

Operation period

This project includes the construction of sewage treatment facilities and latrines, septic tanks for households. Below are the recommendations for these facilities during the operational stage.

A sanitation system comprises the facilities and services used by households and communities for the safe management of their excreta. A sanitation system collects excreta and creates and effective barrier to human contact; transports it to a suitable location; stores and/or treats it; and reuses it or returns it to the environment. In addition to excreta, sanitation systems may

also carry household wastewater and storm water. Transport, storage, and disposal facilities may also manage wastes from industries, commercial establishments, and institutions

Fecal Sludge and Septage Collection

In communities not served by sewerage systems, sanitation may be based on on-site systems, such as pit latrines, bucket latrines or flush toilets connected to septic tanks. While pit and bucket latrines must be emptied frequently (typically daily to weekly), solids that accumulate in septic systems (septage) must also be removed periodically, usually every 2 to 5 years depending on design and usage to maintain proper function and prevent plugging, overflows, and the resulting release of septic tank contents. If suitable facilities for storage, handling and treatment of fecal sludge are not available, it may be indiscriminately dumped into the environment or used in unhygienic manner in agriculture.

Recommended measures to prevent, minimize, and control releases of septage and other fecal sludge include:

- Promote and facilitate correct septic tank design and improvement of septic tank maintenance. Septic tank design should balance effluent quality and maintenance needs;
- Consider provision of systematic, regular collection of fecal sludge and septic waste;
- Use appropriate collection vehicles. A combination of vacuum tanker trucks and smaller hand-pushed vacuum tugs may be needed to service all households;
- Facilitate discharge of fecal sludge and septage at storage and treatment facilities so that untreated septage is not discharged to the environment.

Sewerage

Where population density or local conditions preclude effective on-site sanitation systems (e.g., septic tanks and drain fields), sewage is typically conveyed via a system of pipes, pumps, and other associated infrastructure (sewerage) to a centralized storage and/or treatment system. Solids and liquids may be transported to a centralized location, or sewage solids may be collected in and periodically removed from on-site interceptor tanks (see Septage and Fecal Sludge Collection, above) while the liquids are transported to a centralized location for storage, treatment, or disposal. Users of the sewerage system may include industry and institutions, as well as households.

Greywater (water from laundry, kitchen, bath, and other domestic activities that norma lly does not contain excreta) is sometimes collected and managed separately from sewage. Though greywater is generally less polluted than domestic or industrial wastewater, it may still contain high levels of pathogenic microorganisms, suspended solids and substances such as oil, fat, soaps, detergents, and other household chemicals and can have negative impacts on human health as well as soil and groundwater quality.

The most significant potential environmental impacts associated with wastewater collection arise from: domestic wastewater discharges; industrial wastewater discharges; leaks and overflows.

Domestic Wastewater Discharges

Uncontrolled discharge of domestic wastewater, including sewage and greywater, into aquatic systems can lead to, among other things, microbial and chemical contamination of the receiving water, oxygen depletion, increased turbidity, and eutrophication. Wastewater discharge onto streets or open ground can contribute to spread of disease, odors, contamination of wells, deterioration of streets, etc. Measures to protect the environment as well as public health include:

- Provide systems for effective collection and management of sewage and greywater (separately or combined);
- If greywater is managed separate from sewage, implement greywater source control measures to avoid use and discharge of problematic substances, such as oil and grease, large particles or chemicals.

Industrial Wastewater Discharges

Industrial users of a sewerage system can discharge industrial wastewaters to the sewer system. Some industrial wastes can cause fire and explosion hazards in the sewerage system and
treatment facility , disrupt biological and other processes at the treatment facility or affect worker health and safety ; some waste components may not be effectively treated, and may be stripped
to the atmosphere, discharged with treated effluent or partition into treatment plant residuals rendering it potentially hazardous.

Recommended measures to prevent, minimize, and control industrial discharges to the sewerage system include:

- Treatment or pre-treatment to neutralize or remove toxic chemicals should ideally take place at the industrial facility itself, prior to discharge of the effluent to the sewer or water body. Consider collaboration with public authorities in the implementation of a source control program for industrial and commercial users to ensure that any wastewater discharged to the sewer system can be effectively treated.Examples of

problematic discharges include:flammable, reactive, explosive, corrosive, or radioactive substances; noxious or malodorous materials; medical or infectious wastes; solid or viscous materials that could cause obstruction to the flow or operation of the treatment plants; toxic substances; non-biodegradable oils; and pollutants that could result in the emission of hazardous gases;

- Collaborate with public authorities in the regular inspection of industrial user facilities and collect samples of wastewater discharges to the sewerage system to ensure compliance with the source control program;
- Conduct surveillance monitoring at sewer maintenance and of the influent to the wastewater treatment facilities;
- Investigate upstream sources of pollutants causing treatment plant upsets or interference;
- Facilitate public reporting of illicit discharges and connections.

This project focuses on the construction of a new sewage treatment plant, which will be integrated with the existing, older sewage distribution network. The municipality has committed to providing a letter of guarantee, indicating its intention to secure funds for the rehabilitation of the current distribution system. However, this integration poses certain risks, particularly the potential for leaks within the aging sewage distribution infrastructure. To address these risks, the following recommendations are proposed.

Leaks and Overflows

Leaks and overflows from the sewerage system can cause contamination of soil, groundwater, and surface water. Depending on the elevation of groundwater, leaks in gravity mains may also allow groundwater into the sewer system, increasing the volume of wastewater requiring treatment and
potentially causing flooding and treatment bypass. Overflows occur when the collection system can not manage the volume of wastewater, for example due to high flows during rain events or as the result of power loss, equipment malfunctions, or blockages. The excess flows may contain raw sewage,
industrial wastewater, and polluted runoff.

Recommended measures to prevent, minimize, and control leaks and overflows include:

- Consider the installation of separate sewer systems for domestic wastewater and storm water runoff in the overall planning and design of new sewerage systems;
- When on-site sanitation systems where excreta are mixed with water predominate, consider use of small-diameter sewerage system to collect water effluent from septic systems or interceptor tanks;
- Limit the sewer depth where possible (e.g., by avoiding routes under streets with heavy traffic). For shallower sewers, small inspection chambers can be used in lieu of manholes;
- Use appropriate locally available materials for sewer construction. Spun concrete pipes can be appropriate in some circumstances but can suffer corrosion from hydrogen sulfide if there are blockages and/or insufficient slope;
- Ensure sufficient hydraulic capacity to accommodate peak flows and adequate slope in gravity mains to prevent buildup of solids and hydrogen sulfide generation;
- Design manhole covers to withstand anticipated loads and ensure that the covers can be readily replace if broken to minimize entry of garbage and silt into the system;
- Equip pumping stations with a backup power supply, such as a diesel generator, to ensure uninterrupted operation during power outages, and conduct regular maintenance to minimize service interruptions. Consider redundant pump capacity in critical areas;
- Establish routine maintenance program, including:

- Development of an inventory of system components, with information including age, construction materials, drainage areas served, elevations, etc
- Regular cleaning of grit chambers and sewer lines to remove grease, grit, and other debris that may lead to sewer backups. Cleaning should be conducted more frequently for problem areas. Cleaning activities may require removal of tree roots and other identified obstructions
- Inspection of the condition of sanitary sewer structures and identifying areas that need repair or maintenance. Items to note may include cracked/deteriorating pipes; leaking joints or seals at manhole; frequent line blockages; lines that generally flow at or near capacity; and suspected infiltration or exfiltration
- Monitoring of sewer flow to identify potential inflows and outflows

- Conduct repairs prioritized based on the nature and severity of the problem. Immediate clearing of blockage or repair is warranted where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g. pump station failures, sewer line ruptures, or sewer line blockages);

- Review previous sewer maintenance records to help identify "hot spots" or areas with frequent maintenance problems and locations of potential system failure, and conduct preventative maintenance, rehabilitation, or replacement of lines as needed;
- When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system by covering or blocking storm drain inlets or by containing and diverting the sewage away from open channels and other storm drain facilities (using sandbags, infladams, etc.). Remove the sewage using vacuum equipment or use other measures to divert it back to the sanitary sewer system.

Wastewater and Sludge Treatment and Discharge

Sewage will normally require treatment before it can be safely discharged to the environment. The degree and nature of wastewater and sludge treatment depends on applicable standards and the planned disposal or use of the liquid effluent and sludge and the application method. The various treatment processes may reduce suspended solids (which can clog rivers, channels, and drip irrigation pipes); biodegradable organics (which are consumed by microorganisms and can result in reduced oxygen levels in the receiving water); pathogenic bacteria and other disease-causing organisms; and nutrients (which stimulate the growth of undesirable algae that, as they die, can result in increased loads of biodegradable organics).

Wastewater discharge and use options include discharge to natural or artificial watercourses or water bodies; discharge to treatment ponds or wetlands (including aquiculture); and direct use in agriculture (e.g., crop irrigation). In all cases, the receiving water body use (e.g. navigation, recreation, irrigation,or drinking) needs to be considered together with its assimilative capacity to establish a site-specific discharge quality that is consistent with the most sensitive use.

The most significant environmental impacts related to wastewater and sludge treatment, discharge, and use include: liquid effluents, solid waste, air emissions and odors, hazardous chemicals, ecological impacts

<u>Liquid Effluents</u>

Treated wastewater (liquid effluents) may be reused for irrigation or other purposes or disposed subject to regulatory oversight. If not re-used, treated wastewater can be discharged to the sea; rivers; large surface water bodies; smaller, closed surface water bodies; and wetlands and lagoons.

Recommended measures to prevent, minimize, and control liquid effluents include:

- Minimize bypass of the treatment system by using separate storm water and wastewater systems, if possible, and providing capacity sufficient to treat peak flows;
- Implement an industrial source control program which includes monitoring and effective regulatory enforcement;
- Collaborate with public officials to select appropriate treatment technologies, considering factors such as the quality and quantity of raw wastewater and its variability; available land area for the treatment facility; and resources for capital expenditures, operation, maintenance, and repair; availability of skilled operators, operator training, maintenance personnel, treatment chemicals, and replacement parts;
- Design, construct, operate, and maintain wastewater treatment facilities and achieve effluent water quality consistent with applicable national requirements or internationally accepted standards and consistent with effluent water quality goals based on the assimilative capacity and the most sensitive end use of the receiving water;
- Consider discharge of treated wastewater to natural or constructed wetlands, which can buffer the impact from discharge on the aquatic environment, unless the wetland itself would be degraded by the discharge;
- Treat greywater, if collected separately from sewage, to remove organic pollutants and reduce the levels of suspended solids, pathogenic organisms and other problematic substances to acceptable levels based on applicable national and local regulations.Greywater lines and point of use stations should be clearly marked to prevent accidental use for potable water quality applications;
- Based on an assessment of risks to human health and the environment, consider re-use of treated effluent, especially in areas with limited raw water supplies. Treated wastewater quality for land application or other uses should be consistent with the relevant public health-based guidance from the World Health Organization (WHO) and applicable national requirements.

<u>Solid Waste</u>

Solids removed from wastewater collection and treatment systems may include sludge and solids from cleaning of drainage and sewer collection systems (including seepage systems), screening solids, and sludge from various unit operations used for wastewater treatment.

Recommended strategies for the management of solid wastes include:

- Select appropriate sludge treatment technologies,considering, for example, the quantity and sources of sludge; available resources for capital expenditures,training, operations and maintenance; availability of skilled operators, maintenance personnel, etc.; and the desired disposal methods or end uses of the treated solids.
- Land application or other beneficial re-use of wastewater treatment plant residuals should be considered but only based on an assessment of risks to human health and the environment. Quality of residuals for land application should be consistent with the relevant public health-based guidance from the World Health Organization (WHO) and applicable national requirements;
- Processing, disposal and re-use of wastewater treatment plant residuals should be consistent with applicable national requirements or, in their absence, internationally accepted guidance and standards.

Air Emissions and Odors

Air emissions from wastewater treatment operations may include hydrogen sulfide, methane, ozone (in the case of ozone disinfection), volatile organic compounds (such as from industrial discharges), gaseous or volatile chemicals used for disinfection processes (e.g., chlorine and ammonia), and bioaerosols. Odors from treatment facilities can also be a nuisance to workers and the surrounding community.

Measures related to management of air emissions from drinking water treatment systems, discussed above, are also generally applicable to wastewater treatment facilities. In addition, the following measures are recommended to prevent, minimize, and control air emissions and odors:

- Cover emission points (e.g., aeration basins, clarifiers,sludge thickeners, tanks, and channels), and vent emissions to control systems (e.g., compost beds, biofilters, chemical scrubbers, etc.) as needed to reduce odors and otherwise meet applicable national requirements and internationally accepted guidelines;
- Where necessary, consider alternate aeration technologies or process configurations to reduce volatilization.

Hazardous Chemicals

Wastewater treatment often includes the use of hazardous chemicals, such as strong acids and bases for pH control, chlorine or other compounds used for disinfection, etc. Environmental impacts and mitigation measures discussed above for disinfection in drinking water treatment are also generally applicable to disinfection in wastewater treatment facilities. Additional guidance on chemicals management is provided in the General EHS Guidelines.

Occupational Health and Safety (OHS) Risks During Implementation and Operations:

Ensuring the health and safety of workers is paramount, especially when they are exposed to fecal sludge and other contaminants during the implementation and operation phases of sanitation projects. These risks must be meticulously managed to prevent adverse health impacts and ensure a safe working environment.

Understanding the Risks: Exposure to fecal sludge can pose significant health risks to workers. These risks include:

- *Pathogen Exposure:* Contact with fecal sludge can introduce workers to various pathogens, including bacteria, viruses, and parasites. Common diseases associated with fecal contamination include cholera, typhoid, and hepatitis.
- *Chemical Hazards:* Workers may encounter chemicals used in sanitation processes or chemicals present in the sludge, such as heavy metals and toxic substances. Prolonged exposure can lead to chronic health issues.
- *Physical Hazards:* The handling and management of fecal sludge can involve heavy lifting, repetitive motions, and the use of machinery, leading to physical injuries.

Mitigation and Preventive Measures: To manage these risks effectively, a comprehensive approach encompassing several preventive measures is necessary:

Personal Protective Equipment (PPE): Provision of appropriate PPE is crucial. Workers should be equipped with gloves, masks, protective clothing, and eye protection to minimize direct contact with contaminants.

Training and Education: Regular training programs should be conducted to educate workers on safe handling practices, emergency procedures, and the importance of hygiene. Workers should be aware of the risks and how to mitigate them.

Hygiene Practices: Strict hygiene protocols should be established and enforced. This includes regular hand washing, proper sanitation facilities, and the use of disinfectants. Workers should be encouraged to follow hygiene practices both on and off-site.

Health Monitoring: Regular health check-ups and monitoring of workers can help in early detection of any health issues arising from exposure. Vaccinations against common diseases associated with fecal contamination should be provided.

Operational Safety: During the implementation and operations of sanitation projects, operational safety measures should include:

Engineering Controls: Implementing engineering controls such as ventilation systems, barriers, and automated handling equipment can reduce the need for direct contact with fecal sludge.

Safe Work Procedures: Developing and enforcing safe work procedures that minimize exposure risks is essential. This includes protocols for the storage, transportation, and disposal of fecal sludge.

Emergency Preparedness: Having a robust emergency preparedness plan that includes procedures for spills, accidental exposure, and other incidents is vital. Workers should be trained on how to respond effectively in case of an emergency.

Conclusion: Managing worker exposure to fecal sludge and other contaminants is critical for maintaining occupational health and safety during the implementation and operations of sanitation projects. By employing a combination of preventive measures, operational safety protocols, and continuous monitoring, the risks associated with these hazardous substances can be effectively mitigated, ensuring a safer working environment for all involved.

These risks will be mitigated via good site selection, appropriate engineerineering design and practices, provision of PPE, training, safe working practices, emergency preparedness, health monitoring, and effective site management. These potential risks and corresponding mitigation measures will be elaborated in the ESMP and other ESF due diligence instruments with embedded guidance documents that will include criteria for design and operation that can help avoid/mitigate these risks. To this end, The site specific ESMPs with annexes on Septic Tanks Code of Practice, IFCs Environmental, Health, and Safety Guidelinesfor Water and Sanitation, and "WBG 2022 publication by the Water Department on Wastewater Treatment and Reuse- A Guide to Help Small Towns Select Appropriate Options." (see annexes 14-16). Specific design guidelines as part of the E and S due diligence can help ensure client teams manage these. The following are some areas for specific focus during the preparation of the site specific ESMP, the POM and other E & S guidance documents:

Air Pollutants:

- Efficient treatment processes via optimizing treatment methods to reduce the generation of air pollutants during operation.
- Enclosure of treatment units (clarifiers, digesters etc.) lead to containment of odors and reduce the release of gases and air borne pathogens
- Odor control technologies such as biofilters or carbon adsorption to absorb odors have been proved models that have helped mitigate such impacts.

Water Contamination

- Using systems such as advanced oxidation processes (AOPs) or membrane bioreactors (MBRs) to remove residual pollutants prior to discharge.
- Implementing nutrient management measures to reduce nitrogen/phosphorus levels in the effluent to reduce risks of eutrophication in waters to which discharge is done.
- Explore opportunities to reuse treated wastewater for agriculture, industrial cooling, or other purposes to reduce the volume that is discharged to surface waters.

Sludge/Solid Waste Management

- Many new technologies like sludge digestion, composting, or incineration to reduce the volume and hazardousness of sludge is widely used and should be explored.
- Sludge reuse options as a soil amendment in agriculture or for other purposes can also be explored.

Management of Infectious Pathogens

- Explore disinfection processes like chlorination or ozonation to eliminate pathogens prior to discharge of wastewater.

Overall Monitoring

- The guidance should have clear requirements in line with national requirements and international best practice on water and air quality monitoring.
- Regularly monitoring of both air and water quality to ensure it meets health standards will be critical at operations.

Occupational Health and Safety (OHS) Risks and Mitigation: The construction, installation and operation of septic tanks pose significant Occupational Health and Safety (OHS) risks to workers. These risks include exposure to harmful substances, Manual Handling and Ergonomic Risks, Slip, Trip, and Fall Hazards, Entrapment and Restricted Movement. physical injuries, and hazardous working conditions. Mitigating OHS risks during the construction, installation and operation of septic tanks requires a comprehensive approach that will include the good site selection, engineering designs, provision of PPE, training and education, safe working practices, emergency preparedness, health monitoring, and effective site management. These potential risks and corresponding mitigation measures will be elaborated in the ESMP and other ESF due diligence instruments including the MOP.

