

REPUBLIC OF TAJIKISTAN

**AGENCY FOR LAND RECLAMATION AND IRRIGATION UNDER THE
GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK (ESMF)**

Prepared for

**TAJIKISTAN STRENGTHENING WATER AND IRRIGATION MANAGEMENT
PROJECT**

April 2022

LIST OF ABBREVIATIONS AND ACRONYMS

ALRI	Agency for Land Reclamation and Irrigation
ECA	Europe & Central Asia
ESF	Environmental and Social Framework
ESMF	Environment and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
EU	European Union
FVWRMP	Fergana Valley Water Resources Management Project
GDP	Gross Domestic Product
GIS	Geographic Information System
GRM	Grievance Redress Mechanism
HWIS	Headworks Water Intake Structure
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
IWRM	Integrated Water Resources Management
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MEWR	Ministry of Energy and Water Resources
NDS	National Development Strategy
NWC	National Water Council
NWSRP	National Water Sector Reform Program
PAMP-I /II	Public Employment for Sustainable Agriculture & Water Management Project
PCU	Project Coordination Unit under PMU
PCR	Physical Cultural Resources
PDO	Project Development Objective
PIU	Project Implementation Unit under MEWR
PMU	Project Management Unit / Fergana Valley Water Resources Management under
RBC	River Basin Council
RBO	River Basin Organization
RPF	Resettlement Policy Framework
SEP	Stakeholder Engagement Plan
TRIP/SWIM	Tajikistan Resilient Strengthening Water and Irrigation Management Project
WIS	Water Information System
WSRP	Water Sector Reform Program
WUA	Water User Association
ZIRMIP	Zarafshon Irrigation Rehabilitation and Management Improvement Project

TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS	2
EXECUTIVE SUMMARY	5
1. INTRODUCTION	10
1.1 Project Description	10
1. 2. Rationale and Objectives of the ESMF	12
2. LEGISLATIVE AND REGULATORY FRAMEWORK	14
2.1. Overview of Environmental Legislative Framework in Republic of Tajikistan	14
2.2 Overview of Social Legislative Framework in Republic of Tajikistan	19
2.3 National Institutional Framework for ESMF implementation	21
2.4 International Conventions Ratified	24
2.5 Overview of World Bank’s Environmental and Social Standards	24
3. SOCIO-ECONOMIC AND ENVIRONMENTAL BASELINE DATA	34
3.1 Social and Environmental Characteristics of Vakhsh River Basin Districts.	34
3.1.1 Upper Sub-Basin of the Vakhsh River	34
3.1.2 Lower Sub-basin of Vakhsh River	36
3.2 Districts in Shurobad Irrigation System	39
3.3 General Socio-Economic and Natural-Environmental Characteristics of Zarafshon River Basin Districts	40
4. DESCRIPTION OF PROJECT ACTIVITIES BY RIVER BASIN	45
4.1. Vakhsh river basin.	45
4.2. Zarafshon river basin	48
5. ASSESSMENT OF PROJECT SOCIAL AND ENVIRONMENTAL RISKS AND IMPACTS	52
5.1. General Overview of Social and Environmental Risks	52
5.2. Environmental impacts, potential risks and measures for their mitigation	53
5.3. Workers and Community Health and Safety	59
5.4. Potential Social Impacts and Risks and Mitigation Measures.	63
5.4.1 Potential Social Impacts and Risks	63
5.4.2 Mitigation Measures to mitigate and reduce social risks	65
6. RULES AND PROCEDURES FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT 71	
6.1 Framework approaches to environmental and social assessment	71
6.2 Tools in accordance with the national legislation of the Republic of Tajikistan	72
6.3 Environmental and Social Due Diligence for Subprojects.	74