TABLE 4. ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT PLAN

Issues/Activities	Potential ES Impacts	Proposed Mitigation Measures	Means of Monitoring	Frequency	Responsibility	
					Implementation (Cost of mitigation activities)	Supervision
Preconstruction						
Pre-construction sites preparation	• Site Clearance (clearing of the site so that it becomes accessible for further works); • Vegetation loss (mainly grass/shrubs but also possibly some trees); • Potential increase in soil erosion; • Air Pollution due to vehicular movement, and dust emissions from construction debris stockpiles; • Water pollution – construction transports and mechanisms.	• Restrict site clearance to the required extent as part of the design; • Preserve trees, if present, as far as practicable; • Water sprinkling compaction of soil covering of construction debris and waste stockpiles; • Information campaign with local community.	Visual inspection & consultation with local people	During pre-construction sites preparation	Contractors	PIU
Land Acquisition Involuntary Resettlement (IR)	• Temporary land acquisition for civil works • Permanent land acquisition for civil works, construction or as part of thet sanitary protection zone • Temporary restriction of access to public utilities • Livelihood impacts	• At the design stage social screening will be carried out to determine the impact. All measures will be taken to avoid such impact, for example, adjustment of design and estimate documentation. • In case of such an impact, a RAP is prepared and implemented in accordance with the RPF prior to commencement of civil works .	Field inspection & consultation with local people	During design period	Design institute, PIU, local administrations	PIU
Awareness raising, inclusion of Vulnerable	• Limited job opportunities for vulnerable group of people; • Limited access to	• Equal opportunities for vulnerable groups participation in capacity building, citizen engagements • SEP, RPF, RAP implementation	Consultations with local administration, people.	During pre-construction sites preparation	Contractors, PIU, local administration	PIU

and disadvantaged group/ communities/ individuals	information. • Involuntary resettlement impacts	• GRM accessibilty and efficiency				
Construction						
Biodiversity (flora and fauna)	The potential impact on biodiversity (local ichthyofauna, flora and small fauna of river ecosystems) is expected to be minimal due to anthropogenic disturbance of the territory and the predominance of synatropic species in the area of planned works. Construction works will be mainly within the village, far from sensitive zones. Habitat loss and disturbance of fauna (Sensitive habitat destruction and disturbance of fauna, loss of vegetation due to cutting and removal of trees and exposure of land)	• Avoidance – This ESMF has Exclusion List depicting activities that will not be eligible for financing and screen out locations that can impact biodiversity (see annex 4). • Contractor will be strictly prohibited from hunting, gathering, logging or other activities. • Avoid unnecessary exposure to sensitive and wildlife or other important habitat areas • All suspected sensitive areas (wetlands/swamps), should be inspected prior to start construction activities • It is necessary to conduct educational and informational trainings and seminar for operating organization and land owners whose plots are in the zones of the wastewater treatments Sanitary Protection Zone. Vegetation on the sub-project site and adjacent area preserved as far as possible - Limit vegetation clearing to operational areas and minimise habitat disturbance through adequate protection and management of retained vegetation. Use temporary fencing protection for root critical zone of the trees. Use labour-based methods as far as possible. Trees and shrubs will be cut down or trimmed along the pipeline routes only after all necessary permits from local environmental agencies are	Visual inspection & consultation with Municipality	Visual monitoring on a daily basis.	Contractors - (Costs are included in EBOQ (Environmental Bill of Quantities)) At the subproject design stage, the estimated costs for managing the identified potentially significant impacts will be included.	PIU

		obtained, in coordination with local authorities and with due regard to compensatory planting. All permits will be obtained before the start of construction. In the event of cutting municipal trees, there will be compensation in the form of seedlings (the amount for compensation is in the BoQ). For 1 tree cut down, 3 seedlings will be provided. The contractor will give seedlings to municipality, and they will be planted in the places where the municipality points out. In the event of cutting private trees, the RAP will be prepared according to ESS5. If there will be cutting of trees of several owners, it will be possible to prepare a single RAP for subproject.				
Groundwater Quality and quantity	Fuel spills, hazardous liquids, hydrocarbons and other chemical pollutants spilling and discharged on the site/onto the ground	• Prevent contaminated surface water from entering aquifers - protect from runoff and flooding and keep surroundings clean. Implement best-practise for construction and minimises contamination risk. • Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refuelling to be undertaken in areas away from water sources. • Check all vehicles, equipment and material storage areas daily for possible fuel, oil and chemical leaks. Undertake refuelling at designated places away from water systems. • Implement groundwater quality protection measures e.g. slope the area around wells to drain surface runoff away from the well; Install a well cap or sanitary seal to prevent unauthorized use of, or entry into, a well.	Visual inspection. Water quality test report, if it is required.	Visual monitoring on a daily basis Measurements during construction period, if it will be required.	Contractors Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item	PIU

Surface water Quality and quantity	Increased suspended sediment and reduced water quality	• Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refuelling to be undertaken in areas away from water systems. • Conduct surface water quality and quantity monitoring in locations where the surface water is likely to be impacted including assessing the changes to water quality. • Schedule works in stages to ensure that disturbed areas are revegetated and stabilised progressively and as soon as practicable after completion of works. • Construction materials will not be stockpiled in proximity to aquatic environment that may allow for release into the environment. Construction equipment will be removed from in proximity to the aquatic environment at the end of each working day or if heavy rainfall is predicted	Visual inspection. Water quality test report, if it is required.	Visual monitoring on a daily basis Measurements during construction period, if it will be required.	Contractors Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item	PIU
	Establishing buffer zones/ Creation and control of regime in sanitary protection zone	In the Kyrgyz Republic, sanitary protection zones (SPZ) for wastewater treatment facilities are regulated by sanitary rules approved by the Ministry of Health and Social Development. These standards specify the minimum distances between wastewater treatment facilities and residential, public, or industrial buildings, as well as requirements for their design and operation.				
Air Quality	Increased dust near the settlements along the traffic route (offsite and onsite traffic), in quarry/borrow pit areas during site preparatory works	• Implement effective dust management measures in all areas during design, construction and operation. • Restrict speeds on roads and access tracks. Optimum speed while moving through the communities set to reduce dust emissions; • Manage dust/particulate matter	Visual inspection & consultation with local people.	Visual monitoring on a daily basis.	Contractors Irrigation of dirt roads with water (wet dust suppression of in-site roads	PIU

		generating activities to ensure that emissions do not cause an environmental nuisance at any sensitive locations. Dampen/spray all unpaved roads and significant areas of uncovered soil with water at regular intervals (as required) on working days, during dry and windy weather; • Construction activities should minimize risks associated with climatic events (check forecasts). • Implement scheduling/staging of proposed works to ensure major vegetation disturbance and earthworks are minimized. • Locate material stockpile areas as far as practicable from sensitive receptors. Cover if appropriate. • Source sufficient water of a suitable quality for dust suppression activities complying with any water restrictions. • Schedule revegetation activities to ensure optimum survival of vegetation species. • Rubbish receptacles should be covered and located as far as practicable from sensitive locations • Maintenance of vehicles and construction equipment in good working condition, including regular servicing; • Stored materials such as excavated earth, dredged soil, gravel and sand shall be covered and confined; Establish adequate locations for storage, mixing and loading of construction materials in a way that dust dispersion is prevented because of such operations.			and sites) is considered as a separate cost item in EBOQ. At the design stage the estimated costs for managing the identified potentially significant impacts will be included.	
Noise and Vibration	Increased noise levels Increased noise levels on subprojects sites and near the	• Select equipment and specify design work practices to ensure that noise emissions are minimized during construction • Specific noise reduction devices such as	Visual inspection & consultation with local	Visual monitoring on a daily basis.	Contractors	PIU

	settlements	silencers and mufflers shall be installed as appropriate to site plant and equipment to limit allowable noise levels • Restrict working hours on weekdays, weekends or public holidays. Minimize the need for noise generating construction works to be carried out outside of the hours: 7am-5.30pm as far as practicable • Consultation with nearby residents in advance of construction activities particularly if noise generating construction activities are to be carried out outside of 'daytime' hours: 7am-5.30pm. • The use of substitution control strategies shall be implemented, whereby excessive noise generating equipment items onsite are replaced with other alternatives. • The contractor should conduct employee and operator training to improve awareness of the need to minimize excessive noise in work practices through implementation of measures. Issue protective equipment to onsite employees and those operating heavy machine and power tools. Optimum travel speed during offsite travel set and complied with. Prohibit leaving vehicles with the engine idling	people.	Measurements during construction period, if it will be required.		
	Vibration due to construction Vibration from vehicles and heavy plant equipment on site and impacting settlements during earthworks and site preparations	• During construction, standard measure shall be taken to locate and protect underground services from construction and operational vibration impacts. • Identify properties, structures and habitat locations that will be sensitive to vibration impacts resulting from construction and operation of the subproject.				
Erosion, Drainage and	Loss of soil material and sedimentation to the surface and/or groundwater systems	• Ensure that erosion and sediment control devices are installed, inspected and maintained as required.	Visual inspection & consultation	Visual monitoring on a daily	Contractors	PIU

Sediment Control	from site due to earthwork activities	• Schedule/stage works to minimize cleared areas and exposed soils at all times. Vegetation on the sub-project site and adjacent area preserved. Topsoil stripped and stockpiled (away from sensitive locations) for use during revegetation protected from erosion. Topsoil removed from all areas required for permanent and temporary needs of the sub-project, stored separately from subsoil. Excavated soil from digging the trench for the pipeline should be used to cover the pipes once the laying process has been completed. This should be done as soon as possible to avoid erosions and loss of soil. • Incorporate the design and location of temporary and permanent Erosion, Drainage and Sediment Control (EDSC) measures for all exposed areas and drainage lines. These shall be implemented prior to pre-construction activities and shall remain onsite during work • Schedule/stage proposed works to ensure that major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds • Strip and stockpile topsoil for use during revegetation and/or place removed soils back on to agricultural lands. • Schedule/stage works to minimize the duration of stockpiling topsoil material. Vegetate stockpiles if storage required for long periods. • Locate stockpile areas away from drainage pathways, waterways and sensitive locations. • Mulching shall be used as a form of erosion and sediment control and were used on any slopes (dependent on-site selection), include extra sediment fencing during high	with local people.	basis.		

		rainfall. Use mulching to provide adequate vegetation for erosion protection on slopes prior to harsh weather conditions, at sites with surface erosion, daily temperature fluctuations, lack of available moisture, acidic soils, lack of nutrients, and lack of organic material and to supplement other erosion control treatments such as seeding and soil bioengineering. Use soil stabilizers to tack mulches on hard-to-reach areas and increase mulch durability				
	Soil contamination from construction activities	• Adherence to best practice for the removal and disposal of contaminated soil/ material from site (if required), including contaminated soil within the sub-project footprints. • Drainage control measures to ensure runoff does not contact contaminated areas (including contaminated material within the sub-project footprints) and is directed/diverted to stable areas for release.				
Waste Management	Construction waste on site and potentially in surrounding villages	• Preference shall be given to materials that can be used to construct the sub-project that would reduce the direct and indirect waste generated. • Daily waste practices shall be carried out unless these are delegated to the activities of external waste management bodies. Waste will be collected and removed from the work camps and disposed in waste disposal areas; Waste to be disposed of offsite at an approved facility agreed with the municipality. • The use of construction materials shall be optimized and where possible a recycling policy adopted. • Separate waste streams shall be maintained at all times i.e. general domestic waste, construction and contaminated waste.				

		Specific areas on site shall be designated for the temporary management of the various waste streams. Segregation of hazardous wastes (oily wastes, used batteries, fuel drums) to ensure that storage, transport, and disposal shall not cause pollution, consistent with national/municipal authorities in accordance with National Environmental Law. • Any contaminated waste shall be disposed of at an approved facility. • Recyclable waste (including oil and some construction waste) shall be collected separately and disposed of correctly, and/or designated facility • Fuel and lubricant leakages from vehicles and plant shall be immediately rectified. • Major maintenance and repairs shall be carried out off-site whenever practicable. • Where possible, fuel and chemical storage and handling shall be undertaken at central fuel and chemical storage facilities, such as petrol stations. • On-site storage of fuel and chemicals shall be kept to a minimum. • Any waste oils and lubricants are to be collected and transported to recyclers or designated disposal sites as soon as possible. • Any dangerous goods stored on site shall be stored in accordance with Kyrgyz regulations. • Accidental spillage of hazardous waste should be managed by spreading wood powder on the surface of the oil • Make sure all containers, drums and tanks that are used for storage are in good condition.				

	Construction hazardous waste (asbestos)	Some construction debris may contain asbestos. The Contractor shall train its workers in assessing the presence of asbestos-containing materials and determining procedures for the safe disposal of asbestos using appropriate safety equipment, storage in sealed containers. Safeguard requirements for dealing with asbestos are specified in Annex 8. This plan refers to managing existing asbestos that may be encountered during the project implementation.	Field inspection	Continuous, during construction period	Contractors Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item Contractor shall develop site-specific measures where requirements to ACM and asbestos waste will be contained.	PIU
Labor management	Unscrupulous and discriminatory labor practices	• Recruit as much as local labor possible • Working conditions and terms of employment will be fully compliant with the labor laws. • Train the workers by providing health and safety training on communicable diseases; • No child and/or forced labor will be employed by the contractor; • Signing of Code of Conduct and training on GBV/SEA/SH • Project workers GRM accessibility and efficiency	Field inspection & consultation with local people Visual inspection & consultation with worker	Continuous, during construction and Implementation period	Contractors	PIU

Community Health and Safety	• Accidents on the approach road and construction site; • Noise and dust pollution; • Communicable diseases can spread among the local community.	• Prior to starting the construction activities contractor will be informed the local community; • Instruct the drivers and limit the speed of the vehicles; • Regular health check-ups of the workers and awareness training about the communicable diseases; • Proper lighting at the project site during the night time; • Avoid unnecessary noise pollution, especially night time; • Spraying water on the dry surface to reduce the dust pollution • Provide proper access control to the project site and unauthorized entry to the project site will be controlled by deploying security personnel. • Fencing and installation of warning signs of trenches • Installation of transition bridges over trenches • Raise community awareness about GBV/SEA/SH, GRM to address GBV/SEA/SH and sensitize the PIUs • Project GRM • Code of Conduct signed by Project workers	Field inspection & consultation with local people Visual inspection & consultation with worker	Continuous, during construction period	Contractors	PIU
Occupational Health and Safety	Construction work may pose health and safety risks to the construction workers and site visitors, leading to severe injuries and deaths. Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions	• Provide the workers with a safe and healthy work environment; adequate health care and sanitation facilities; • Provide appropriate PPE for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields and ear protection; • Maintain the PPE properly by cleaning dirty ones and replacing them with damaged	Field inspection & consultation with local people Visual inspection & consultation with worker	Continuous, during construction period	Contractors	PIU

	of the victim.	ones; • Appoint an environment, health and safety manager to look after the health and safety of the workers; • Inform the local authorities responsible for health, religion and security before the commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters. • OHS job training. • OHS management plan. • Project workers GRM • Code of Conduct to prevent SEA/SH risks				
Physical Risks:	*Manual Handling and Ergonomic Risks:* Workers are at risk of musculoskeletal injuries due to improper lifting techniques, repetitive motions, and awkward postures.	It is crucial to provide training on safe lifting practices, utilize mechanical aids, and implement ergonomic solutions to minimize these risks.	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU
	Slip, Trip, and Fall Hazards Worksites for septic tank installation can present uneven terrain, slippery surfaces, and obstacles that increase the likelihood of slips, trips, and falls.	Ensuring that the work area is well-organized, clear of unnecessary debris, and adequately marked for hazards is essential. Workers should also wear appropriate footwear with slip-resistant soles and receive training on navigating challenging environments	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU
Chemical and Biological Exposure	*Exposure to Hazardous Substances:* Septic tank construction may involve exposure to various chemicals, including adhesives, sealants, and cleaning agents. Workers can be at risk of skin irritation, respiratory issues, and other health problems if they come	It is important to provide Personal Protective Equipment (PPE) such as gloves, masks, and goggles, and ensure that workers are trained in the safe handling and disposal of chemicals	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU

	into contact with these substances without proper protection.					
	Biological Hazards: Septic tanks contain human waste and other organic matter, posing biological hazards such as harmful bacteria, viruses, and parasites. Workers may be exposed to these pathogens during installation or maintenance activities.	To mitigate these risks, employers should enforce strict hygiene practices, provide PPE, and ensure that workers are vaccinated against relevant diseases.				
Confined Space Risks	*Limited Ventilation and Hazardous Atmospheres:* Septic tanks are classified as confined spaces, meaning they have limited entry and exit points and may lack adequate ventilation. Workers can be exposed to hazardous atmospheres, including toxic gases (e.g., methane, hydrogen sulfide) or oxygen-deficient environments.	Proper monitoring of air quality, implementation of ventilation systems, and use of gas detection devices are critical to safeguarding workers in confined spaces.	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU
	Entrapment and Restricted Movement: The construction and installation process often requires workers to operate within constrained areas, increasing the risk of entrapment and restricted movement.	Employers should establish confined space entry protocols, provide appropriate rescue equipment, and ensure that workers are trained in emergency procedures.				
	Weather Conditions: Outdoor septic tank installation projects are subject to varying weather conditions, including extreme heat, cold, rain, and wind.	It is important to monitor weather forecasts, provide suitable clothing, and schedule work to avoid the most severe conditions.				

	Workers' exposure to harsh weather can lead to heat stress, hypothermia, and other weather-related health issues.					
	Noise and Vibration: Construction activities often generate significant noise and vibration, which can affect workers' hearing and overall well-being	Implementing noise control measures, such as sound barriers and mufflers, and providing hearing protection equipment are essential steps in reducing noise exposure	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU
Land Acquisition Involuntary Resettlement (IR)	• Temporary land acquisition for civil works • Permanent land acquisition for civil works, construction or as part of the first sanitary protection zone • Temporary restriction of access to public utilities Livelihood impacts	• Avoid IR impacts, restriction of access to land use as much as possible; • Provide compensation in a timely manner, if applicable; In case of such an impact, a RAP is prepared and implemented in accordance with the RPF prior to commencement of civil works.	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU
Archaeological/ Historical/ Social/ Cultural/ Religious Sites	Negative impact on cultural heritage may destroy its value and the loss will be irreparable	• Avoid Archaeological/ Historical/ Social/ Cultural/ Religious sites during the site selection; • Provide Chance Finds Procedure in bidding document.	Field inspection & consultation with local people	Continuous, during construction and Implementation period	Contractors, PIU, local administrations	PIU
Operation phase						
Water, soil contamination. Community Health and Safety	The discharge of untreated wastewater into irrigation systems and rivers poses significant risks to public health, the environment, and agricultural productivity.	In KR, the quality of treated wastewater must meet specific standards and comply with established norms and rules to ensure the protection of public health, the environment, and water resources. Design and Construction Standards: SN KR 40-03:2021: This standard outlines the requirements for wastewater disposal systems, including the design and operation of treatment	Events, trainings and meetings	During operation period	Municipal wastewater enterpriseContractors, PIU, local administrations	SIDDWSWDPIU

		facilities. It specifies the necessary treatment processes and the quality standards that treated wastewater must meet before discharge				
Chemical and technological control of treatment facilities	During the construction period, work with chemicals is not expected, so exposure is excluded. During the operation of the system, exposure is possible for people working directly with chemicals	The contractor will develop instructions for maintaining the wastewater system, including instructions for working with chemicals Under the project, training and information work will be carried out.	Events, trainings and meetings	During operation periodDuring operation period	Municipal wastewater enterpriseMunicipal wastewater enterprise	SIDDWSWDSIDDWSWD
Occupational Health and Safety (OHS) Risks	Exposure to fecal sludge can pose significant health risks to workers. These risks include: *Pathogen Exposure:* Contact with fecal sludge can introduce workers to various pathogens, including bacteria, viruses, and parasites. Common diseases associated with fecal contamination include cholera, typhoid, and hepatitis. *Chemical Hazards:* Workers may encounter chemicals used in sanitation processes or chemicals present in the sludge, such as heavy metals and toxic substances. Prolonged exposure can lead to chronic health issues. *Physical Hazards:* The handling and management of fecal sludge can involve heavy lifting, repetitive motions, and the use of machinery, leading to physical injuries.	*Personal Protective Equipment (PPE):* Provision of appropriate PPE is crucial. Workers should be equipped with gloves, masks, protective clothing, and eye protection to minimize direct contact with contaminants. *Training and Education:* Regular training programs should be conducted to educate workers on safe handling practices, emergency procedures, and the importance of hygiene. Workers should be aware of the risks and how to mitigate them. *Hygiene Practices:* Strict hygiene protocols should be established and enforced. This includes regular hand washing, proper sanitation facilities, and the use of disinfectants. Workers should be encouraged to follow hygiene practices both on and off-site. *Health Monitoring:* Regular health check-ups and monitoring of workers can help in early detection of any health issues arising from exposure. Vaccinations against common diseases associated with fecal contamination should be provided.	Events, trainings and meetings	During operation period	Municipal wastewater enterpriseContractors	SIDDWSWDPIU

		Operational Safety: During the implementation and operations of sanitation projects, operational safety measures should include: *Engineering Controls:* Implementing engineering controls such as ventilation systems, barriers, and automated handling equipment can reduce the need for direct contact with fecal sludge. *Safe Work Procedures:* Developing and enforcing safe work procedures that minimize exposure risks is essential. This includes protocols for the storage, transportation, and disposal of fecal sludge. *Emergency Preparedness:* Having a robust emergency preparedness plan that includes procedures for spills, accidental exposure, and other incidents is vital. Workers should be trained on how to respond effectively in case of an emergency.				
	Air Pollutants:	• Efficient treatment processes via optimizing treatment methods to reduce the generation of air pollutants during operation. • Enclosure of treatment units (clarifiers, digesters etc.) lead to containment of odors and reduce the release of gases and air borne pathogens Odor control technologies such as biofilters or carbon adsorption to absorb odors have been proved models that have helped mitigate such impacts.				
	Water Contamination	• Using systems such as advanced oxidation processes (AOPs) or membrane bioreactors (MBRs) to remove residual pollutants prior to discharge.				

		• Implementing nutrient management measures to reduce nitrogen/phosphorus levels in the effluent to reduce risks of eutrophication in waters to which discharge is done. • Explore opportunities to reuse treated wastewater for agriculture, industrial cooling, or other purposes to reduce the volume that is discharged to surface waters.				
	Sludge/Solid Waste Management	• Many new technologies like sludge digestion, composting, or incineration to reduce the volume and hazardousness of sludge is widely used and should be explored. • Sludge reuse options as a soil amendment in agriculture or for other purposes can also be explored.				
	Management of Infectious Pathogens	• Explore disinfection processes like chlorination or ozonation to eliminate pathogens prior to discharge of wastewater.				
	Overall Monitoring	• The guidance should have clear requirements in line with national requirements and international best practice on water and air quality monitoring. • Regularly monitoring of both air and water quality to ensure it meets health standards will be critical at operations.				
Possible increase of tariff	Currently utility rates are below cost recovery levels and it is likely that wastewater tariff will be revised upward once the system is operational. This may lead to community discontent	The Project will include capacity building for local authorities and municipalities responsible for wastewater service delivery in the project areas.This will include topics and support for tariff setting, billing and collection systems, operations and maintenance training, customer relations, complaints mechanisms, human resources, and commercial management				

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VII. ESMF IMPLEMENTATION MECHANISM

According to the WB ESF, the Borrower will ensure that the environmental and social assessment takes into account the country's applicable policy framework, national laws, and regulations, and institutional capabilities (including implementation) relating to environment and social issues and applicable requirements under the WB ESSs. The following paragraph provides guidance on the actions required for environmental and social assessment in accordance with national legislation and the WB ESSs applicable to this project. The following tools can be used to conduct environmental and social assessment:

Environmental and Social Impact Assessment (ESIA) is a tool for identifying and evaluating the potential environmental and social impacts – direct, indirect and cumulative – of a proposed project, evaluating alternatives and developing appropriate mitigation, management and monitoring measures. In some cases, a small-scale project may be subject to a partial ESIA to assess its location in relation to protected areas or habitat availability. An indicative ESIA plan is presented in Annex 6.

Cumulative impact assessment (under an ESIA) is a tool for considering the cumulative impacts of a project in combination with the impacts of other relevant past, present and reasonably foreseeable events, as well as unplanned but predictable project activities that may occur later or at other times, location.

Cumulative impact assessment and management is appropriate whenever there is concern that a project or activity under review may contribute to cumulative impacts on one or more Valued Environmental and Social Component (VEC)s.

This concern may be preexisting or a consequence of the potential cumulative impacts of the development and other projects or actions, human activities, or exogenous factors (e.g., natural drivers). CIA is also appropriate whenever a given development is expected to have significant or irreversible impacts on the future condition of one or more VECs that also are, or will be, affected by other developments. The other developments may already exist, be reasonably predictable, or be a mix of existing and reasonably anticipated developments. In circumstances where a series of developments of the same type is occurring, or being planned, the need for CIA can be fairly obvious. For example:

• when a series of wastewater constructions occur within an area where they will impact the same VECs (perhaps common water bodies or watercourses, wildlife populations, community health, community loss of access to assets, or multiple land takings);

• when a series of wastewater constructions occur within the same river or within the same watershed with cumulative impacts in common on flora and fauna, on downstream water availability or quality, on watershed sediment dynamics, on navigation, on local communities' livelihoods, or on adjacent land uses.

In some cases, CIA may be needed to assess and manage the impacts of several new projects, activities, or actions that are being developed or planned. In other situations, CIA of a single new development may be appropriate when it occurs in an area where concerns exist about cumulative impacts—concerns that are either well documented or identified through consultation with affected communities and other stakeholders. In some situations, different components of the same development are assessed in separate ESIAs, and the cumulative impacts from these components should be subject to CIA. The key point in determining the need for CIA is that one or more VECs will be cumulatively impacted by different developments, whatever they may be.

During the design phase a social and environmental screening will be carried out by the PIU safeguard specialist to identify all background risks and assess the impact of the project. Taking these factors into account, the safeguard specialist in conjunction with the PIU Director will decide whether to conduct a CIA.

Resettlement policy framework (RPF) is to clarify resettlement principles, organizational arrangements, and design criteria to be applied to subprojects or project components to be prepared during project implementation.

Environmental and Social Management Plan (ESMP) is a tool that details (a) the measures to be taken during project implementation and operation to eliminate or offset adverse environmental and social impacts or to reduce them to an acceptable level; (b) the actions required to implement those measures. A template of an ESMP is provided in Annex 5.

The site specific ESMP is specified in order to describe the mitigation measures for all the impacts associated with the project during its implementation phase. The site specific ESMP includes the monitoring and management measures to minimize such impacts by allocating management responsibility and suggesting skill requirement for implementation of these specific measures during the implementation phase.

The site specific ESMP includes the following:

- mitigations suggested for adverse environmental and social impacts and associated risks;
- institutional arrangement for the implementation of suggested measures;
- monitoring arrangements for effective implementation of suggested mitigations for the project;
- reporting requirement to the regulatory agencies and funding institutions.

Environmental and social screening checklist - these checklists are used to review the potential environmental and social safeguard impacts of subprojects and determine whether the subprojects will trigger relevant ESSs of World Bank. There is a tool to screen, classify and evaluate the project activities during project preparation. This checklist shall be used in conjunction with Annex 3 and an Exclusion list of subprojects in Annex 4.

Waste management plan - should ensure compliance with existing requirements for the management (including storage, transportation and disposal) of various types of waste, including national legislation and applicable international conventions. Where such requirements do not exist, PIUs will accept alternatives to GIIP for its environmentally sound management and disposal.

Occupational Health and Safety Plan (OHS) is a definite plan of action designed to prevent incidents and occupational diseases. Some form of a program is required under occupational health and safety legislation. A health and safety program must include the elements required by the health and safety legislation as a minimum.as part

Asbestos management plan **-** should ensure compliance with existing requirements for the management (including storage, transportation and disposal) of asbestos, including national legislation and applicable international conventions. Where such requirements do not exist, PIUs will accept alternatives to GIIP for its environmentally sound management and disposal, Annex 8. This plan refers to managing existing asbestos that may be encountered during the project implementation.

Resettlement Action Plan (RAP) - the scope of requirements and level of detail of the resettlement plan vary with the magnitude and complexity of resettlement. The plan is based on up-to-date and reliable information about (a) the proposed project and its potential impacts on the displaced persons and other adversely affected groups, (b) appropriate and feasible mitigation measures, and (c) the legal and institutional arrangements required for effective implementation of resettlement measures. The RAP must be prepared in accordance with the requirements of RPF.

Stakeholder engagement and GRM.

Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive, and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management, and monitoring of the project's environmental and social risks and impacts. In consultation with the Bank, the PIU will develop and implement a Stakeholder Engagement Plan proportionate to the nature and scale of the project and its potential risks and impacts.

The **GRM** is the process of receiving, considering and resolving complaints that may arise as a result of the implementation of the activities of this Project. The GRM process is necessary to ensure that direct and indirect beneficiaries, stakeholders and Project staff have the opportunity, at all stages of Project implementation: access to information about the Project; at all stages of the Project, the direct and indirect affected people and beneficiaries of the Project can submit their complaints or wishes for improving the Project activities; in increasing transparency and publicity in the process of implementing Project activities; timely eliminating of issues/problems, preferably without any costs and with a guarantee of their timely solution.

7.1. Procedure for environmental and social assessment and management of Project activities

7.1.1. Environmental and social screening of subprojects

Diagram of the step-by-step ESF process for subproject development and implementation is in Annex 1.

Social and environmental management begins with the environmental and social screening of proposed subprojects. The main goal of environmental and social screening is to identify and assess environmental and social risks at an early stage of subproject preparation and design. Environmental and social screening will determine which subproject-specific tools (ESIA, ESMP) will need to be prepared.

The proposed sub-projects will be first screen against the eligibility criteria. Ineligible subproject should be excluded. Once the exact locations and details of the subprojects are identified, a detailed screening shall be carried out by the PIU's safeguards specialists using the environmental and social screening checklist template (Annex 3). Screening results will be shared with the World Bank for review and approval. Based on the screening results and the subprojects proposed risk rating the PIU should initiate the preparation of the site specific environmental and social management tools for subprojects.

The environmental and social screening will include:

- reconnaissance of the subproject area and its environs;
- identification of the main activities of the subproject; and
- a preliminary assessment of the impact of these activities on the environmental, physico-chemical and socio-economic environment of the surrounding areas of the subproject and considerations that need to be further explored through a specific ESIA or ESMP for sites. The screening checklist should be applied to all subprojects; the format of the screening checklist is attached in Annex 3;
- Stakeholder engagement and consultations with affected communities.

In cases where several separate investments (activities) are linked and constitute components of one subproject, all activities will be evaluated as one subproject. The ESIA/ESMP prepared for such a subproject should consolidate all activities to be implemented under the subproject. In cases where the components are technically independent of each other, the ESIA/ESMP of activities can be prepared separately and work can start at different times. Based on the results of additional surveys and assessments, municipalities in coordination with the PIU, will confirm and submit the proposed screening categories for subprojects to the PIU for approval and forward to the WB for review and approval.

7.1.2. Risk classification and preparation of ES documents

The type and content of an environmental and social assessment of a specific subproject that will meet the requirements of the ESSs will be determined by the risk rating and specific issues associated with the subprojects, as discussed above. Appropriate risk assessment tools will be used to assign a risk category.

According to the project design Technical Assistance (TA) within the components is planned in the field of information technology (IT), consulting and information services. The consultancies, studies (including feasibility studies, if applicable), and any other technical assistance activities under the Project will be carried out consistently with the ESSs requirement. Main risks will have considered to OHS issues.

In accordance with the selection procedure, subprojects with a **high-risk category** will be excluded from the scope of the project. Annex 4 includes an Exclusion list of subprojects.

The classification of environmental and social risks takes into account relevant potential risks and impacts, such as:

- type, location, sensitivity and scale of the Project, including the physical aspects of the Project; type of infrastructure; waste management and disposal, etc.
- the nature and extent of potential environmental and social risks and impacts, including impacts on new sites; impacts on abandoned sites, including (e.g. rehabilitation, maintenance or upgrades); the nature of the potential risks and impacts (for example, whether they are irreversible, unprecedented, or complex); presence of vulnerable groups/people; possible mitigation measures given the hierarchy of mitigation measures;
- the ability and readiness of the PIU to manage such risks and impacts in accordance with the WB ESS, including the country's policy, legal and institutional framework; laws, regulations, rules and procedures

applicable to the project sector; technical and institutional capacity of the PIU; track record of implementing past projects; and the financial and human resources available to manage the Project; and

- other areas of risk that may be relevant to the implementation of E&S measures and mitigation outcomes, depending on the particular Project and the context in which it is being developed, including the nature of proposed mitigation measures and technology, domestic and/or regional stability considerations, conflict or security.

Within the scope of this Project, subprojects may be classified as “moderate risk” to “substantial risk," and Technical Assistance may be classified as “moderate risk," where it will be necessary to prepare an ESIA and site-specific ESMPs and RAPs (if applicable). Outlines for ESIA and ESMP are indicated in Annexes 5, 6. The outline for RAP is indicated in the RPF, in the separate document. ESIA, site specific ESMPs and RAPs for substantial and moderate risk subprojects will be prepared by the PIU. The site-specific ESMPs may include additional management plans as required based on the results of environmental and social screening: eg, Waste Management Plan, Asbestos Management Plan, Biodiversity Management Planetc., if applicable.

The structure of the ESMP is given in Annex 5. The PIU will check the results of the subproject ESMPs and submit it to the World Bank for approval. The PIU will responsible for the preparation and implementation of the site-specific ESMPs.

A **low-risk category** of the subproject is identified if its potential adverse risks and impacts on the public and/or the environment are likely to be minimal or negligible. Thus, low-risk subprojects with little or no adverse risks, impacts, and issues will not require further environmental and social assessment after initial screening in accordance with the World Bank ESF requirements. The PIU is responsible for the implementation of a satisfactory ESMP checklist (simplified type, Annex 5). The PIU will prepare simplified ESMPs checklist in accordance with the subproject if such is determined. The site-specific ESMP checklists cost estimates will contain details of the responsible agency and associated costs for each mitigation/monitoring activity. The PIU will perform an overall quality assurance function to ensure that the documents produced are in line with the World Bank's requirements. In reviewing the ESMP checklists, the PIU will also confirm that they are clear, feasible and appropriate, and that they comply with the ESSs requirements applicable to the project. In addition, the PIU will monitor the implementation of the ESMP checklists and ensure that regular reporting tools are in place.

The purpose of the ESMP is to improve the environmental and social aspects of subprojects by minimizing, mitigating or offsetting negative impacts. The ESMP checklists will be used mainly for **moderate/low risk** sub-projects that may have a low environmental impact and are typical of small construction and rehabilitation investments. The ESMP checklist consists of three sections:

– Part 1 is a descriptive part (“object passport”), which describes the features of the project in terms of physical location, a description of the project and a list of permitting or notification procedures with reference to the relevant rules. Annexes for additional information can be supplemented if necessary;

– Part 2 includes environmental and social due diligence in a simple Yes/No EMS format and also identifies mitigation measures; And

– Part 3 is a plan for monitoring activities carried out during the restoration work.

According to the Law "On Environmental Protection No. 53 of 1999", the Law "On General Technical Regulation in the Field of Environmental Safety". No. 151 of 2009, Annex 1 of the Regulations on the procedure for conducting an environmental impact assessment in the Kyrgyz Republic in accordance with the Government Decree of February 13, 2015 No. 60 - Facilities for wastewater and flue gas treatment are included in the mandatory List of economic activities subject to environmental impact assessment (national draft EIA - rus. OVOS).

However, according to Article 17 of the Law “On Environmental Protection No. 53 of 1999” – “When designing, locating, building, reconstructing, commissioning facilities that have a direct or indirect impact on the state of the environment, measures should be provided for and implemented for nature protection, rational use, reproduction of natural resources, and improvement of the environment in accordance with environmental standards and carry out an assessment of the impact of the proposed activity on the environment (OVOS)”. Based on Regulation on the procedure for conducting environmental impact assessment in the Kyrgyz Republic, according to Government Decree No. 60 of February 13, 2015, it will be necessary to pass the 3rd stage environmental impact assessment

(OVOS)- development of the Section of Environmental Protection for project documentation for the construction of wastewater treatments, which includes an Environmental Management Plan (EMP). The EIA is carried out by an EIA consultant hired by the Project Proponent. As a result of the environmental assessment, EIA documents are produced, which are subject to further review. The resulting EIA document is then submitted for public consultation, after which amendments are made in accordance with public feedback. Public environmental expertise (PEE) is organized and conducted on the initiative of local residents, local administrations and civil societies registered in the Kyrgyz Republic. The conclusions of the public environmental review are sent to the body that carries out the state environmental review. Subsequently, the EIA report, Statement of Environmental Consequences and other supporting documentation are submitted to the State Ecological Expertise (SEE). After that, the project will be approved, rejected or sent for revision, followed by a re-examination. Completion of the SEE depends on the project, but cannot be more than 3 months after the submission by the Project Initiator of all EIA documents to the SEE.

For subprojects with **substantial risk** an ESIA (partial or full, which includes ESMP) or only ESMP will be prepared, for subprojects with **moderate risk –** ESMP/ ESMP check-list. It is necessary to disclose the ESIA or ESMP documents orand conduct public consultations with people affected by the project and stakeholders. For all projects that require an ESIA and/or site-specific ESMPs, RAPs (if applicable) on-site consultations should be arranged. To do this, it is necessary to publish the ESIA document in advance (about two weeks) on the website of the PIU and the municipalities involved, as well as provide hard copies to local district administrations and key stakeholders.