7. ESMF IMPLEMENTATION STRUCTURE	79
8. MONITORING AND REPORTING.....	81
8.1 General Requirements for Environmental and Social Monitoring and Reporting...81	
8.2. Types and Goals of Environmental and Social Monitoring	81
8.3 Environmental and social reporting.....	82
8.3. Occupational Health and Safety (OHS) Reporting	83
8.4 Integration of ESMF into Project Documentation	85
9. CAPACITY BUILDING ACTIVITIES AND ESMF IMPLEMENTATION BUDGET.....	86
10. GRIEVANCE REDRESS MECHANISM.....	87
11. INFORMATION DISCLOSURE AND PUBLIC CONSULTATIONS	92
ANNEXES	94
Annex 1. Indicative Outline of ESMP.....	94
Annex 2. ESMP Checklist.....	97
Annex 3. Environmental and social criteria for selection of subprojects.....	103
Annex 4. Indicative COVID-19 Prevention Action Plan for a Contractor	105
Annex-5 Training and Capacity Building plan.....	108
Annex 6. OHS Recommended Actions and Measures	111
Annex 7. Chance Find Procedures Guidelines Note in Complying with ESS8.....	111
Annex 8. ACM Management	117
Annex 9. Minutes of Public Consultations	119

EXECUTIVE SUMMARY

The National Water Sector Reform Program (NWSRP) for 2016-2025¹ stresses water as a valuable resource and calls for broad adoption of the integrated water resources management (IWRM) based on the basin principle. In order to expedite the implementation of the integrated water resources management principle and infrastructure rehabilitation in the Vakhsh River Basin, the Government of Tajikistan, with the financial support of the World Bank and the European Union, is designing the Tajikistan Strengthening Water and Irrigation Management Project (SWIM) aimed at rehabilitation and modernization of large-scale irrigation infrastructure and strengthening the sustainability of small-scale irrigation schemes exposed to floods and mudflows.

Project Description.

Project Development Objective(s) are: strengthen capacity for water resources planning and irrigation management in Tajikistan at national and basin levels; and improve performance of selected irrigation schemes in the Vakhsh and Zarafshon river basins.

The project includes the following four components:

Component 1. Water Sector Reform and Institutional Strengthening

Sub-component 1.1: Strengthening national and basin-level water resources policy and planning will be implemented by a PIU MEWR and will support establishment of a National Water Council (NWC) and support MEWR and RBOs in the planning, management, and monitoring of water resources, at national and river basin levels. At the national level, support will be provided for NWC dialogues, MEWR capacity building, and for the development, institutionalization, and use of the national Water Information System (WIS). At the basin level, support will be provided for building physical, technical, and human capacity of the RBO and RBC in the Vakhsh River Basin, including (i) design, supply, installation and commissioning of water flow measurement devices for gauging stations, (ii) construction of Vakhsh RBO office in Bokhtar and rehabilitation of the Rasht sub-office, (iii) provision of office furniture, IT equipment, laboratory equipment, and vehicles, and (iv) developing the WIS and the basin plan for the Vakhsh.

Sub-component 1.2: Improving irrigation planning and management. will be implemented by the PMU and will support improved irrigation management at agency (national and “sub-basin” ALRI) and WUA levels. The activities under this subcomponent are (i) preparation of a national irrigation strategy, and (ii) development and adoption of an irrigation management information system (IMIS), (iii) management restructuring of the national irrigation agency for improved scheme-level management, and (iv) ongoing strengthening of WUAs

Component 2. Irrigation scheme improvements.

Subcomponent 2.1: Improving (repair or modernization) large-scale irrigation schemes, including primary and secondary canals, intake structures, headworks, control gates, main canals, collector and drainage networks, and pump stations. Pump station modernization will include replacement or rehabilitation of pumps and electric motors and equipping workshops for routine maintenance of pumps and motors. Heavy machinery for ALRI maintenance of these schemes will be procured, and emergency works for the Danghara diversion tunnel and the Beshkent distribution point in Kofarnihon river basin plan will be financed. Subcomponent will focus on the large Vakhsh and Shurabad schemes that span six districts of the southern Khatlon region in the lower Vakhsh basin. The subcomponent will finance rehabilitation and reconstruction of key infrastructure in these schemes taking a build-back-better approach to build climate resilience by mitigating the impacts of projected increases in irrigated crop water stress.

¹ Republic of Tajikistan (2015):

Sub-component 2.2: Improving small- and medium-scale irrigation schemes in the Zarafshon and Lower Vakhsh. The subcomponent will finance the design, reinforcement, replacement, and protection of critical infrastructure at significant risk from extreme climate events. Works may include slope protection and riverbank stabilization works adjacent to intake structures, canals, and pumping stations. The subcomponent will target off-farm infrastructure. Capacity building will be undertaken at national and district levels for the design, construction, and maintenance of such works, and for conducting climate risk assessments and hazard reduction planning. Specialized machinery will be procured for the upper Vakhsh improve emergency response and infrastructure maintenance.