During the consultation, the subproject applicants will register all comments and proposals for improving the ESIA and/or ESMP documents for a particular site and prepare the relevant reports for inclusion in the final version of the ESIA documents. In addition, information relating to project activities and ESIA should also be publicly available online on the PIU website. In some cases, public consultations can be carried out virtually, receiving relevant questions/proposals online and taking them into account when finalizing the ESMP/RAP of subprojects - such consultations can only be carried out when it is clear that there are no direct impacts on local communities, - mainly when the proposed activities are located far from residential areas and will not adversely affect environmentally sensitive areas such as wetlands, forests, legally protected areas, etc.

7.1.3. Procedure for conducting social and environmental assessment for the Project

Once the sites are identified, the PIU E&S specialists will conduct a rapid assessment of the likely environmental impact based on the requirements of national legislation and the WB ESSs by completing the verification form provided in Annexes 3. The activities of the subprojects will also be checked against WB criteria for high-risk projects.

At the same time, at the stage of developing environmental and social instruments, it is necessary to take into account that if the requirements for an environmental and social instrument of activity differ in national rules and the rules of the Bank, then the more stringent of them applies.

This will identify the type and extent of potential environmental impacts and determine which risk category the subproject should be assigned to. Generally, the significance of impacts and risks affecting the resulting ES categorization will depend on the type and scale of the subproject, its location, the sensitivity of environmental issues, and the nature and magnitude of potential risks and impacts.

If the competent government authorities require an EIA for subprojects, then it is necessary to provide for a social part in the EIA, taking into account the requirements of the World Bank.

Type and scale of projects. Subprojects that are considered "**high risk"** subprojects will not be funded. A "high risk" rating typically implies the following: significant impact on the population, including settlements and local communities;

– alteration of ecologically important areas, including wetlands, natural forests, pastures and other “critical” natural habitats and ecosystem services;
– direct discharges of pollutants that are large enough to cause degradation of air, water or soil, endangered species and "critical" habitats;
– large-scale physical disturbances of the facility and/or its surroundings;

– extraction, consumption or transformation of significant amounts of forests and other important natural habitats, including aboveground and underground and aquatic ecosystems;
– measurable change in the hydrological cycle;
– hazardous materials in excess of accidental quantities.

Location. There are a number of places to consider when deciding whether to rate a project as "**high risk**":

– in or near sensitive and valuable ecosystems and "critical" habitats - juniper forests, wetlands, wild lands, vulnerable soils and special habitats of endangered rare and endemic species;
– in areas or close to archaeological and/or historical monuments or existing cultural and social institutions;
– in densely populated areas where relocation may be required or the potential impact of pollution and other disturbances may significantly impact communities;
– higher risk dam, and
– activities likely to have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented;
– in regions where active development activities are carried out or where there are conflicts regarding the distribution of natural resources; along watercourses, in places of replenishment of aquifers or in catchment areas of reservoirs used for drinking water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, better agricultural soils).

Subprojects located in close proximity to such areas will be classified as "**high risk"** projects and will not be considered for project support.

Value. There are several ways to measure scale, such as the absolute value of the affected resource or ecosystem, the magnitude of the affected impact in relation to the existing stock of the resource or ecosystem, the intensity of the impact, its time and duration. In addition, consideration may need to be given to the likelihood of a cumulative impact of the proposed action and other planned or ongoing actions. ***Given the scale of the proposed subprojects, the magnitude of their environmental and social impacts*** is expected to be moderate to substantial. Therefore, sub-projects rated low to substantial risk will be considered for project support.

In addition to high-risk subprojects, the Bank will also not finance several types of subprojects that are listed in the WB exclusion list, Annex 4.

7.2. Environmental Impact Assessment (EIA) Procedure in the Kyrgyz Republic

The legal framework for environmental and social assessment in the country includes several laws and regulations. The Law on Ecological Expertise ensures that economic and other activities comply with environmental requirements. This Law applies to projects that may have an impact on the environment, including feasibility studies, as well as construction, reconstruction, development, technical re-equipment projects, other objects that may have an impact on the environment, regardless of their estimated cost, ownership or form of ownership.

The law obliges the project initiator to submit to the State Ecological Expertise the necessary documentation regarding the project and its impact on the environment. The expert commission of the Committee of the Ministry of Natural Resources and Technical Supervision is responsible for reviewing the submitted documentation. To start financing or implementing a project, a positive decision of the state environmental review is required. A negative conclusion will prohibit the implementation of the project.

One of the main opportunities for the participation of citizens and their associations in decision-making on environmental protection and rational nature management is public environmental expertise. Two types of ecological expertise are carried out in the Kyrgyz Republic: state ecological expertise and public ecological expertise.

The Law "On General Technical Regulations for Ensuring Environmental Safety in the Kyrgyz Republic" establishes general requirements for ensuring environmental safety in the design and implementation of economic and other activities for the production, storage, transportation and disposal of products.

The process of environmental impact assessment (EIA – "OVOS"), according to the terminology of national legislation, is carried out in accordance with the following provisions:

- Regulations on the procedure for conducting environmental impact assessment in the Kyrgyz Republic

(February 13, 2015, No. 60);

- Regulations on the procedure for conducting state environmental expertise in the Kyrgyz Republic (May 7, 2014, No. 248);
- Law "On Ecological Expertise" No. 54 of 1999 (as amended on 04 May 2015),
- Law on Environmental Protection No. 53 of 1999, and
- Law "General Technical Regulations on Environmental Safety" No. 151 of 2009.

Environmental assessment in the Kyrgyz Republic is based on two subsystems:

- conducting an EIA and preparing a relevant document;
- passing the state ecological expertise (SEE).

The environmental risk classification system under Kyrgyz law is based on the inclusion of a "List" of activities that are either subject to or not subject to EIA.

According to the Law "On Environmental Protection No. 53 of 1999", the Law "On General Technical Regulation in the Field of Environmental Safety". No. 151 of 2009, Appendix 1 of the Regulations on the procedure for conducting environmental impact assessment in the Kyrgyz Republic in accordance with Government Decree No. 60 dated February 13, 2015 – Facilities for wastewater and flue gas treatment are included in the mandatory List of economic activities subject to environmental impact assessment (EIA).

The project will be required to undergo the third stage of EIA - assessment of the environmental impact of the proposed activity accompanying the project documentation (Project, Detailed Design). The results of the impact assessment should be formalized as the "Environment" section of the Project (Detailed Design), which includes the Environmental Management Plan.

The EIA is carried out by an EIA consultant hired by the Project Proponent. As a result of the environmental assessment, EIA documents are produced, which are subject to further review.

The resulting EIA document is then submitted for public consultation, after which amendments are made in accordance with public feedback.

Public environmental expertise (PEE) is organized and conducted on the initiative of local residents, local administrations and civil societies registered in the Kyrgyz Republic. The conclusions of the public environmental review are sent to the body that carries out the state environmental review.

Subsequently, the EIA report, Statement of Environmental Consequences and other supporting documentation are submitted to the State Ecological Expertise (SEE). After that, the project will be approved, rejected or sent for revision, followed by a re-examination.

The completion of the SEE depends on the project, but cannot be more than 3 months after the submission by the Project Initiator of all EIA documents to the SEE.

VIII. INSTITUTIONAL ARRANGEMENT FOR THE IMPLEMENTATION OF THE ESMF

8.1 Project Implementation Arrangements

The key institutions involved in the management, coordination and implementation of the project are the Ministry of Finance of the Kyrgyz Republic, The World Bank, State Institution for Development of Drinking Water Supply and Wastewater Disposal under the Water Resources Service of the Ministry of Water Resources Agriculture and Processing Industry of the Kyrgyz Rebublic, Ministry of Health of the Kyrgyz Republic, the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (DDPSSES) under the Ministry of Health of the Kyrgyz Republic, Ministry of Education and Science, local government bodies (represented by Aiyl Okmotu) and Municipal wastewater Enterprises.

Ministry of Finance of the Kyrgyz Republic. The borrower will be the Kyrgyz Republic, represented by the Ministry of Finance of the Kyrgyz Republic. As the representative of the Borrower, the Ministry will ensure that the SIDWSWD and PIU fulfill their obligations in accordance with the terms of the Financing Agreement.

The World Bank team is responsible for providing guidance, reviewing, and approving the relevant documentation and conducting regular implementation support for the project.

The proposed grant-financed activity will be implemented by the **State Institution for Drinking Water and Wastewater Disposal (SIDWSWD) under the Ministry of Water Resources, Agriculture, and Processing Industry (MWRAPI) of the Kyrgyz Republic.**

The SIDWSWD is responsible for the development of the rural and urban water supply and sanitation sector, including policy development, planning and coordination of activities within the sector. The role of the SIDWSWD includes overall coordination of work in the sector and support for the implementation of the sector development policy, communication and work with the Government of the Kyrgyz Republic and donors, as well as participation in all procurement processes (e.g. as a member of the Evaluation Commission), selection of priority sector activities (including infrastructure investments and institutional support), and the role of responsible agency to the Government of the Kyrgyz Republic, providing support to the PIU in project implementation (if necessary). Regional department/specialists of SIDWSWD will provide full support to establish regular communication with the target sites to ensure that PIU has extensive information as well as to facilitate field visits wherever those are possible.

The existing **Project Implementation Unit (PIU) of the SIDWSWD**, responsible for the implementation of the ongoing World Bankfinanced Climate Resilient Water Services Project will manage the proposed WASUAP and grant-financed activity. The PIU will manage the proposed project. The PIU will be responsible for overall project implementation, including compliance with fiduciary requirements and safety measures for the proposed project. Which will include procurement implementation, financial management and accounting, ESF, citizen engagement, monitoring and evaluation, reporting, and regular relationship with the World Bank.

Ministry of Health of the Kyrgyz Republic, the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance (DDPSSES) under the Ministry of Health of the Kyrgyz Republic and National Center for Health Promotion and Mass Communication (NCHPMC) are government institutions that are authorized to deal with issues of sanitation, health care and disease prevention. DDPSSES will participate in the project as the main partner of activities under the project. The Ministry of Health, DDPSSES and NCHPMC will also provide methodological and administrative support for AOs, local municipalities/public health organizations, schools, medical centers and village health committee at the local level.

The Ministry of Education and Science will be the other main partner for Component 2, which will implement the project by providing policy and methodological support to activities in schools and other educational organizations.

Municipalities - participants (Aiyl keneshes and Aiyl okmotu). Local self-government bodies will be owners of the systems, and municipal enterprises will be operators (service providers) in the project regions. Relations between the AO and the municipal enterprises will be regulated by the Agreement on the provision of wastewater services.

Municipal wastewater enterprises are the main organization that, by decision of the local self-government, will be responsible for the management and operation of wastewater systems. The MWE will organize the provision of wastewater services and the collection of revenues. The enterprise shall plan, finance and manage the operation of the system.

Contractors. Technical studies and design estimates will be prepared by third party companies (**consulting services**) selected in accordance with World Bank procurement policies and procedures. Responsibilities for design verification and technical supervision of construction works (including construction contract management) are assigned to the PIU. The PIU will conclude the Cooperation Agreements with participating local governments to define roles and responsibilities at all stages of project implementation. Technical assistance under the components is planned in the area of information technology, consulting and information services, which will include hiring consultants and project organizations; assisting in the organization and conduct of working group meetings in the preparation of investment programs, training programs and communication strategy MPA.

Communities of participating villages will be involved in the process of selecting priority project activities through consultations with various stakeholder groups and collecting opinions from direct and indirect beneficiaries regarding the proposed project activities. In addition, in each participating municipality, informal community organizations will be created by the community, which will be called “Village Water Committees”. These committees will be formed from community leaders, women, youth, street and neighborhood activists, and

other village residents. They will be involved in all major project activities: detailed design, monitoring and evaluation/lesson learning, the process of generating and communicating information, collecting consumer opinions regarding the quality of service, and other project activities.

Consulting companies/consultants will be selected to carry out technical and environmental and social supervision of construction, institutional development activities and sanitation and hygiene activities at the local level. The company team will include a specialist who will conduct social and environmental monitoring, as well as regular training and be responsible for implementation ES requirements.

8.2 ESMF implementation arrangements

The PIU has the responsibility to ensure implementation of and compliance with the World Bank Environmental and Social framework (ESF) and the specific instruments prepared and disclosed that are relevant to the Project. The Bank will continuously assess performance of the PIU during project implementation in managing project environmental and social (E&S) risks. Project-specific targeted training on environmental and social management aspects will be provided to the PIU, supervision consultant and contractors on an ongoing basis including on topics such as the ESMF implementation, ESMF/ESMP reporting, World Bank ESF and EHS Guidelines and etc. Specific PIU capacity building measures such as training needs are identified and listed in this ESMF.

The PIU is specifically responsible for:

- Ensuring full compliance with the fiduciary requirements, rules and procedures of the World Bank;
- Coordinating and ensuring the implementation of the project;
- Provision of timely information on the progress of the project implementation to interested participants;
- Maintaining ongoing communication and making necessary inquiries to and from the WB, including no-objection requests and organizing videoconferences, meetings and missions;
- Ensuring compliance with the requirements, rules and procedures of the national legislation of the Kyrgyz Republic, environmental and social standards (ESS) of the World Bank, the implementation of measures and actions set out in the Environmental and Social Commitment Plan (ESCP) the Environmental and Social Management Framework (ESMF), the Stakeholder Engagement Plan (SEP), RPF, Labor Management Procedures (LMP);
- ES risk management, monitoring, and reporting as part of the quarterly reports to the Bank;
- Notify the Bank of any incident or accident relating to the project that has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, including those resulting in death or significant injury to workers or the public no later than 48 hours after learning of the incident or accident;
- Preparation and implementation of site-specific ESF instruments;
- Supervise Contractors;
- Implement the ES actions enunciated in the ESCP;
- Any other responsibility necessary to ensure the successful implementation of the Projects;
- Assistance to the Department in ensuring the coordination of activities within the framework of the project.
- Environmental and Social development specialists will have a separate ToRs which will be reviewed by WB.

Table 5. Task table of key participants

Key participants of ESMF implementation	**Task**
World Bank	-Supports KR (with implementation of the sub-project through the established PIU) -Supports the PIU, regular monitoring and annual reporting on the implementation of the ESMF. -Reviews and approve the ESIA, ESMP prior to commencement of the construction works
SIDWSWD	Responsible for the development of the rural and urban water supply and sanitation sector, including policy development, planning and coordination of activities within the sector.

PIU Director	Responsible for planning and management of all Project operations and activities in accordance with the agreed Project documentation, including ESF.
PIU Environmental Specialist	Ensures compliance with the requirements of the legislation of the Kyrgyz Republic in the field of environmental protection and in accordance with the environmental standards of the World Bank (ESS)/ 1. Oversee the ESIA process to identify potential environmental risks associated with the project. 2. Oversee the implementation of environmental mitigation measures (e.g., soil erosion control, sediment management) to minimize negative impacts during construction and operation 3. Raise awareness about environmental issues and sustainable practices, ensuring that project participants understand the importance of minimizing environmental harm. 4. Document and report the environmental performance of the project to relevant authorities and stakeholders. 5. Work with local communities to ensure that their concerns about environmental impacts are addressed, and ensure that they are informed of the project's environmental management strategies.
PIU Social Development Specialist	Ensures compliance with the requirements of the legislation of the Kyrgyz Republic in the field of social safeguards and in accordance with the social standards of the World Bank (ESS)
PIU Regional Manager	Assists central office specialists in implementing on site social and environmental safeguard measures
Municipality Administration	Municipality participates in the monitoring of the Contractor performance in ESMP implementation and involved in grievance resolution in accordance with the established grievance redress mechanism
Design Institute	-Development of design and estimate documentation and the section «Environmental protection» with obtaining a positive conclusion of the state ecological expertise.
Contractor	- Complies with all ESMP requirements, implements all environmental mitigation and protection measures, conduct environmental monitoring activities - Participates when needed and observes the GRM process in addressing complaints - Prepare and submit monthly and quarterly reporting on the ESMP implementation and compliance
Supervision company/consultant	- Daily social and environmental monitoring of construction work - A daily environmental checklist be completed at each work site and maintained within a register and logged in the on-site logbook. - Instruction and training of contractor employees on ESMP requirements - Prepare and submit monthly and quarterly reporting on the ESMP implementation and compliance - Provide all requested information to state supervisory authorities - Conduct appropriate consultation to community
State supervisory authorities	-Ensures that the sub-project, complies with the provisions of the requirements for compliance with the environmental laws and regulations -State environmental inspection
NGOs	-Participates in any consultation that may be required during the implementation or post-construction maintenance period -Acts as an independent third party in the implementation and post-construction monitoring of the sub-project
Beneficiaries, host community	Supports the contractor in the implementation of the environmental mitigation and protection measures

	• participates in any meeting or consultation that may be required during the implementation or post-construction maintenance period

The implementation of the ESMF requires specific knowledge from the beneficiaries and operators involved in the various stages of project implementation. To ensure effective project implementation and a clear understanding of the environmental and social risk management requirements in accordance with the new WB ESSs, this project proposes a Capacity Building Plan (CBP). The CBP provides training in both the general principles of the World Bank's environmental policy, relevant national legislation, and some specific aspects related to this project. It is planned to conduct training and provide information on topics such as ESMF implementation, ESMP reporting, first aid.

The following are estimated costs associated with implementing capacity building for environmental and social safeguards, developing and implementing site-specific tools, and monitoring.

The Environmental and social risk management project's capacity building plan will cover the following activities as shown in Table 6.

TABLE 6. PRELIMINARY TRAINING PLAN

№	The name of the training	Time and estimated duration	Target group	Arranger	Estimated cost
1.	Review of WB ESSs and their implementation during the project cycle. National environmental requirements for project preparation and implementation	During the first year of the Project implementation Duration – 0.5 days	PIU staff, including regional project office staff	ESF specialists	As part of the salary of Safeguard specialists / Consulting company
2.	Implementation ESMF, LMP, SEP, GRM, RPF	Duration – 2 days	PIU staff, including regional project office staff	Safeguard specialists	As part of the salary of Safeguard specialists / Consulting company
3.	Environmental and social screening of subprojects/ activities; preparation of site-specific ESMP, and RAP and monitoring and reporting on their implementation.	Duration – 0.5 days and repeated as needed	PIU staff, including regional project office staff. Contractors, supervision engineers.	Safeguard specialists	As part of the salary of Safeguard specialists / Consulting company
4.	SEA/SH training and awareness raising/implementation of GBV action plan	Seminars for half a day at the beginning and in the middle of the project	PIU staff Contractor, supervision. Local authorities, community members	Safeguard specialists	As part of the salary of Safeguard specialists / Consulting company
5	Reporting on performance and environmental and social, including OHS compliance	During the first six months of the project Duration - 0.5 days.	PIU staff, including regional project office staff, supervision engineers.	Safeguard specialists	As part of the salary of Safeguard specialists / Consulting company

IX. MONITORING AND REPORTING

9.1. General requirements

Environmental and social monitoring during the implementation of subprojects should contain information on the key environmental and social aspects of the subprojects, their impact on the environment, the social consequences of the impacts and the effectiveness of the measures taken to mitigate the consequences. This information allows the PIU/local district officials to monitor the effectiveness of the implementation of environmental measures, evaluate the effectiveness of mitigation measures and ensure that corrective actions are taken in a timely manner, to be followed, how often, where and in what order, and who will monitor.

Monitoring of the implementation of environmental protection measures will be carried out by the PIU E&S specialists. Stakeholder representatives (e.g., government agencies, as appropriate) may also be involved in the monitoring. The goal is to check the main points of compliance with the ESMF, the progress of implementation, the scope of consultations and the participation of local communities. A standard checklist prepared during the assessment studies will be used for the monitoring report.

Monitoring of part of the social risk management measures will be carried out on an ongoing basis by the PIU social development specialist to ensure that there are no unforeseen impacts during construction work on land, production assets, illegal users, people's livelihood, asset valuation, etc. Monitoring is also will cover health and labor issues, as well as stakeholder engagement activities. If any problems are identified, mitigation measures will be proposed in progress reports or in separate Corrective Action Plans (CAPs) (details are provided below in the section on environmental and social reporting).

The PIU E&S specialists will be responsible for reporting on the implementation of the ESMP by doing the following:

- Record and store the results of supervision and monitoring of the PIU throughout the life of the project. Submit summary reports on the progress of the ESMP implementation, as well as the environmental and social aspects of the subprojects, and update information on any complaints / reactions that have been considered and are under consideration to the World Bank on a semi-annual basis.
- Prepare quarterly progress reports on the implementation of measures proposed by the ESMP for individual subprojects;
- Prepare semi-annual environmental and social performance reports as a result of the implementation of subprojects and analyze the effectiveness of mitigation measures used to minimize the negative impact.
- Prepare outlines and requirements for contractor's environmental and social mitigation reports, and review contractor's monitoring plan and reports.
- Provide the general public with mitigation and environmental and social protection measures through special publications and/or annual public seminars.

Contractor should prepare and submit monthly monitoring report using the sample monitoring report which will be developed by PIU ESF specialists.

Supervision engineer / company should submit monthly report on quality control of construction works in accordance with the design, E&S requirements and design and estimate documentation with supporting documents (photo and video materials).

9.2. Environmental and Social monitoring

To ensure the implementation of environmental protection measures specified in the ESMP, monitoring is carried out as follows:

- Visual monitoring – during the construction phase of the subprojects, the Safeguards specialists will continuously monitor the implementation of the ESMP. This will be achieved through monthly inspections of construction/reconstruction facilities by specialists throughout the construction period. The specialists have the right to suspend work or payments if the contractor violates any obligation to implement the ESMP. For monitoring, it is recommended to use special checklists, which can be compiled on the basis of the ESMP.
- In order for construction work not to cause inconvenience to local residents, regular monitoring of noise, vibration and dust content should be carried out. Measures to mitigate the effects of dust, vibration and noise will be included in the ESMP. Instrumental monitoring of environmental quality, such as air and water quality. Given

the types of activities that will be carried out within the framework of this Project, instrumental monitoring may not be carried out. However, in case of complaints about violations or inconveniences from the local population, instrumental measurements of air or water quality are carried out by the PIU by hiring a certified laboratory. In case of exceeding national standards, the contractor is obliged to take additional measures to reduce the identified excesses to meet the standards.

Each facility will be surveyed and based on the survey, an assessment of environmental and social impact risks will be carried out. A separate ESMP will be developed for each specific site. The environmental and social issues included in the mitigation framework are monitored by designated specialists through the PIU. Monitoring is based on impact/mitigation/monitoring aspects as defined in the ESMPs and/or subproject ESMP checklists. Supervisory monitoring will be carried out through monthly inspections of contractors' environmental and social performance throughout the construction period. The PIU has the right to suspend work or payments if the Contractor is in breach of any of its obligations to implement the ESMP.

Separately, World Bank experts will also visit certain sites as part of the project implementation support to monitor compliance with the measures agreed in the ESMP and other relevant documents. As mentioned above, in the event of non-compliance, the PIU specialists investigate the nature and cause of non-compliance and, if necessary, decide what is necessary to ensure compliance with the subproject or funding should be suspended.

9.3. Environmental and Social Performance Report

The environmental and social monitoring system begins with the preparation phase of the project sub-component, including the operation phase, to prevent negative project impacts and monitor the effectiveness of mitigation measures. This system helps the WB and the EA to evaluate the success of mitigation within project supervision and allows action to be taken when needed. The monitoring system provides technical assistance and oversight when needed, early detection of conditions associated with mitigation measures, monitors mitigation results and provides information on project progress. The monitoring plan defines the monitoring objectives and determines the type of monitoring as well as their relationship to impacts and mitigation measures. In particular, the monitoring section of the ESMP contains:

- details of monitoring measures, including measured parameters, methods used, sampling locations, frequency of measurements; and
- monitoring and reporting procedures to:
- ensure early detection of conditions requiring mitigation measures; and
- provide information on the progress and results of mitigation.

Environmental and social performance, including monitoring, should be properly documented and reported. In accordance with national legislation for construction sites, each contractor must keep a log of information on the training of workers in health and safety and another log of accidents during construction work. During instrumental control, the original records of the results of mandatory instrumental monitoring of the environment (air and water quality) are also stored in a separate file for records.

For construction/rehabilitation sub-project, it is recommended that contractors, with the assistance of the PIU, develop a site inspection checklist format to streamline the environmental and social oversight process prior to commencement of work. The format could be in the form of a checklist listing the mitigation measures to be implemented at construction sites, the status of their implementation, and some explanation of the implementation status, as needed. On a monthly basis, the contractor will submit summary reports on the implementation of the ESMP. The list of activities that are checked by the safeguard specialists during the site visit should correspond to the activities specified in the ESMP for the controlled subproject.

If social monitoring reveals any impacts, they should be mitigated immediately. If there is an impact on land, production assets, illegal users, people's livelihood, asset valuation, etc., construction work should be stopped and the PIU should be informed immediately. Constant monitoring on the ground is carried out by technical supervision consultant / company. If consultant / company finds violations, they must notify the employees of the PIU and the competent state authorities. Also, the technical supervision consultant / company notifies the management of the contractor organization and demands the suspension of work until violations are excluded. Regular monitoring is carried out by PIU employees. If, during the monitoring, non-compliance with the requirements of the ESMP is found, the PIU employees give a written notification of the elimination of violations.

If the violations are not eliminated, the employees of the PIU notify the competent state authorities, which may decide to suspend the work. A Corrective Action Plan (CAP) needs to be developed. The CAP should contain information on the subproject, the status of civil works, impact types and social impact assessment, proposed mitigation measures. The CAP should be prepared by the sub-project implementer and approved by the PIU. All unforeseen impacts within the framework of the subproject that occurred outside the right-of-way must be compensated/mitigated by the Contractor. This should be reflected in the tender documentation. All impacts in the exclusion zone must be compensated by the contractor of the subproject.

The PIU will prepare a summary report on the implementation of the ESMP, which will be included in the regular progress reports submitted to the World Bank.

Monitoring reports during project implementation will contain information on key environmental and social aspects of project activities, especially in relation to environmental impact and the effectiveness of mitigation measures. Such information will allow the PIU and the World Bank to evaluate the success of the project supervision mitigation measures and to take corrective action as necessary.

The PIU will be responsible for the implementation and success of the project, as well as financial reports, project implementation reports, social audit meetings, as well as feedback and complaints received and preparation of a completion report. All environmental and social issues are monitored and controlled by the PIU. Potential negative impacts need to be prevented or mitigated during the construction and operation phases.

9.4. ESMF integration into project documentation

ESMF requirements will be integrated into the Project Operations Manual, and ESMP requirements will be included in construction contracts for all subprojects, both in the specification and bill of quantities. Contractors will be required to include the cost of implementing the ESMP in their financial proposals. Based on the ESMF, the roles and responsibilities of all parties involved in the ES assessment process will be outlined.

The provisions of the ESMF will be used for the following:

– Inclusion of ESMF requirements in the Project Operational Manual;

– Inclusion of environmental recommendations, ESMPs in construction contracts for individual subprojects, both in the specification and in the work orders, sub-borrowers should include the cost of implementing the ESMP in their financial proposals;

– Allocation of subsequent responsibilities of the ESMF within the PIU;

– Identification of mitigation and prevention measures during the implementation of the selected sub-component of projects

– Monitoring and evaluation of mitigation/prevention measures identified in the site-specific review and ESMP. Necessary mitigation measures will be an integral part of the subproject, including contracts requiring contractors to meet environmental and social obligations during construction

For construction and/or rehabilitation works PIU are required to prepare an ESMP prepared as part of the preparation of the tender.

All contractors must use environmentally sound technical standards and procedures during their work. In addition, the terms of the contract must specify the requirements for compliance with all national building codes and regulations, sanitary codes, protective procedures and regulations, as well as environmental protection, as well as the requirements of the WB ESSs and EHS rules.

TABLE 7. MONITORING PLAN

Implementation stage	Which parameter should be monitored	Where the monitoring should be conducted?	How the monitoring is conducted? /type of equipment for monitoring	When? (Frequency)	Cost of monitoring (cost of equipment or amount of contractor's expenses required for monitoring?)	Institutional responsibility for monitoring
Construction period	Noise	At the construction site and dump	Portable Sound Level Meters	Constantly	Criteria/specifications to be included into bid and contract documentation. Not regarded as a separate item of expenditure	1. Daily monitoring will be carried out by a contractor's nominated safeguard specialist. 2. Daily monitoring of construction works will be conducted by supervision engineer/company. 3. Monthly inspection of the construction site is carried out by the PIU to ensure compliance with the ESMP. 4. The state inspectors of the Department of State Architectural and Construction Control will carry out supervision over implementation of the engineering solutions during construction works or, as well as over the quality of construction materials and structures. They will participate in the commissioning of the completed facilities. 5. Environmental and technical supervision service under is the entity to carry out state environmental supervision that has the right to perform supervision
	Air	At and near the construction site	Portable measuring instruments	Weekly		
	Vibration	At the construction site	Portable measuring instruments	Constantly		
	Transport	At the construction site and dump	Visually	Constantly		
	Waste utilization and storage		Visually	According to the plan, but at least weekly		

	Contamination of soil and water	At the construction site	Visually	Constantly		following the established procedure after providing relevant identification documents in accordance with environmental regulations, standards, environmental protection measures during project implementation.
	Dismantling of construction site	At the construction site	Visually	According to the plan		
	Safety of workers and local residents	At the construction site	Visually	Constantly		
Operation period	Quality control of the fertilizer	Wastewater treatments	Conducting analyses		Should be included in the Municipality budget	1. Center for State Sanitary and Epidemiological Surveillance conducts analysis 2. Wastewater municipality Enterprise and Aiyl Okmotu /Municipality are responsible for the maintenance of treatments
	Quality control of treated wastewater					

X. GRIEVANCE REDRESS MECHANISM

In accordance with the requirements of the ESS10, the PIU SIDWSWD will apply its Grievance Redress Mechanism (GRM) to relevant component activities during the Project implementation. The GRM will streamline the process of receiving, considering and resolving complaints that may arise as a result of the implementation of the activities of this Project.

The GRM process is necessary to ensure that direct and indirect beneficiaries, stakeholders and Project staff have the opportunity, at all stages of Project implementation:

- access to information about the Project;
- at all stages of the Project, the direct and indirect affected people and beneficiaries of the Project can submit their complaints or wishes for improving the Project activities;
- in increasing transparency and publicity in the process of implementing Project activities;
- timely eliminating of issues/problems, preferably without any costs and with a guarantee of their timely solution.

10.1 Grievance review and resolution process

A mechanism for reviewing complaints/appeals of citizens affected during the Project implementation period and providing appropriate responses in all interested issues of the project activities including social and environmental safety measures and gender issues will be implemented according to the following three levels, i.e. Commissions for consideration of appeals are created at all levels as:

- at subproject level;
- at Aiyl Okmotu level;
- at national level.

10.2 PIU GRM Channels

The PIU SIDWSWD has organized the following channels through mobile phone with support for voice and video communications:

by mail: Bishkek City, 34, Str. Baytik Baatyr.
by telephone – +996 312 54-54-55
by WhatsApp channel – +996 555 54-45-75 & +996 707 54-45-75
by e-mails: office@tunuksuu.kg

Under the Project the Stakeholder Engagement Plan was prepared that describes in detail the entire Grievance Redress Mechanism. The SEP describes the ways in which the Project team will interact with stakeholders, including a mechanism through which people can express concerns, provide feedback, or apply complaints about the project and any activities related to the project.

XI. PUBLIC CONSULTATIONS AND INFORMATION DISCLOSURE

11.1 ESMF Disclosure

As required by World Bank ESS 10, the PIU will disclose the ESMF to the public, including all information on potential environmental and social risks and impacts and planned mitigation measures.

The final version of the document will be posted on the website of the PIU and on the website of the World Bank. The ESMF will be posted on the website of the PIU in an accessible form and in an accessible language for the public and stakeholders so that they can be fully informed on the project design and potential E&S impacts and mitigation measures.

11.2 Public consultations

Informing and disclosure of the results of social and environmental documents

XII. BUDGET FOR ESMF IMPLEMENTATION

Below are the estimated costs associated with the implementation of capacity building of specialists involved in

the implementation of the project on ESF, as well as the development and implementation of tools for specific sites of subprojects and monitoring.

a) Proposal for capacity building of the environmental and social risk management of the project`s staff/workers will cover the following activities indicated in the Table 7.

TABLE 8. PRELIMINARY CAPACITY BUILDING PLAN

№	The name of the training	Time and estimated duration	Target group	Arranger	Estimated cost
1.	Review of WB ESSs and their implementation during the project cycle. National environmental requirements for project preparation and implementation	During the first year of the Project implementation Duration – 0.5 days	PIU staff, including regional project office staff	ESF specialists	As part of the Safeguard specialists
2.	Implementation ESMF, LMP, SEP, GRM, RPF	Duration – 2 days	PIU staff, including regional project office staff	Safeguard specialists	As part of the Safeguard specialists
3.	Implementation of environmental screening/ESMP, social screening Preparation of site-specific ESMP reporting	Duration – 0.5 days	PIU staff, including regional project office staff. Contractors, supervision engineers.	Safeguard specialists	As part of the Safeguard specialists
4.	SEA/SH training and awareness raising/implementation of GBV action plan	Seminars for half a day at the beginning and in the middle of the project	PIU staff Contractor, supervision. Local authorities, community members	Safeguard specialists	As part of the Safeguard specialists
5	Reporting on performance and environmental and social compliance	During the first six months of the project Duration - 0.5 days.	PIU staff, including regional project office staff, supervision engineers.	Safeguard specialists	As part of the Safeguard specialists

Source: SIDWSWD

b) Budget and timeline for the implementation of the ESMF provided in the Table 9.

TABLE 9. BUDGET AND TIMELINE FOR THE IMPLEMENTATION OF THE ESMF

Description of expenses	Quantity	Approximate cost per unit (USD)	Period / years	Total (USD)	Notes
Travel expenses for staff (cost per year)	-	-	-	10000	
Information stands in each subproject	-	-	-	3000	
Meetings to launch the Project in the oblasts	-	-	-	5000	Rental of a conference room, coffee break,

					printed materials)
Community meetings	-	-	-	2000	
Information materials (brochures, posters, PR materials, including design)	-	-	-	5000	Different topics, community health/ safety, environment and land acquisition, etc.
Press tours about the Project / Program for the media and online publications	-	-	-	5000	
Training for relevant PIU staff and contractor/consultant	As part of reimbursement for Environmental Specialist		During project implementation	As part of the salary of Safeguard specialists	
Conduct environmental screening and prepare site-specific ESMPs or engage consultants as needed	As part of reimbursement for Environmental Specialist		During project implementation	As part of the salary of Safeguard specialists	
Conduct Cumulative impact assessment (if needed)					
Conducting social screening, screening for the identification of risks for temporary land acquisition and / or temporary restriction of land use; and prepare ESIA /site-specific ESMPs	As part of reimbursement for Social Development Specialist		During project implementation	As part of the salary of Safeguard specialists	
Preparation of RAPs for specific sites, if necessary	As part of reimbursement for Social Safeguards Specialist		During project implementation	As part of the salary of Safeguard specialists	
ESMP monitoring	As part of reimbursement for Social Safeguards Specialist		As part of the salary of Safeguard	During project implementation	

			specialists		
GRM expenses					
Information materials (GRM brochures)	-	-	-	2000	
GRM training for project staff and contractors	As part of reimbursement for Social Safeguards Specialist		As part of the salary of Safeguard specialists	During project implementation	
Total:				**32000**	

Source: SIDWSWD

XIII. CONCLUSIONS

During the project implementation period, the PIU will liaise with the relevant agencies currently involved in environmental and social management under the SEP; and will be responsible for preparing relevant environmental and social documents and providing information to the WB, as well as for addressing environmental and social risks under the ESMF and be responsible for compliance with the ESMF requirements.

The proposed physical works of Component 1 require a large amount of civil and earthworks. During construction, earthworks will be carried out, such as excavation, clearing, mass transfer of soil and stones, soil cultivation, which can potentially damage the vegetation cover and lead to the clearing of vegetation. Therefore, the movement and storage of building materials, disposal of surplus, waste and construction debris can affect the natural environment and biodiversity habitat, if not adequately managed.

Identified impacts can be avoided or minimized with the appropriate mitigation measures, most of which are common good practice for small-scale remediation.

In addition to the requirements of good social behavior, health and safety, the Code of Conduct covers the requirements of best practice in the field of environmental protection, including the prohibition of hunting, fishing, trapping of wild animals, burning vegetation, off-road driving, speeding etc. In addition, improper interaction with local residents and the transparent application of sanctions for non-compliance should be carefully considered during implementation. As a result, adequate local oversight by qualified staff is needed, as well as transparent sanctions for non-compliance.

The PIU will appoint a project-specific GRM to address all complaints and inquiries from citizens related to the project. The PIU will be responsible for the day-to-day implementation of the GRM and reporting to the World Bank. The project will encourage the receipt of complaints through various channels, including anonymous complaints, at various levels of detail. The system and requirements for the chain of action for dealing with complaints – from registration, sorting and processing, confirmation and follow-up to verification and action, and finally feedback – are included in the GRM. In order to ensure management oversight of the handling of complaints, the PIU will be responsible for monitoring the entire process, including verifying the implementation of the agreed decisions.