Component 3. Project management. This component will support incremental operating costs for project execution, including project administration and management, management of social and environmental issues, financial management (FM), procurement, contract administration, project reporting, and monitoring and evaluation (M&E).

Component 4. Contingent Emergency Response Component (CERC). This component will support government emergency responses in the event of an eligible emergency. Emergencies could include pandemics, floods, droughts, or landslides.

Project Areas. The major project investments will focus on the Lower Vakhsh basin. The rehabilitation or replacement of the small-and medium-scale irrigation infrastructure in the districts of the Lower Vakhsh River sub-basin and the Zarafshon River will be undertaken. For identified priority districts in the upper Vakhsh (Rasht, Tojkobod, and Lahsh) small-scale investments to protect infrastructure from floods and mudflows will be identified early during implementation. In the upper Kafirnigan River basin, institutional activities will be implemented.

Institutional Arrangements. The Project Implementing Agencies (IAs) are the Ministry of Energy and Water Resources of the Republic of Tajikistan (MEWR) and Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan (ALRI). The project will use existing PMU/ALRI and will establish a new PIU/MEWR. At the regional level, the PMU will establish satellite ALRI offices in the Lower Vakhsh Basin, Upper Vakhsh Basin, and Zarafshon Basin to support the project coordination.

ESMF Objectives: The ESMF summarizes the expected environmental and social risks and impacts associated with the project and identify measures to mitigate adverse impacts throughout the project life cycle. The document outlines the World Bank's Environmental and Social Standards (ESS) and national legislation of the Republic of Tajikistan, determines institutional arrangements and capacity to comply with the Bank's Environmental and Social Framework (ESF), identifies stakeholders and engagement methods, describes grievance redress and feedback mechanisms, and addresses requirements for monitoring and reporting about the project's environmental and social performance.

As the technical evaluation (e.g., feasibility studies, detailed designs) and specific intervention locations under the project are not identified and/or ready and their specific impacts are not known at the project preparation phase, a framework approach is adopted, and each project basin is described separately.

Potential Project Environmental and Social Risks and Impacts: The project is being designed under the World Bank's ESF. The environmental risk rating is assessed as substantial, while the social risk rating is moderate, making the overall E&S risk rating Substantial. The World Bank's ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, and ESS 10 are relevant to the Project.

The proposed activities are expected to result in economic, environmental, and social benefits through enhancing adaptation to climate change, rehabilitation of irrigation and drainage systems preventing excess energy and water loss, soil waterlogging and erosion, GHG emission, and

salinization of farmlands and adjacent landscapes. The *positive environmental and social impacts* are as follows: a) increase resilience against droughts and climate change adaptation; b) efficiency improvements to better management water demand; c) restructured and strengthened key water resource and irrigation management institutions; d) prevention and reduction of risks in water mismanagement and land degradation, e) water users provided with new/improved irrigation and drainage services, and f) improving the agricultural productivity of arable lands and overall income of farms and households.

Potential adverse impacts and risks include those involved with infrastructure rehabilitation including waste management; disturbance of existing ecosystem in natural habitats; possible pollution of water and soil; GHG emission, pesticide use for expanded and renewed agricultural systems; and the lack of familiarity among PMU staff to the Bank's ESF. They also involve environmental risks associated with rehabilitation of infrastructure and water resources management. Most physical activities are planned under Component 2 and includes the rehabilitation of selected, small-scale and community managed (often remote) irrigation infrastructure as well as the rehabilitation of large-scale irrigation schemes. Investments are expected to include (i) replacement of irrigation gates, rehabilitation and automation of headworks/intakes, and possibly minor works to support small-scale expansion of some works; (ii) repairs, mechanized cleaning, and lining of main canals to improve conveyance efficiency; (iii) rental and purchase of machinery (excavators, bulldozers) for scheme maintenance; (iv) retrofitting of pumps and pumping stations; and (v) works to protect irrigation infrastructure from flood damage and mudflow impacts. For irrigation schemes, particularly large-scale ones, a prioritization of rehabilitation works will be conducted during preparation of the detailed engineering designs. This procedure will include an assessment of energy and water losses and alternatives of their reduction; improvements in water distribution; and reductions in risk of floods and mudflows, soil erosion and salinization, waterlogging, and GHG emissions. Growth in agricultural production may also result in increased use of agrochemicals, including nitrogen fertilizers and pesticides.