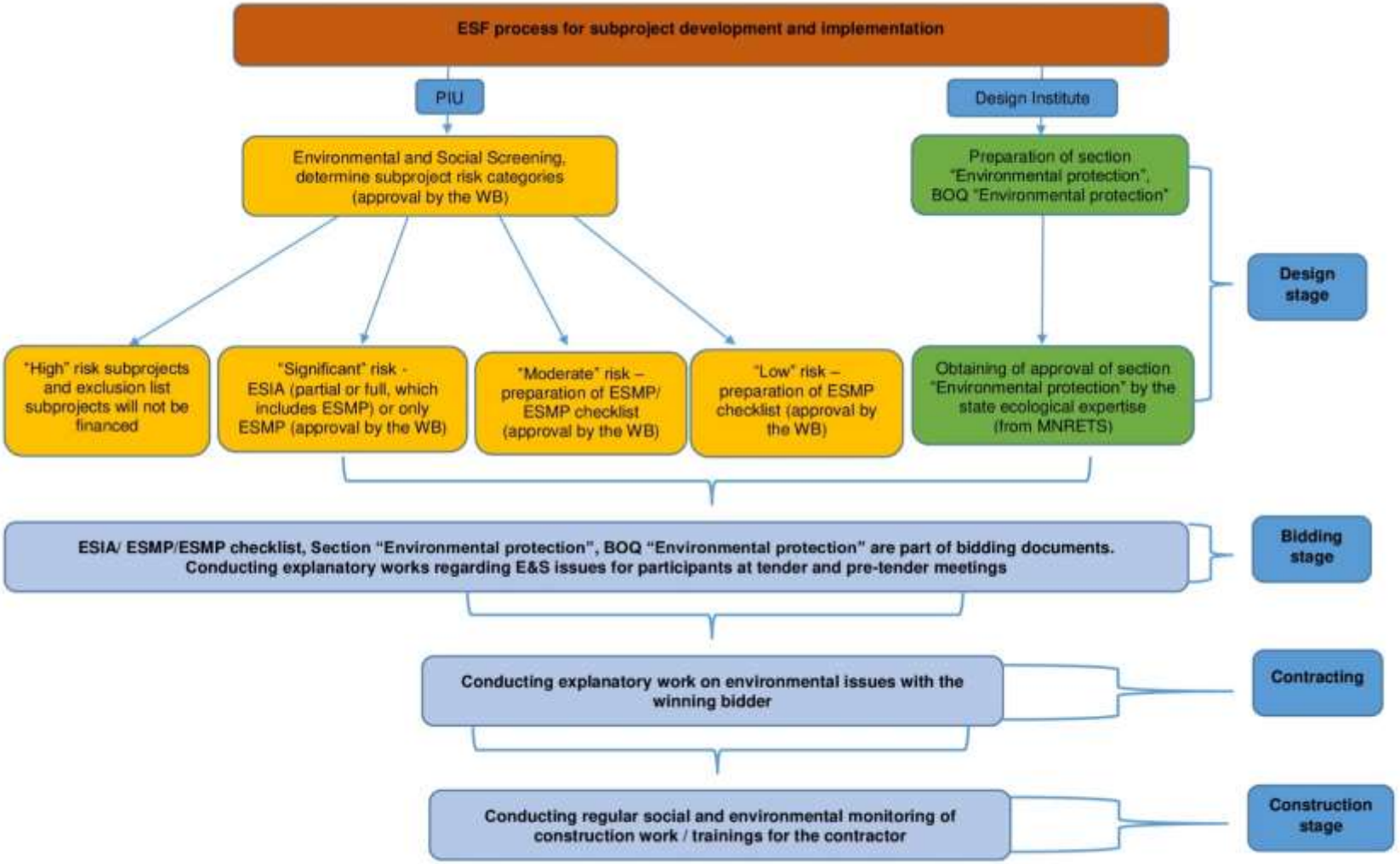
The overall environmental impact of the project investments is supposed to be largely positive and include (i) improved wastewater management and efficiency (iii) help in protecting ground and surface water resources by promoting the construction and use of environmentally sound sanitation facilities for human waste disposal; (iv) improved citizens' skills and awareness in planning and implementation of local activities, with particular attention to environment protection, and (v) sustainable management of improved infrastructure by communities, which will bring environmental and social benefits related to natural resources management.

The social impact of the project investments will also have a positive effect as people living in the project area will have improved health, hygiene and well-being, especially children and vulnerable populations by sanitation issues.

The Project risks, with an overall substantial risk rating. These risks can be predicted, avoided, or mitigated through assessment, adequate management, and monitoring. The project will consider all required mitigation measures in the implementation stage.

XIV. ANNEXES

Annex 1. ESF process for subproject development and implementation



Annex 2. Main provisions of the national environmental legislation, national legislation on social guarantees and citizen engagement, Environmental and Social Framework of World Bank

1. Main provisions of the national environmental legislation

This annex presents the main legal acts that consider environmental issues relevant to the activities of the Project.

The Constitution of the Kyrgyz Republic establishes the basic principles of nature management, including the right of citizens of the Kyrgyz Republic to have access to primary sources of life, while the main resources (land, water and subsoil) are the common property of the people and the Kyrgyz Republic. Based on these principles, a legal framework was developed to regulate relations between users of natural resources and the state.

The Law of the Kyrgyz Republic "On Environmental Protection" (dated June 16, 1999, No. 53, as amended in 2020) defines the state policy and general legal framework for the use of natural resources and environmental protection, including environmental impact assessment, the establishment of environmental standards and legal regime of protected areas.

The Law of KR on Environmental Expertise (dated 16 June 1999 No.54) ensures that economic and other activities comply with environmental requirements. Applies to projects that may have an impact on the environment, including feasibility studies, as well as projects for construction, reconstruction, development, requipment, other projects, regardless of their estimated cost, affiliation or type of ownership, the implementation of which may have an impact on the environment. The law obliges the project proponent/initiator to submit the necessary documentation on the project and its environmental impacts to the SEE. The review of the submitted documentation is carried out by the MNRETS expert commission. Requires a favorable SEE decision prior to financing or implementation of the project. A negative opinion prohibits implementation of the project.

One of the main opportunities for participation of citizens and their associations in the decision-making process in the field of environmental protection and rational environmental management is public environmental expertise. There are 2 types of environmental expertise in the Kyrgyz Republic: state environmental expertise and public environmental expertise.

Regulation on the Procedure for Environmental Impact Assessment in the Kyrgyz Republic (dated Feb 13, № 60)

The Regulation on the Procedure for Conducting an Environmental impact assessment in the Kyrgyz Republic (hereinafter referred to as the Regulation) establishes the procedure for assessing the impact of planned activities on the environment (hereinafter referred to as the EIA). The purpose of the EIA is to prevent and/or mitigate the impact of the planned activity on the environment and related social, economic and other consequences.

The EIA is carried out in three stages.

The third stage of the EIA is an assessment of the impact of the planned activity on the environment, accompanying the project documentation (project, working draft), containing:

1. an updated comprehensive assessment of the impact of the selected basic implementation option;
2. updated technical solutions and a set of measures to prevent, mitigate and minimize the impact of the planned activity, its functioning and liquidation on the environment and public health;
3. a resource-based program of production control and monitoring of the component-by-component state of the environment during the construction, operation and decommissioning of planned activities;
4. design standards for emissions, discharges of pollutants, formation and disposal of waste;
5. Environmental Impact Statement.

The results of the impact assessment are drawn up in the form of a Section of the project (working draft) named as "Environmental protection section".

The Law of KR on Water (dated 14 January 1994, No. 1422-XII) regulates relations in the sphere of use and protection of water resources, prevention of ecologically harmful impact of economic and other activities on water objects/bodies and water facilities, strengthening of legality in the field of water relations. This law regulates the quantity and quality of water discharged into the environment and prohibits the discharge of industrial, domestic and other wastes and waste into water bodies.

Regulations on water protection zones and strips of water bodies in the Kyrgyz Republic (Government Decree of the Kyrgyz Republic dated July 7, 1995 N 271) The regulation determines the procedure for establishing water protection zones and strips on water bodies of the Kyrgyz Republic, establishes the regime for economic activity and the use of lands that are part of water protection zones and strips, as well as responsibility for keeping them in proper condition.

The Constitution of the Kyrgyz Republic provides for the protection of workers by providing that they are entitled to working conditions that meet the basic requirements of safety and hygiene in the workplace. The Ministry of Labour, Social Security and Migration of the Kyrgyz Republic has primary responsibility for overseeing occupational health and safety. Key relevant legislation includes the Occupational Safety and Health Law of the Kyrgyz Republic of 2003, the Labor Code of the Kyrgyz Republic of 2004 and certain regulations. The Kyrgyz Republic joined the International Labor Organization on March 31, 1992. An inspection conducted by this organization in 2008 showed that the OSH Law of the Kyrgyz Republic was in line with international norms and standards, although there was also a shortage of trained government inspectors to enforce compliance (ILO, 2008).

The Law of KR "General Technical Regulations on Ensuring Environmental Safety in the Kyrgyz Republic" (dated 8 May 2009, No. 151) establishes general requirements for ensuring environmental safety in the design and implementation of activities at the objects of economic and other activities for the processes of production, storage, transportation and disposal of products/recycling.

Under this Law, hazard categories will be defined for each subproject to establish mechanisms for EIA implementation.

SNiP 2.04.03-85 Construction Rules and Regulations "Water drainage, external networks, and structures"

This standard establishes criteria for hydraulic capacity calculations for sewerage networks and wastewater system design. It specifies standards for components of wastewater management systems, including sewerage and treatment plants.

SNiP 2.04.02-84* Construction Rules and Regulations "Water Supply, external networks and structures". Sanitary Protection Zone.

Sanitary protection zones should be provided for all designed and reconstructed water pipelines for domestic use in order to ensure its sanitary and epidemiological reliability.

Water supply zones should include the zone of water supply source in the place of water intake (including water intake structures/intake facilities), the zone and sanitary-protection strip of water supply structures (pumping stations, water treatment stations, tanks) and sanitary-protection strip of water pipelines.

The zone of water supply facilities in the place of water intake should comprise three sub-areas: the first - exclusion area; the second and third -constraints area. The waterworks zone should comprise the first sub-area and sub-area (when waterworks are located outside the second sub-area of the water supply source zone).

2. Main provisions of national legislation on social guarantees and citizen engagement

Constitution of the Kyrgyz Republic May 5, 2021.

Article 33, item 3. Everyone has the right to receive information about the activities of state bodies, local government bodies and their officials, legal entities with the participation of state bodies and local government bodies, as well as organizations financed from the republican and local budgets.

Article 33, item 4. Everyone is guaranteed access to information maintained by state bodies, local governments and their officials. The procedure for providing information is determined by law. **Civil Code of the Kyrgyz Republic (May 8, 1996, No. 15, with the latest amendments dated September 15, 2021, No. 120).** Civil legislation determines the legal status of participants in civil transactions, the grounds for the emergence and procedure for the exercise of property rights and other real rights, rights to the results of intellectual activity and equivalent means of individualization (intellectual property), regulates contractual and other obligations, as well as other property and related them personal non-property relations.

Land Code of the Kyrgyz Republic (June 2, 1999, No. 45, with the latest amendments dated August 5, 2022, No. 85) regulates land relations in the Kyrgyz Republic, grounds for occurrence, procedure for implementation and termination rights to land and their registration, and is also aimed at creating land market relations in the conditions of state, municipal and private land ownership and rational use of land and its protection.

Labor Code of the Kyrgyz Republic No. 24 of January 23,2025 is the main legislative act aimed at regulating all labor issues that arise in the Kyrgyz Republic. This Code regulates labor relations and other relations directly related to and aimed at protecting the rights and freedoms of participants in labor relations and establishes minimum guarantees of rights and freedoms in the sphere of labor. Article 9 of the Code prohibits discrimination and guarantees all citizens equal rights to work; discrimination in employment relations is prohibited. No one may be restricted in their labor rights and freedoms or receive any benefits in exercising them, regardless of gender, race, nationality, language, origin, property and official status, age, place of residence, religion, political beliefs, affiliation or dissent, membership in public associations, as well as other circumstances that are not related to the employee's business qualities and the results of his work.

Any differences, exclusions, preferences, or refusal of employment, regardless of nationality, race, gender, language, religion, political beliefs, social status, education, or property status that led to a violation of equal opportunities in the world of work, are prohibited. Article 3 of the Code prohibits forced and child labor. The Department of Labor Protection and Labor Relations of the Ministry of Labor, Social Protection and Migration supervises and monitors compliance with labor laws, registers complaints related to labor activity.

The Law of the Kyrgyz Republic "On labor protection" dated August 1, 2003, No. 167 (as amended in 2016) provides a framework for the regulation of working conditions, including workplace safety measures, workplace safety rules and workplace hygiene.

The Law of the Kyrgyz Republic "On the procedure for considering citizens 'appeals", No. 67 of May 4, 2007 (as amended in 2016) requires complaints from citizens of the Kyrgyz Republic to be registered, properly considered and dealt with in a fair, timely and accountable manner (Articles 2 and 4). Every citizen has the right to apply personally or through his representative to State authorities, local self-government bodies and their officials, who are obliged to give a reasoned response within the time limit established by law (Article 4). A complaint registered with a State or local self-government body must be considered within 14 working days, although in exceptional cases this period may be extended for no more than 30 days (Article 8).

The Law of the Kyrgyz Republic "On Local Self-Government" No. 101 of July 15, 2011 (as amended in 2019) establishes the principles of organizing local self-government at the level of administrative-territorial units, defines the role of local self-government in the exercise of state power, establishes the organizational and legal basis for their activities, establishes the competence and principles of relations between local self-government bodies and state authorities, state guarantees of local legal communities on self-government issues. Local self-government bodies work in close cooperation with State authorities to create conditions for the implementation of the constitutional rights of citizens of the Kyrgyz Republic to participate in solving issues of state and local significance.

Access to information. **Law of the Kyrgyz Republic " On the Right of Access to Information "** No. 217 of December 29, 2023 is ensuring the realization and protection of the right of everyone to access information held by information holders defined by this Law and achieving maximum information openness, publicity, transparency in their activities.

The Law of the Kyrgyz Republic "On the rights and guarantees of persons with disabilities" No. 38 of April 3, 2008, establishes guarantees of protection and assistance provided to persons with disabilities, as well as measures aimed at protecting public health, preventing disability and creating conditions for integration of persons with disabilities into society.

3. *Environmental and Social Framework of World Bank*

The World Bank Environmental and Social framework (ESF) applies to all Investment Project Financing (IPF) initiated on or after October 1, 2018. This is an important step forward in areas such as employment relations, non-discrimination, climate change mitigation and adaptation, biodiversity, public safety and health, and stakeholder engagement, including enhancing public participation and improving mechanisms for dealing with and resolving grievances. The ESF further enhances the World Bank's sustainability efforts through the implementation of 10 environmental and social standards (ESS) designed to assist Borrowers in managing environmental and social (ES) risks. ESF takes a risk-based approach that increases control and resources for complex projects and enables them to respond more quickly to changing project circumstances through adaptive risk management and stakeholder engagement.

The ESF includes the following items:

- The Concept of sustainable development, reflecting the Bank's aspirations to achieve environmental and social sustainability;

- The World Bank Environmental and Social Framework for Investment Project Financing, which establishes mandatory requirements applicable to the Bank;
- Environmental and Social Standards (ESS), together with their annexes, establishing mandatory requirements for the Borrower and projects.

Borrowers and projects must also comply with the relevant requirements of the World Bank Group's Environmental, Health and Safety (EHS) Guidelines.

According to the planned activities within the framework of the Project, out of the ESSs, six will be related to the activities of the Project. These 6 ESSs set the standards that the PIU as the Implementation (IA) and the Project should meet throughout the life cycle of the project, namely:

- ESS 1: Assessment and management of environmental and social risks and impacts;
- ESS 2: Labor and working conditions;
- ESS 3: Resource Efficiency and pollution prevention and management;
- ESS 4: Community health and safety;
- ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS 10: Stakeholder engagement and information disclosure.

The ESS requires that the World Bank Group Environment, Health and Safety (EHS) Guidelines apply to the project.

The EHS Guidelines are technical reference documents with generic and industry-specific examples of Good International Industry Practice (GIIP) referenced in the EFS. The EHS Guidelines contain performance levels and measures generally acceptable to the World Bank Group and that are considered to be achievable in new facilities at a reasonable cost using existing technologies. The World Bank Group requires borrowers to apply the appropriate levels or measures of the EHS Guidelines. When host country regulatory requirements differ from the levels and measures presented in the EHS Guidelines, projects will need to be achieved whichever is more stringent.

Applicable EHS guidance for the project, depending on the specific type of work, includes but is not limited to the following:

- General EHS Guidelines of the World Bank Group (2007);

https://www.ifc.org/content/dam/ifc/doc/2023/ifc-general-ehs-guidelines.pdf

- EHS Guidelines for Water and Sanitation

https://www.ifc.org/content/dam/ifc/doc/2000/2007-water-and-sanitation-ehs-guidelines-en.pdf

- In the case of the Project, the General EHS Guidelines apply. PIU will pay particular attention to the following General EHS Guidelines1:
- EHS 1.0 – Environmental;
- EHS 1.6 - Waste Management

https://www.ifc.org/content/dam/ifc/doc/2000/2007-general-ehs-guidelines-waste-management-en.pdf

- EHS 2.0 - Occupational health and safety;
- EHS 3.0 - Community health and safety;
- EHS 4.0 - Construction and decommissioning.

The Contractor shall prepare EHS checklists, Code of conduct and safety trainings prior to commencement of works.

[1] EHS in Russian: https://www.ifc.org/wps/wcm/connect/be37221a-fc47-4379-b539-eca3fe72c3e6/General%2BEHS%2B-%2BRussian%2B-%2BFinal_.pdf?MOD=AJPERES&CVID=jqeI79F&ContentCache=NONE&CACHE=NONE

Annex 3: Environmental and social Screening Form

This is an example of a screening form. The objective of the screening form is to guide the Borrower in 1) assessing the various environmental and social risks and impacts that different sub-project activities will pose, and 2) selecting the right environmental and social management plans that will be applicable to those sub-project activities.

One of the key considerations is whether the sub-project activities can use pre-prepared management measures already included in the ESMF, such as ESCOPs, the simplified LMP or a Pesticide Management Plan OR whether sub-project activities require the preparation of site-specific management instruments.

The example screening form below goes through each ESS and asks the Borrower whether sub-project activities will result in certain key environmental and social impacts. Based on these, it instructs the Borrower which management plans to prepare and/or use. **You may find that for your specific project, there are additional risks that may need to be considered under different ESSs.**

The Screening Form is meant to exclude certain activities as well, for example, any activity that may pose significant or high risk, degrade critical habitats or involve physical displacement.