Social risks could arise from (i) responses to reforms and institutional changes that cause increased operational costs and review of water tariffs, (ii) social exclusion of vulnerable groups (remote communities or those lacking skills and knowledge are excluded from project benefits), (iii) small-scale involuntary resettlement related to construction of RBO/WUA offices or minor changes to canal alignments to increase the water conveyance efficiency, (iv) misuse or inappropriate storing and handling of pesticides and fertilizers that can impact community health, (v) sexual exploitation or abuse at workplaces, or inequity in employment and terms and conditions, and challenges in organizing favorable a working environment; and (vi) COVID 19 pandemic outbreaks. No significant risks related to labor influx and community safety are expected under the project, as most project workers (for the civil works) will be recruited locally. The SEA/SH risk is assessed as low mostly due to the status of national Gender-Based Violence (GBV) legislation, social norms in rural areas, where women population at workplaces are well respected.

Key proposed risk mitigation tools. To manage environmental and social risks and impacts identified throughout all phases of the project implementation, the implementing agencies have prepared, consulted upon, disclosed, and will implement the following documents:

- 1) Environmental and Social Management Framework (ESMF);
- 2) Stakeholder Engagement Plan (SEP);
- 3) Resettlement Policy Framework (RPF);
- 4) Labor Management Procedures (LMP);

In addition to the above-mentioned framework documents, during the project implementation cycle, for each of the subprojects where significant or moderate risks are identified, the following tools will be used:

- 1) Environmental and Social Management Plan (ESMP), including those in the form of checklists for small-scale activities;
- 2) Site-specific occupational health and safety plan;
- 3) Contractor Code of Conduct (CoC);
- 4) Recommendations for pesticide use and pest control;
- 5) COVID-19 Pandemic Action Plans if relevant

ESMF Implementation Arrangements, Monitoring and Reporting. The project will organize an awareness campaign among the population on environmental and social risk management, focusing on water and energy saving technologies, prevention of water and soil loss/contamination, public health and safety, and occupational safety measures during the civil works. For this purpose, the PMU will contract an environmental consulting firm experienced in implementing environmental and social actions for the investment projects, conduct environmental and social performance monitoring at all stages of project implementation, and report periodically to the PMU. The development of the ESMP for each subproject will be the responsibility of the design company. A consulting firm will also conduct knowledge transfer activities and public consultations on the disclosure of the ESMP among the stakeholders. The oversight of compliance with the requirements of the ESMF throughout all stages of project implementation will be carried out by the PMU/PIU/PCUs, with the proactive participation of a contracted consulting firm responsible for the project environmental and social aspects. The development of the ESMP will be carried out by the design company with support of international environmental and social individual consultant hired by the PMU. The project environmental and social consulting firm under the supervision of the PMU will provide regular monitoring of the project/subprojects implementation during the construction and operation in accordance with relevant ESMPs, as well as training and reporting, including gender aspects. The environmental and social monitoring should provide information on key environmental and social aspects of the subprojects, in particular their environmental impacts, social implications of impacts and effectiveness of mitigation measures taken. The monitoring findings will be reflected in the firm's reports and shared with the PMU for further consolidation. General information on compliance with ESMF will be sent to the WB in a form of project semi-annual report.

ESMF Budget. The ESMF budget will be considered in the project procurement plan and regularly updated according the timeframe of the following key activities and objectives: support of PMU environmental and social specialists; hiring multifunctional environmental and social consultant (firm); hiring international individual environmental and social consultant supporting design consultants in preparing relevant E&S tools; international training for PMU E&S specialists; training at national level for social mobilizers; IAs' and PMU/PIU specialists; Governmental field inspectors (environmental, agricultural, etc.); Technical supervising engineers; Contractors' specialists; WUAs and farmers. In total the ESMF budget will cost of about USD000 and will be covered from the budget of Component 2 and 3.

Integration of the ESMP into the project documentation. All bidding documents for subprojects will include a requirement to implement a site-specific ESMP, and these documents should be attached to the bidding documents and then to the civil works contracts. The requirements of this ESMF will be incorporated into the Project Operational Manual, while the requirements of the ESMP will be included in the civil works contracts for individual subprojects, both in the specifications and in the bill of quantities, and contractors will be required to include the cost of implementation of the ESMP in their financial proposals. Contractors' contracts should include requirements for compliance with all national building codes, health and safety, protective procedures and regulations, and environmental protection documents.

Grievance Redress Mechanism (GRM). As required under World Bank's ESS 10, the Project will maintain a Grievance Redress Mechanism and other types of appeals. A Feedback

Mechanism will be implemented as one of the main tools to prevent social risks/exclusion. These mechanisms are necessary to make ensure the project beneficiaries have the opportunity, at all stages of project implementation, to submit their appeals in the form of complaints, requests to improve project activities or proposals to eliminate problems without any cost and with a guarantee of their timely resolution. The project envisages three levels of GRM implementation: local, river basin and national. The details of the mechanisms at the national and basin levels will be identified during the initial phase of the project, information about which will be disclosed on the websites of the IAs.

Public Consultation and Information Disclosure. A series of meetings were held with stakeholders in several regions to disclose the preliminary versions of framework documents. To incorporate the views of key stakeholders on February 3, 2022, a public consultation was held at the national level in Dushanbe. In addition, on March 17, 2022, public consultation was held at the regional level in the city of Bokhtar, where key stakeholders were represented at the level of representatives of Hukumats and Jamoats of Vakhsh, Kushoniyon, Jami and Khuroson districts, regional representatives of the departments of agriculture and environmental protection, structures involved in the management of water resources of the Vakhsh and Shurobad irrigation systems (regional DLRI, SDLRI, WUAs). Minutes of public hearings are attached

In order to broaden the coverage of stakeholders and highlight the proposed Project activities, developed social and environmental instruments, preliminary versions of project materials were also posted locally on the websites of the MEWR and ALRI.

After consultations and public hearings, taking into account the views of the stakeholders, the project materials were published on April 29, 2022 on the ALRI website under the following link:<https://www.alri.tj>:
<https://alri.tj/en/strengthening-water-and-irrigation-management-project-tajikistan>

1. INTRODUCTION

Tajikistan is a landlocked country with a population approaching 9.5 million, of which 73 percent is rural. Characterized by its mountainous terrain and limited arable land, Tajikistan relies heavily on agriculture, which accounts for 19 percent of national GDP (2019) and 45 percent of national employment rate (2019). The job creation has not kept pace with population growth, which in turn makes the economy vulnerable to external shocks. The negative impact of the COVID-19 pandemic has been a serious cause of the country's economic downturn, which has disproportionately affected the poor. The decline in remittances from migrant workers due to the travel restrictions and the economic downturn in Russia has reduced household consumption and budget revenues.

Tajikistan is highly vulnerable to natural disasters and climate change. The exposure level to floods and mudflows is high, which in turn has serious impacts on rural livelihoods and national food security.

Food security and poverty reduction are the Government's top priorities, and water resources are key to the economic growth. Tajikistan is implementing reforms in agriculture, energy and water resources. The water resources are critical to the success of reforms, namely by improving irrigation, developing hydropower, and ensuring universal access to safe and reliable water and sanitation sources as a basis for human capital development.

The irrigated agriculture is the key to a strong economic growth, but it is constrained by low performance. A low performance is due to outdated infrastructure, inadequate maintenance, and poorly managed systems that contribute to low productivity, low rural incomes, food insecurity, and adverse environmental impacts.

The Government of the Republic of Tajikistan and development partners have devoted considerable attention to supporting water sector reforms. This support was mainly based on the basin principle. The project builds on the achievements and lessons learned from the implementation of the previous World Bank-financed projects, which have improved irrigation management through support to institutional reforms and rehabilitation of the irrigation system. In response the World Bank has provided financial support to implement Tajikistan Strengthening Water and Irrigation Management Project (SWIM).

1.1 Project Description

The Project development objectives are:

- strengthening capacity for water resources planning and irrigation management in Tajikistan at national and basin levels; and
- improving performance of selected irrigation schemes in the Vakhsh and Zarafshon river basins.