The E&S Screening procedure comprises of two stages-process: (1) Initial screening by using the **Exclusion List** in Annex 4 of the ESMF; and (2) Screening the proposed activities to identify the approach for E&S risk management. This Screening Form is the second stage of screening process and is to be used for all subproject activities. The completed forms will be signed and kept in the Project ESF file. The World Bank may review a sample of the forms during implementation support visits.

1. Subproject Information:

Subproject Title	
Subproject Location	
Regional Unit in Charge	
Estimated Cost	
Start/Completion Date	
Brief Description of Subproject	

2. Environmental and Social Screening Questionnaires

Questions	**Answer**		**Next Steps**
	Yes	**No**	
ESS1			
1. Is the subproject likely to have significant adverse environmental impacts that are sensitive and unprecedented that trigger the 'Ineligible Activities' or other exclusion criteria?			If "Yes": Exclude from project.
Questions 2 and 3 below are examples. These two are critical questions in the Screening Form, as they will determine whether a sub-project can use pre-prepared ESCOPs included or needs to prepare a site-specific ESMP. If all the sub-projects are expected to be low risk, then all sub-projects may be able to use the pre-prepared ESCOPs. However, if there are some sub-project activities, such as construction of community bridges, which may propose moderate risk, these may require site-specific ESMPs to be prepared. Think of			

the sub-project activities in your project and separate those that may be low risk and those that may be moderate risk. 2. Does the subproject involve <u>new construction or significant expansion</u> of ponds, solid waste management systems, shelters, roads (including access roads), community centers, schools, bridges and jetties?			If "Yes": 1. Prepare a site-specific E&S Assessment and/or ESMP for the proposed subproject, based on the template in Annex 5,6. 2. Include E&S risk management measures in bidding documents.
3. Does the subproject involve <u>renovation or rehabilitation</u> of any small-scale infrastructure, such as groundwater wells, latrines, showers/washing facilities, or shelters?			If "Yes": 1. Apply relevant measures based on the ESCOPs (unless one of the questions below raises specific environmental risks and requires a site-specific ESMP). 2. Include E&S risk management measures in bidding documents.
4. Will construction or renovation works require new borrow pits or quarries to be opened?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex 5. 2. Include E&S risk management measures in bidding documents.
5. Does the project lead to any risks and impacts on, individuals or groups who, because of their particular circumstances, may be disadvantaged or vulnerable.[2]			If "Yes": Apply relevant measures described in the ESMF and SEP.
ESS2			
6. Does the subproject involve uses of goods and equipment involving forced labor, child labor, or other harmful or exploitative forms of labor?			If "Yes": Exclude from project.
7. Does the subproject involve recruitment of workforce including direct, contracted, primary supply, and/or community workers?			If "Yes": Apply LMP .
8. Will the workers be exposed to workplace hazards that needs to be managed in accordance with local			If "Yes": Apply LMP.

[2] "Disadvantaged or vulnerable" refers to those individuals or groups who, by virtue of, for example, their age, gender, ethnicity, religion, physical, mental or other disability, social, civic or health status, sexual orientation, gender identity, economic disadvantages or ethnic peoples status, and/or dependence on unique natural resources, may be more likely to be adversely affected by the project impacts and/or more limited than others in their ability to take advantage of a project's benefits.

regulations and EHSGs? Do workers need PPE relative to the potential risks and hazards associated with their work?			
9. Is there a risk that women may be underpaid when compared to men when working on the project construction?			If "Yes": Apply LMP.
ESS3			
10. Is the project likely to generate solid or liquid waste that could adversely impact soils, vegetation, rivers, streams or groundwater, or nearby communities?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex 5. 2. Include E&S risk management measures in bidding documents.
11. Do any of the construction works involve the removal of asbestos or other hazardous materials?			If "Yes": Apply asbestos guidance provide in the ESCOP
12. Are works likely to cause significant negative impacts to air and / or water quality?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex 5. 2. Include E&S risk management measures in bidding documents.
13. Does the activity rely on existing infrastructure (such as discharge points) that is inadequate to prevent environmental impacts?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex 5. 2. Include E&S risk management measures in bidding documents.
14. Is there any potential to have impact on soil or water bodies due to agro-chemicals (e.g., pesticides) used in farmlands due to the consequences of the subproject activities (e.g., development of irrigation system, agriculture related activities, seed and fertilizer assistance, procurement of pesticides)?			If "Yes": Apply Fertilizer and Pest Management Plan.
ESS4			
15. Is there a risk of increased community exposure to communicable disease (such as COVID-19, HIV/AIDS, Malaria), or increase in the risk of traffic related accidents?			If "Yes": Apply LMP in Annex 4 and relevant measures in SEP.
16. Is an influx of workers, from outside the community, expected? Would workers be expected to use health services of the community? Would they create pressures on existing community services (water, electricity, health, recreation, others?)			If "Yes": Apply LMP.
17. Is there a risk that SEA/SH may increase as a result of project works?			If "Yes": Apply LMP.

18. Would any public facilities, such as schools, health clinic, church be negatively affected by construction?			If "Yes": Apply relevant measures based on the ESCOPs (unless one of the other questions in the screening form raises specific environmental and social risks and requires a site-specific ESMP).
19. Will the subproject require the government to retain workers to provide security to safeguard the subproject?			If "Yes": Prepare a site-specific ESMP for the proposed subproject, including an assessment of potential risks and mitigation measures of using security personnel.
ESS5			
20. Will the subproject require the involuntary acquisition of new land (will the government use eminent domain powers to acquire the land)?[3]			If "Yes": Refer to and apply the project Resettlement Framework (RF).
21. Will the subproject lead to temporary or permanent physical displacement (including people without legal claims to land)?			If "Yes": Refer to and apply the project RF.
22. Will the subproject lead to economic displacement (such as loss of assets or livelihoods, or access to resources due to land acquisition or access restrictions)?			If "Yes": Refer to and apply the project RF.
23. Has the site of the subproject been acquired through eminent domain in the past 5 years, in anticipation of the subproject?			If "Yes": Refer to and apply the project RF.
24. Are there any associated facilities needed for the subproject (such as access roads or electricity transmission lines) that will require the involuntary acquisition of new land?			If "Yes": Refer to and apply the project RF.
25. Is private land required for the subproject activity being voluntarily donated to the project?[4]			If "Yes": Refer to and apply the project RF.
ESS6			
26. Does the subproject involve activities that have potential to cause any significant loss or degradation of critical habitats[5] whether directly or indirectly, or			If "Yes": Exclude from project.

[3] Environmental and Social Standard 5, Footnote 10: "In some circumstances, it may be proposed that part or all of the land to be used by the project is donated on a voluntary basis without payment of full compensation. Subject to prior Bank approval, this may be acceptable providing the Borrower demonstrates that: (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. The Borrower will maintain a transparent record of all consultations and agreements reached."

[4] Environmental and Social Standard 5, Footnote 10: "In some circumstances, it may be proposed that part or all of the land to be used by the project is donated on a voluntary basis without payment of full compensation. Subject to prior Bank approval, this may be acceptable providing the Borrower demonstrates that: (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. The Borrower will maintain a transparent record of all consultations and agreements reached."

[5] Environmental and Social Standard 6, paragraph 23: "Critical habitat is defined as areas with high biodiversity importance or value, including (a) Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national approaches; (b) Habitat of significant importance to endemic or restricted-range species; (c) Habitat supporting globally or nationally significant concentrations of migratory or congregatory species; (d) Highly threatened or unique ecosystems; and (e) Ecological functions or characteristics that are needed to maintain the viability of the biodiversity values described above in (a) to (d)."

which would lead to adverse impacts on natural habitats[6]?			
27. Will the project involve the conversion or degradation of non-critical natural habitats?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex 5. 2. Include E&S risk management measures in bidding documents.
28. Will this activity require clearance of mangroves?			If "Yes": Exclude from project.
29. Will this activity require clearance of trees, including inland natural vegetation?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex 5. 2. Exclude from project if more that x hectares of tree and vegetation cutting is expected. 2. Include E&S risk management measures in bidding documents.
30. Will there be any significant impact on any ecosystems of importance (especially those supporting rare, threatened or endangered species of flora and fauna)?			If "Yes": Exclude from project.
ESS7			
31. Are there any Indigenous Peoples or Sub-Saharan African Historically Underserved Traditional Local Communities present in the subproject area and are likely to be affected by the proposed subproject negatively?			If "Yes": Prepare an Indigenous Peoples Plan OR Include the requirements of an Indigenous Peoples Plan in the SEP.
ESS8			
32. Is the subproject to be located adjacent to a sensitive site (historical or archaeological or culturally significant site) or facility?			If "Yes": Apply Chance Find Procedures.
33. Locate near buildings, sacred trees or objects having spiritual values to local communities (e.g. memorials, graves or stones) or require excavation near there?			If "Yes": Apply Chance Find Procedures.

3. Conclusion

Based on the result from the screening above, please list the E&S risk management instruments to be prepared / adopt and implemented:

a)
b)

Name and title of person who conducted screening:

Date of screening:

[6] Environmental and Social Standard 6, paragraph 21: "Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition."

Annex 4. Risk rating justification Form and WB Exclusion List

Risk rating justification:	
The risk category is **"High"**. Significant impact, exclude from financing The risk category is **"Substantial".** Limited or temporary impact requiring significant mitigation, excluded from financing The risk category is **"Moderate".** Limited or temporary impact The risk category is **"Low".** No impact	Prep. By: Name and Signature: Designation: Date: Approved by: Name and Signature: Designation: Date:

Any sub-project annexes that include actions that are coincident with actions that are included in sub-project lists of excluded sub-projects for financing and that may have significant environmental or social risks will be disqualified. If the answer to one of the following questions is YES, then the application should be excluded.

Risk rating justification:

Annex……. Exclusion List defines the types of projects that WB does not finance

The WB does not finance the following projects:

– High risk subprojects that have negative environmental or social impacts that are irreversible, create cumulative impacts and/or cannot be adequately mitigated;

– Activities that may cause significant impacts on biodiversity and ecosystem services. Activities that may cause significant impacts on cultural heritage resources.

– Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under CITES.

– Production or trade in weapons and munitions.

– Production or trade in alcoholic beverages (excluding beer and wine).

– Production or trade in tobacco.

– Gambling, casinos and equivalent enterprises.

– Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.

– Production or trade in unbounded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

– Drift net fishing in the marine environment using nets in excess of 2.5 km. in length.

– Production or activities involving harmful or exploitative forms of forced labor[7]/harmful child labor[8].

– Production or trade in wood or other forestry products other than from sustainably managed forests.

– Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene,

[7] Forced labor means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

[8] Harmful child labor means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development

and other petroleum products.

– Trade in wildlife or production of, or trade in, wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

– Transboundary movements of waste prohibited under international law (Basel Convention).

– Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests.

– Thermal coal mining, coal-fired power and heating plants or Projects that are functionally related to coal.

– Water supply systems that will depend on the storage and operation of reservoirs controlled by existing dams / hydraulic structures.

A reasonableness test will be applied when the activities of the project company would have a significant development impact, but circumstances of the country require adjustment to the Exclusion List.

Any subprojects that include activities that coincide with those included in the lists of excluded subprojects for financing and that which may have significant environmental and social risks will be disqualified. If the answer to one of the following questions is YES, the subproject application shall be excluded.

Below are the criteria for determining the risk rating.

High Risk. A proposed subproject is classified as High Risk after considering the following factors:
a) a project is likely to generate a wide range of significant adverse risks and impacts on human populations or the environment. This could be because of the complex nature or scale of a subproject, and/or the sensitivity of the location(s) of a project. This would take into account whether the potential E&S risks and impacts associated with a subproject have the majority or all of the following characteristics:
1. long term, permanent, and/or irreversible impacts that are impossible to avoid entirely due to the nature of a project;
2. high in magnitude and/or in spatial extent;
3. significant adverse cumulative impacts;
4. significant adverse transboundary impacts;
5. a high probability of significant adverse impacts to human health and/or the environment.
b) area likely to be affected is of high value and sensitivity, intensive or complex land acquisition and land use restriction, impacts on cultural heritage.
c) some of the significant adverse E&S risks and impacts of a project cannot be mitigated or specific mitigation measures require complex and/or unproven mitigation, compensatory measures or technology.

Substantial Risk. A proposed subproject is classified as Substantial Risk after considering the following factors:
a) a subproject may not be as complex as a High Risk project, the nature and scale of its E&S risks and impacts may be smaller and the location may not be in such a highly sensitive area, but some adverse risks and impacts may be significant. This would take into account whether the potential E&S risks and impacts have the majority or all of the following characteristics:
1. they are mostly temporary, predictable and/or reversible, and the nature of a project does not preclude the possibility of avoiding or reversing them;
2. here are concerns that the adverse social impacts of a project, and the associated mitigation measures, may give rise to a limited degree of social conflict, harm, or risks to human security;
3. 3. they are medium in magnitude and/or in spatial extent;
4. 4. the potential for cumulative and/or transboundary impacts may exist, but they are less severe and more readily avoided or mitigated than for High Risk projects; and
5. 5. there is medium to low probability of significant adverse impacts to human health and/or the environment, and there are known and reliable mechanisms available to prevent or minimize such incidents.
b) the effects of a project on areas of high value or sensitivity are expected to be lower than High Risk projects.
c) mitigation and/or compensatory measures may be designed more readily and be more reliable than those of High Risk projects.

Moderate Risk. A proposed subproject is classified as Moderate Risk after considering the following factors:

a) the potential adverse risks and impacts on human populations and/or the environment are not likely to be significant. This is because a project is not complex and/or large, does not involve activities that have a high potential for harming people or the environment, and is located away from environmentally or socially sensitive areas. As such, the potential E&S risks and impacts are likely to have the following characteristics:
1. predictable and expected to be temporary and/or reversible;
2. low in magnitude;
3. site-specific, without likelihood of impacts beyond the actual
footprint of a subproject;
4. low probability of significant adverse impacts to human health and/or the environment.
b) A project's E&S risks and impacts can be easily mitigated in a predictable manner.

Low Risk. A proposed project is classified as Low Risk if its potential adverse risks to and impact on human populations and/or the environment are likely to be minimal or negligible.

Annex 5. Environmental and Social Management Plan (ESMP) Template

This is an example template for an ESMP, if relevant for your Project activities.

Environmental and social risks and impacts are strongly linked to subproject location and scope of activities. This ESMP should be customized for each specific subproject location and activities.

1. Subproject Information

Subproject Title:	
Estimated Cost:	
Start/Completion Date:	

2. Site/Location Description

This section concisely describes the proposed location and its geographic, ecological, social and temporal context including any offsite investments that may be required (e.g., access roads, water supply, etc.). Please attach a map of the location to the ESMP.

3. Subproject Description and Activities

This section lists all the activities that will take place under the subproject, including any associated activities (such as building of access roads or transmission lines, or communication campaigns that accompany service provision).

4. ESMP Matrix: Risk and Impacts, Mitigation, Monitoring

This section should identify anticipated site-specific adverse environmental and social risks and impacts; describe mitigation measures to address these risks and impact; and list the monitoring measures necessary to ensure effective implementation of the mitigation measures. It may draw from the ESMF's pre-identification of potential risks/impacts and mitigation measures, as applicable, and drill down further to ensure relevance and comprehensiveness at the site-specific level. For subprojects involving construction, two sets of tables may be needed, for the construction phase and the operation phase.

Anticipated E&S Risks and Impacts	**Risk Mitigation and Management Measures**	**Impact Mitigation**		**Impact/Mitigation Monitoring**		
		Location/Timing/Frequency	**Responsibility**	**Parameter to be monitored**	**Methodology, including Location and Frequency**	**Responsibility**

5. Capacity Development & Training

Based on the implementation arrangements and responsible parties proposed above, this section outlines any capacity building, training or new staffing that may be necessary for effective implementation.

6. Implementation Schedule and Cost Estimates

This section states the implementation timeline for the mitigation measures and capacity development measures described above, as well as a cost estimate for the implementation. The cost estimate can focus on the line items that will be covered by the project implementing agency, with costs of mitigation measures to be implemented by the contractor left to the contractor to calculate.

7. Attachments

ESCOPs, site specific SEP etc.

IV. Review & Approval

Prepared By: ……(Signature) Position: …… Date ……	
Reviewed By: ……(Signature) Position: ……Date ……	**Approved By**: ……(Signature) Position: …… Date ……

Annex 6. Indicative outline of ESIA

Environmental and social impact assessments for projects involving significant risk are focused on specific environmental issues raised by the sub-project. Its main purpose is to identify environmental impact and those measures that, if they are included in the project and in the implementation of the project, can ensure the minimization of negative environmental impacts. The volume and level of detail required in the analysis depends on the magnitude and severity of the potential impacts.

Where an environmental and social impact assessment is prepared as part of the environmental and social assessment, it will include the following:

Executive Summary

– Concisely discusses significant findings and recommended actions.

Legal and Institutional Framework

– Analyzes the legal and institutional framework for the project, within which the environmental and social assessment is carried out, including the issues set out in ESS1, paragraph 269;

– Compares the Borrower's existing environmental and social framework and the ESSs and identifies the gaps between them;

– Identifies and assesses the environmental and social requirements of any co-financiers.

Project Description

– Concisely describes the proposed project and its geographic, environmental, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, power supply, water supply, housing, and raw material and product storage facilities), as well as the project's primary suppliers;

– Through consideration of the details of the project, indicates the need for any plan to meet the requirements of ESS1 through 10;

– Includes a map of sufficient detail, showing the project site and the area that may be affected by the project's direct, indirect, and cumulative impacts.

Baseline Data

– Sets out in detail the baseline data that is relevant to decisions about project location, design, operation, or mitigation measures. This should include a discussion of the accuracy, reliability, and sources of the data as well as information about dates surrounding project identification, planning and implementation;

– Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions;

– Based on current information, assesses the scope of the area to be studied and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences;

– Takes into account current and proposed development activities within the project area but not directly connected to the project.

Environmental and Social Risks and Impacts

– Takes into account all relevant environmental and social risks and impacts of the project. This will include the environmental and social risks and impacts specifically identified in ESS2, and any other environmental and social risks and impacts arising as a consequence of the specific nature and context of the project, including the risks and impacts identified in ESS1;

– Direct, indirect and cumulative impacts should be identified and assessed.