The project will have four components: (i) Water sector reform and institutional strengthening, (ii) Irrigation Scheme Improvements, (iii) Project management and (iv) Contingent Emergency Response Component.

Component 1: Water sector reform and institutional strengthening

Subcomponent 1.1: Strengthening national and basin-level water resources policy and planning. The subcomponent will support establishment of a National Water Council (NWC) and support MEWR and RBOs in the planning, management, and monitoring of water resources, at national and river basin levels. At the national level, support will be provided for NWC dialogues, MEWR capacity building, and for the development, institutionalization, and use of the national Water Information System (WIS). The subcomponent will support NWC establishment through drafting by-laws and regulatory documents, dialogues and study-tours, and capacity building for guiding planning, regulation, and management of water resources. The component will strengthen MEWR capacity for regulation of water resources use, including in implementation of the Water

Information System. The MEWR will be also supported to institutionalize preparation and publication of an annual national water assessment report (or water cadaster report), indicated the status and use of all water resources. At the basin level, support will be provided for building physical, technical, and human capacity of the RBO and RBC in the Vakhsh River Basin, including (i) design, supply, installation and commissioning of water flow measurement devices for identified key gauging stations, (ii) construction of Vakhsh RBO office in Bokhtar and rehabilitation of the Rasht sub-office, (iii) provision of office furniture, IT equipment, laboratory equipment, and vehicles, and (iv) developing the WIS and the basin plan for the Vakhsh; and (v) development and delivery of tailored trainings to the water sector professionals, including on climate change-informed decision tools for river basin planning.

Subcomponent 1.2: Improving irrigation planning and management. This subcomponent will support improved irrigation management at agency (national and “sub-basin” ALRI) and WUA levels. The activities under this subcomponent are (i) preparation of a national irrigation strategy, and (ii) development and adoption of an irrigation management information system (IMIS), (iii) restructuring of currently sub-optimal irrigation institutional framework in the target area for improved irrigation scheme-level management, and (iv) ongoing strengthening of WUAs. WUA grants will be capped at US\$20,000 and will require a 5 percent beneficiary cash contribution or 10 percent in-kind contribution. National (sectoral) and project-level grievance redress mechanisms will be established under this subcomponent.

Component 2. Irrigation Scheme Improvements.

Subcomponent 2.1: Improving large-scale irrigation schemes. This subcomponent will focus on the large Vakhsh and Shurabad schemes that span six districts of the southern Khatlon region in the lower Vakhsh basin. The subcomponent will finance rehabilitation of irrigation headworks and primary and secondary canals. Performance indicators and pre-feasibility studies have been used to identify intake structures, headworks, control gates, main canals, collector and drainage networks, and pump stations, to be repaired or modernized. These works will improve hydraulic efficiency and water delivery control and reduce the energy intensity of irrigation. Final selection of modernization works will be based on detailed engineering studies to be conducted for each of these two schemes. Pump station modernization will include replacement or rehabilitation of pumps and electric motors and equipping workshops for routine maintenance of pumps and motors. Selection of pump stations for investment will consider energy efficiency improvements and efficiency of water delivery and prioritize stations that cannot be cost-effectively converted to gravity irrigation. Heavy machinery for maintenance of these schemes will be procured for ALRI. The sub-component will also finance emergency works for the Danghara diversion tunnel and the Beshkent distribution point in Kofarnihon Basin.

Subcomponent 2.2: Improving small- and medium-scale irrigation schemes. Pre-feasibility studies for irrigation schemes in the upper Vakhsh basin have been completed. For priority schemes in the Zarafshon and Lower Vakhsh, rehabilitation or replacement of selected works will be undertaken. The subcomponent will finance the design, reinforcement, replacement, and protection of critical infrastructure at significant risk from extreme climate events. Civil works will focus on ensuring climate resilient infrastructure to increase resilience to floods and mudflows. Works may include slope protection and riverbank stabilization works adjacent to intake structures, canals, and pumping stations. The subcomponent will target off-farm infrastructure that is primarily the responsibility of ALRI. Capacity building for ALRI and TajikGiprovdhoz (design institute) will be undertaken at national and district levels for the design, construction, and maintenance of such works, and for conducting climate risk assessments and hazard reduction planning. Specialized machinery will be procured for the upper Vakhsh improve emergency response and infrastructure maintenance.

Component 3: Project Management. This component will support incremental operating costs for project execution, including project administration and management, management of social and

environmental risks and impacts, financial management (FM), procurement, contract administration, project reporting, and monitoring and evaluation (M&E). It will finance consultancy services (individual and firm) hired to complement capacity of the implementation units (MEWR PIU and ALRI PMU) including for coordination with other activities under the EU-financed program, baseline and project completion surveys, preparation of assessments and data collection, annual project audits. A Project Coordination Unit will be established in Bokhtar to support the scope of activities in the lower Vakhsh. Additionally, project implementation support consultants will be hired for day-to-day coordination of project activities in Upper Vakhsh and Zarafshon. Finally, this component includes professional development and other interventions to promote gender diversity in MEWR and ALRI. For example, the project will support, among others, review of human resources policies on recruitment, promotion and retention in water sector entities, development of guidelines for a safe and comfortable work environment including sexual harassment reporting mechanism.

Component 4. Contingent Emergency Response Component. This component would support government emergency responses in the event of an eligible emergency. This component with provisional “zero” allocation allows the Government to request the World Bank to recategorize and reallocate uncommitted financing from other project components to cover emergency response and recovery costs, but also to channel additional funds to fully or partially replenish funds reallocated to the CERC should they become available as a result of an eligible emergency. The CERC will be established and managed in accordance with the provisions of the World Bank Policy and World Bank Directive on Investment Project Financing. The CERC, if activated, will be able to finance eligible activities included in the positive list, stipulated in the POM.

The expected project benefits include: (i) expansion of effectively irrigated areas, enabling higher value crops and higher crop yields and (ii) expansion of the area under double cropping. These benefits will come from modernization of irrigation schemes and improved performance of irrigation service providers. Indirect benefits will include reduced agriculture production losses and higher sector financing from increased rates of tariff collection as well as enhancing adaptation to climate change. Project costs include investment costs to be identified based on feasibility studies to be conducted during the project preparation. All project benefits will also contribute to enhancing climate change adaptation, improved environmental and social environment through improved irrigation structure and prevention of unproductive water losses, soil salinization and erosion, creation of additional jobs and improved local community livelihoods.

Project beneficiaries include: (i) ALRI and MEWR, (ii) RBO and RBC for Vakhsh river basin, (iii) regional and district irrigation authorities, (iv) community institutions including WUAs, (v) farmers and rural households, including female-headed households. The project will benefit 38 WUAs in the Vakhsh schemes area, 6 in the Shurabad scheme area, 14 in the Zarafshon basin and 7 in the targeted area of Big Hissar Canal in the upper Kofarnihon basin through a set of differentiated activities. Most of the project focus and investments will be channeled to the two major schemes in Lower Vakhsh Basin. There are around 16000 farmers within the command area of these two schemes that are expected to benefit from improved irrigation services. About 40 percent of farmers in the project area will additionally benefit from extension and training services on modern irrigation techniques and support services for agriculture production. Component 2 activities are designed to ensure proactive engagement of women and women’s group, ensuring equal benefit.

1. 2. Rationale and Objectives of the ESMF

Since the technical assessment (e.g., feasibility studies, working designs) and specific locations of project activities are not identified and their specific impacts are not known during the project appraisal, a framework approach is adopted. In accordance with the WB ESF requirements, an Environmental and Social Management Framework (ESMF) has been developed to identify,

assess and manage environmental and social risks and impacts that may occur during the project implementation.

The ESMF (i) is developed to meet the requirements of the World Bank Environmental and Social Standard 1 – Assessment and Management of Environmental and Social Risks and Impacts (ESS 1), (ii) outlines the legal and regulatory framework of Tajikistan, (iii) identifies actions to prevent, minimize and/or mitigate potential adverse environmental and related social impacts that might result from the project implementation, (iv) mitigation measures for project activities include Environmental and Social Management Plans (ESMPs), (v) includes a monitoring plan for environmental and social mitigation measures. The ESMF ensures that identified subprojects are properly assessed from environmental and social perspectives to meet the World Bank environmental and social standards along with the environmental and social laws and regulations of the Republic of Tajikistan to adequately mitigate residual and imminent impacts (if any).