Mitigation Measures

– Identifies mitigation measures and significant residual negative impacts that cannot be mitigated and, to the extent possible, assesses the acceptability of those residual negative impacts;

– Identifies differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable;

– Assesses the feasibility of mitigating the environmental and social impacts; the capital and recurrent

[9]ESS1, paragraph 26, states that the environmental and social assessment takes into account in an appropriate manner all issues relevant to the project, including: (a) the country's applicable policy framework, national laws and regulations, and institutional capabilities (including implementation) relating to environment and social issues; variations in country conditions and project context; country environmental or social studies; national environmental or social action plans; and obligations of the country directly applicable to the project under relevant international treaties and agreements; (b) applicable requirements under the ESSs; and (c) the EHSGs, and other relevant GIIP.

costs of proposed mitigation measures, and their suitability under local conditions; and the institutional, training, and monitoring requirements for the proposed mitigation measures;

– Specifies issues that do not require further attention, providing the basis for this determination.

Analysis of Alternatives

– Systematically compares feasible alternatives to the proposed project site, technology, design, and operation—including the "without project" situation—in terms of their potential environmental and social impacts;

– Assesses the alternatives' feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of alternative mitigation measures, and their suitability under local conditions; and the institutional, training, and monitoring requirements for the alternative mitigation measures;

– For each of the alternatives, quantifies the environmental and social impacts to the extent possible, and attaches economic values where feasible.

Design Measures

– Sets out the basis for selecting the particular project design proposed and specifies the applicable EHSGs or if the ESHGs are determined to be inapplicable, justifies recommended emission levels and approaches to pollution prevention and abatement that are consistent with GIIP.

Stakeholder Engagement and GRM

– Stakeholder Engagement Plan (SEP) identifies the various stakeholders and provides an approach for engaging with them throughout the project life cycle.

– GRM addresses all complaints and inquiries from citizens related to the project activities.

Appendices

– List of the individuals or organizations that prepared or contributed to the environmental and social assessment;

– References—setting out the written materials both published and unpublished, that have been used;

– Record of meetings, consultations and surveys with stakeholders, including those with affected people and other interested parties;

– The record specifies the means of such stakeholder engagement that were used to obtain the views of affected people and other interested parties;

– Tables presenting the relevant data referred to or summarized in the main text;

– List of associated reports or plan.

Annex 7. Grievance Form

A) GRM Form

Number of the appeal and the date of filing (*to be filled in by the responsible person who received the complaint)*:			
Surname, first name: *Note*: You can remain anonymous if you wish, or you can ask to keep your personally identifiable information private.	I request not to disclose information that would allow my identification I would like to make an appeal ANONYMOUSLY.		
Contact info	Address:		
	Tel:		
	E-mail:		
How would you like us to contact you? *Please check the box*	By mail	By phone	By email
Complaint content: *(Please describe the complaint, indicate: who it happened to, when, where, and with what frequency).* Make sure you include information that is important for a fuller understanding of the situation.			
What solution, if any, would you suggest to the complaint?			
Signature: _____			

B) FORM OF GRM PROTOCOL

[grievance number: _____]
Date: __" _____" _____
Place: village _____, aiyl okmotu _____,
Agenda:

1. _____
2. _____
3. _____
4. _____

Decision on issue №:

1. _____
2. _____
3. _____
4. _____

Note: A short report on the results of the meeting is attached
Chairman: _____(signature)
Secretary: _____ (signature)

C) GRM Log Template

#	Brief description of the complaint	Name of the applicant	Date of registration of the complaint	Result of grievance review	Date the complaint was resolved	Applicant's signature

Annex 8. Asbestos Containing Material Management Plan (Example)

Applicability

The Asbestos Containing Material Management Plan (ACMMP) applies to all project construction or reconstruction sites and any related areas. Contractors employed by Project are legally responsible for their construction sites and related areas and must follow the provisions of the Project ACMMP within those locations. Specifically, this procedure must be used to ensure the safe handling, removal and disposal of any and all Asbestos Containing Materials (ACM) from those areas.

Immediate Action

- On discovering ACM on a Project site, the contractor must:
- Stop all work within a 5 m radius of the ACM and evacuate all personnel from this area;
- Delimit the 5 m radius with secure fencing posts, warning tape and easily visible signs warning of the presence of asbestos;
- If the site is in an inhabited area, place a security guard at the edge of the site with instructions to keep the general public away;
- Notify the RPCU's ESF Specialist and arrange an immediate site inspection.

Equipment

- To remove asbestos from a construction site, contractors must provide the following equipment:
- Warning tape, sturdy fence posts and warning notices;
- Shovels;
- Water supply and hose, fitted with a garden-type spray attachment;
- Bucket of water and rags;
- Sacks of clear, strong polythene that can be tied to close;
- Asbestos waste containers (empty, clean, sealable metal drums, clearly labelled as containing asbestos).
- Personal Protective Equipment (PPE)

All personnel involved in handling ACM must wear the following equipment, provided by the contractor:

- Disposable overalls fitted with a hood;
- Boots without laces;
- New, strong rubber gloves;
- A respirator is not normally required if there are only a few pieces of ACM in a small area, and if the ACM is damp;
- There must be no smoking, eating or drinking on a site containing ACM.

Decontamination Procedure 1: Removing small pieces of ACM

- Identify the location of all visible ACM and spray each lightly but thoroughly with water;
- Once the ACM is damp, pick up all visible ACM with shovels and place in a clear plastic bag;
- If ACM debris is partially buried in soil, remove it from the soil using a shovel and place it in the plastic bag;
- Insert a large label inside each plastic bag stating clearly that the contents contain asbestos and are dangerous to human health and must not be handled;
- Tie the plastic bags securely and place them into labelled asbestos waste containers (clean metal drums) and seal each drum;
- Soil that contained ACM debris must not be used for backfill and must instead be shovelled by hand into asbestos waste containers;
- At the end of the operation, clean all shovels and any other equipment with wet rags and place the rags into plastic disposal bags inside asbestos waste containers.

Decontamination Procedure 2: Removing ACM-contaminated backfill

- If soil containing ACM debris has inadvertently been used for backfill this must be sprayed lightly with water and shovelled out by hand to a depth of 300 mm and placed directly into asbestos waste containers (i.e. not stored temporarily beside the trench);
- Any ACM uncovered during the hand shovelling must be placed in a clear plastic bag;

- Once the trench has been re-excavated to 300 mm, if there is no visible ACM remaining, the trench may be refilled by excavator using imported clean topsoil.

Disposal

- ACM should be disposed of safely at a local hazardous-waste disposal site if available, or at the city municipal dumpsite after making prior arrangement for safe storage with the site operator.
- The Contractor must arrange for the disposal site operator to collect the sealed asbestos waste containers as soon as possible and store them undisturbed at the disposal site.
- At the end of construction Contractors must arrange for the disposal site operator to bury all ACM containers in a separate, suitably-sized pit, covered with a layer of clay that is at least 250 mm deep.

Personal Decontamination

- At the end of each day, all personnel involved in handling ACM must comply with the following decontamination procedure:
- At the end of the decontamination operation, clean the boots thoroughly with damp rags;
- Peel off the disposable overalls and plastic gloves so that they are inside-out and place them in a plastic sack with the rags used to clean the boots;
- If a disposable respirator has been used, place that in the plastic sack, seal the sack and place it in an asbestos waste container;
- All personnel should wash thoroughly before leaving the site, and the washing area must be cleaned with damp rags afterwards, which are placed in plastic sacks as above.

Clearance and Checking-Off

- The decontamination exercise must be supervised by site supervisors (engineering or environmental).
- After successful completion of the decontamination and disposal, the Contractor should visually inspect the area and sign-off the operation if the site has been cleaned satisfactorily.
- The contractor should send a copy of the completion notice to the PIU, with photographs of the operation in progress and the site on completion.

Training

- Environmental Specialist may hire the specialized companies to conduct training on ACCMP implementation for Contractors staff and PIU. The training will include a session focusing on ACM, which covered:
- Risks of contact with ACM;
- Responsibilities for dealing with ACM on project's construction sites;
- The Project's ACMMP and the Protocol for site clean-up;
- Awareness-raising for the contractors' workforce.

Cost estimate

Costs incurred by contractors in implementing the ACMMP are included in their budget in ESMP budget.

Annex 9. Format of halfyear Environmental and Social Safeguards Monitoring Report

Project Name:

PIU Social Specialist:	
PIU Environmental Specialist:	
PIU Stakeholder Engagement Specialist/ Community Development Specialist	
Projects overall Environmental and Social Risk	
PIU Environment, Health, and Safety Specialist	
Project's Environmental Risk category	
Supervision Consultant	
Project's Social Risk category	
When did the World Bank receive the latest semi-annual report on environmental and social safeguards?	
List of triggered ESSs per ESCP,	ESS 1: ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS - - - - - - - - ESS 10: STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

Introduction

What is project about, what kind of issues the project will address, project area, project components along with description of subcomponents – this section will remain the same in every interim report.

1. Purpose and Objectives of this report

- To provide implementation status and performance/compliance status of environmental and social issues, including E&S risk management, stakeholder engagement, gender, labour management procedures for reporting period (semi-annual/annual reports and monthly/quarterly if required).
- To record environmental and social impacts and risks resulting from the project activities and to ensure implementation of the mitigation, monitoring and institutional measure identified in the Environment and Social Commitment Plan (ESCP) and subsequently the ESMP(s), Resettlement Action Plans, functionality of the project grievance redress system, accidents, and any other environmental and social instrument prepared for the project in order to reduce adverse impacts and risks and enhance positive impacts from specific project activities;
- Address any unexpected or unforeseen environmental and social impacts or risks that may arise during the period of the reporting (this could include reporting on the progress during the construction/operation of the components/subcomponents of the Project as appropriate
- To ensure that the implementation of the project is in line with the World Bank's (WB) environmental and social standards (ESS) in the Environment and Social Framework (ESF) (for projects approved after October 2018) or the ten safeguard policies (for projects approved before October 2018)
- To observe any changes in the outcomes anticipated in the design of the ESCP and ESMP(s) during the monitoring period for implementation of the Project; and
- To propose mitigations and corrective measures or actions for adverse environmental and social risks and impacts identified during the monitoring period of the Project

2. E&S Compliance Requirements.

- World Bank requirements (which ESF documents prepared)
- National requirements (list of the national E&S requirements that you are applying in the implementation of project activities)

3. Institutional Arrangements for project implementation

PMU (E&S staffing)
District Level specialists (E&S Staffing, if any)
Is the Project Implementation Unit (PIU) adequately staffed with skilled and permanent E&S specialists? Do they have resources (finance and equipment) to carry out field visits and supervisions?

4. Status of the Implementation of the ESCP

Give brief status report for each triggered ESSs per ESCP. Please use Project's ESCP in the loan agreement with the following columns in sequence in Table below.

Status of the Implementation of the ESCP (in case the Project complies with the ESF)

No	ESCP obligations	Due date ESCP obligations	Status of implementation (Implemented/not implemented/delayed)	Justification of delays/ shortcomings	Actions to be taken and time line

5. Status of Environmental Risk Management Implementation Performance

- *Preparatory measures* for repair and rehabilitation works (provide details for the entire area subject to works, status of completion of design and estimate documentation and the appropriate ecology checklist along with the expected completion date of these activities).
- *Rehabilitation works*

- Information of the ESMP implementation status, identified problems and corrective actions taken (provide information regarding the ESMP status, Contractors ESMP, Environmental and Social Screening conducted for the subprojects by PIU staff)
- (provide contract-wise details for the reporting quarter), contract name, no, contractor, date of start and completion of contract, whether contractor has EHS and permanent E&S staff in place, status of key contractual EHS obligations, status of work-related accidents, reasons for noncompliance, corrective actions and timelines agreed with the contractor), Provide Contractor's site specific ESMP status and its implementation
- Are the supervising engineer adequately staff with skilled and. Are they preparing their periodic E&S reports to the Owner?

6. Status of Social Risk Management Implementation Performance

Phase of preparatory measures for renovation and rehabilitation works

- Labor management Procedures.
- Land Acquisition and Resettlement Issues by Districts or Components (brief description of types of civil works planned, timelines for feasibility studies to be completed, completed social screening checklist, RAP/ARAP/ preparation and implementation status).

- Stakeholder Engagement and Community Mobilization Activities by Districts (number of public meetings, consultations, trainings, brief summary of issues raised, number of people attended/by gender breakdown etc., social challenges to be addressed)

Phase of renovation and rehabilitation works

- Labor Management Issues (location and conditions of worker camps, OHS trainings held, code of conducts signed, status of labor agreements, sexual harassment prevention measures, total number of project workers by contractor and by gender);
- Citizen Engagement/Public Management Issues (number of public meetings, consultations, trainings, brief summary of issues raised, number of people attended/by gender breakdown etc., social challenges to be addressed)
- Gender relevant indicators/results: percentage of locally hired jobs, of which women-Actual --- % of which women; Target---% of which women. Number of project beneficiaries .. .%, of which women-Actual --- % of which women; Target---% of which women.

7. ESMP Implementation

The table below shall summarize the ESMP implementation which has been included in the environmental and social management implementation performance above

Status of Implementation of the ESMP

Code	E&S Mitigation Measures	Monitoring Indicators	Linked to Investment Activity or the ESS's	Status of Implementation (Implemented /not implemented / delayed)	Justification of delays/ shortcomings	Actions to be taken and timeline

***8.* Grievance Redress Mechanism (GRM) Implementation**

- Status of GRM implementation (GRM procedures, training, public awareness campaigns, budgeting etc.) by districts;
- Total number of received grievances disaggregated by gender (applications, suggestions, complaints, requests, positive feedback), highlighting those grievances related to land acquisition and labor relations, targeted social assistance, and number of resolved grievances.

- Quantitative data on the type of grievances and responses, issues provided and grievances that remain unresolved;
- Level of satisfaction by the measures (response) taken;
- Any correction measures taken.

Please use the "Complaints Register" matrix with the following columns in sequence as shown in table below . The compliant register will include complaints received for GBV including SEA/SH

Implementation of interaction with stakeholders and work with citizen engagement

- Stakeholder engagement plan implementation status (conducted activities, meetings, public awareness raising campaigns, total number of people and representatives of other parties covered by the project for the reporting period)
- To what extent the stakeholders are being engaged during the implementation of E&S risks and impacts management measures? Do they participate in monitoring the implementation of E&S risk and impact management measures? Is the engagement/consultations organized according to the SEP? the participants were informed before the meeting and minutes were shared with the participants?

- Lis of the citizen engagement indicators per PAD and its status of achievement. List any activities or information of the conducted surveys (beneficiary feedback surveys).

9. Health and Safety Accidents

This section summarizes in table below on the Environment , Health and Safety accidents that occurred during the reporting period

Table: Accident reporting

Date and time of accident	Name of Victim	Description of the accident	Severity of Accident (Minor /Major injury/ death)	Mitigating measures taken by the contractor/proponent	Actions to be taken to prevent the occurrence of the accident

10. CAPACITY SUPPORT (TRAINING)

List of trainings that have been conducted, and planned training to be conducted in the future per ESCP. Please use the trainings that is listed in the project's ESCP.

11. Key E&S Implementation Issues (unresolved/pending) carried forward to the next half-year

What are the constraints to the achievement of ESCP and ESMP including the impact of COVID 19? Please add pending, delayed, and unresolved actions as of the Precedent Report (if any). Please use below table to highlight the pending delayed actions of the precedent report (if any)

Table for delayed Actions of the Project

No.	Activities (components, subcomponents) Planned but not implemented	Justification of delays/shortcomings	Actions to be taken	Timeline

12. Conclusions and Recommendations

Please summarize the major conclusions during this periodic report and recommendations for actions

Annex 10: Septic Tanks Code of Practice

A) Environmental Codes of Practice in the Design Stage

1. Site selection of septic tank: the septic tank shall be more than 30m away from intake structures and no less than 5m away from outer wall of structures
2. Septic tank shall have anti-seepage treatment design
3. The septic tank shall be equipped with breather pipe, and the material of pipe shall be plastic steel tube with diameter of DN100, which shall be installed onto the top of tank with the height of no less than 2.5m.
4. Consideration shall be given to the outlet water quality of septic tank and needs of routine maintenance of septic tank, excessive outlet water quality will cause blocking of the septic tank, thus it needs to be dig frequently.

B) Environmental Codes of Practice during Construction

Environmental Codes of Practice in Construction Plant

3.1.1 **Construction Site Management**

Arrangement of camp buildings: As construction projects are scattered and the scale of single project is small, there are no camp buildings and canteens in the construction area. The construction unit will rent the nearby homes or urban area of the project.

3.1.2 Construction Site and Facility Management

(1) Placing of Material

Building materials shall be put by category in the place specified in the construction layout plan. The placing of materials shall not exceed the specified height.

(2) Unfinished septic tank the same day and pot hole with people passing by in the nighttime shall have warning signs or cover protection.

C) Environmental Codes of Practice in Operation Period

Risk Prevention

Due to the presence of methane, carbon monoxide, and hydrogen sulfide, the project has risks in the operation period, thus appropriate measures shall be taken during the running period:

(1) Before pulling out the septic tank, a warning sign shall be set up in advance, barriers shall be removed to guarantee smooth traffic; and non-operation personnel shall be evacuated before opening the cover.

(2) The cover of methane-generating pit shall not be pried by steel chisel and anvil in order to avoid spark and cause burns and explosion.

(3) Using electric machine to pump and drain sewerage, and check whether electric machine, power supply, line and knife switch have leakage or not to avoid electric shock.

(4) Operating personnel should use natural ventilation to remove harmful gases such as carbon monoxide, carbon dioxide, hydrogen sulfide, methane before dredging, and use instrument to detect, and conduct pit operation after confirming harmless and safe. Operators under pit shall wear anti-static clothing, and shall not wear hard metal objects such as a key.

(5) Operators above the pit shall hold seat belts in hands and contact with under-pit staff at any time.

(6) After finishing clearing work, tank cover and ditch cover shall be recovered and repaired in a timely manner; and warning signs or protection shall be set up in case of failing to finish the very day.

(7) The surrounding area of septic tank can plant some canna or other plants with stink absorption functions.

Annex 11: IFCs Environmental, Health, and Safety Guidelinesfor Water and Sanitation

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industryspecific examples of Good International Industry Practice (GIIP). The EHS Guidelines for Water and Sanitation include information relevant to the operation and maintenance of (i) potable water treatment and distribution systems, and (ii) collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities.

https://www.ifc.org/content/dam/ifc/doc/2000/2007-water-and-sanitation-ehs-guidelines-en.pdf

Annex 12: WBG 2022 publication by the Water Department on Wastewater Treatment and Reuse- A Guide to Help Small Towns Select Appropriate Options.

This document is designed to provide a guide of small-town wastewater treatment processes in order to assist engineers, managers and other stakeholders responsible for wastewater service provision in identifying and selecting appropriate wastewater treatment processes for small towns. This guide is part of a World Bank suite of tools and other material to support World Bank teams and their government counterparts in the planning, design, and implementation of sanitation projects in urbanizing areas.

https://openknowledge.worldbank.org/server/api/core/bitstreams/212ae2f0-de06-50f2-b2f4-fce7b14078d9/content