This document describes the background/context, policy and regulatory framework, and environmental and social impacts of potential subprojects. This includes environmental and social impact assessment (ESIA) principles and guidelines, institutional arrangements, consultation and disclosure procedures.

The ESMF guides the assessment process and addresses the following:

- Rules and procedures for environmental and social screening of project activities and subprojects to be supported under the project;
- Environmental and social criteria for the selection (eligibility) of sites;
- Identification of project sites and activities that require environmental and social impact assessment to make a decision on the development of a complete ESMP or a simplified ESMP in the form of checklists;
- Measures to mitigate potential impacts of the proposed subprojects;
- Curriculum proposals for environment-related activities, particularly in the areas of sustainable water and land use, environmental risk and impact management;
- Implementation and monitoring arrangements for the ESMP.

2. LEGISLATIVE AND REGULATORY FRAMEWORK

This section describes the regulatory framework that applies to environmental and social aspects with respect to this Project. The environmental and social issues management is based on the requirements of Tajikistan legislation and the new WB environmental and social principles. The legislation of the Republic of Tajikistan in relation to the environmental management consists of a significant number of legislative and regulatory acts, including articles of the Constitution, laws, by-laws, resolutions of the Government of the Republic of Tajikistan (GoT) and international environmental conventions ratified by the Parliament of the Republic of Tajikistan.

2.1. Overview of Environmental Legislative Framework in Republic of Tajikistan

Constitution of the Republic of Tajikistan

- Guarantees an exclusive state ownership of land, subsoil, water, airspace, flora and fauna and other natural resources, and their effective use in the interest of all people (Article 13).
- Proclaims the freedom of economic and entrepreneurial activity and the legal protection of all types of activity, including private activity (Article 12).
- Guarantees the health protection of all citizens and adoption of measures to improve the environment health (Article 38).
- Places on every citizen and legal entity an obligation to protect the environment, historical and cultural monuments (Article 44).

Law on Environmental Protection of the Republic of Tajikistan

The Law on Environment Protection is the primary law governing the protection of the environment. The Parliament adopted the law on June 22, 2011 (No. 485), replacing the then effective Law on Nature Protection (No. 905 of 12/27/1993) with amendments (No. 30 of 10/2002; No. 75 of 12/2/2002; No. 58 of 4/15/2004)

- Provides economic mechanisms for environmental protection, including the obligations of enterprises to restore the affected environment to the proper conditions (Article 78) and approves a system of payments for the use of natural resources and pollution (Article 20).
- Creates a basis for the development of environmental standards for maximum permissible concentrations of pollutants, as well as permits and standards for maximum permissible emissions;
- Identifies a procedure to compensate for environmental adverse impact caused by the enterprises and individuals.
- Comprises provisions for environmental impact assessment for all types of economic activities potentially hazardous to the environment.
- Provides that the environmental policy of the Republic of Tajikistan prioritize the environmental protection activities based on scientifically proven principles in order to combine economic and other activities that may have an impact on the environment with application of environmental protection measures and sustainable use of resources.
- Identifies relevant legal principles, protected sites as well as the roles and responsibilities of the Government, the Committee on Environmental Protection under the Government of the Republic of Tajikistan, local authorities, public organizations and individuals. Provides for measures to ensure public and private rights to safe and favorable environment and requires a combination of state environmental screening and environmental impact assessment of any decisions that can cause environmental damage.

- The Law also introduces the definition of environmental emergencies and environmental disaster zones and prescribes the procedure of actions in such situations, defines the responsibilities of public authorities and enterprises to prevent and eliminate their consequences, as well as the responsibilities of individuals and legal entities liable of causing damage to the environment or breaking this law.
- The law establishes different levels of control over the compliance with the environmental legislation: government control, institutional control, enterprise-level control and public control.

The detailed steps on implementation of the legal provisions are set forth in the following laws and other legislative acts.

Law on State Environmental Expertise of the Republic of Tajikistan (2012)

This law replaced the previous version of the law No. 20 of April 22, 2003. According to the law, all national and local projects, programs and mechanisms implementation of which requires the natural resources use and/or may adversely affect the environment are subject to state environmental expertise. The current Law:

- Identifies the general principles of the environmental expertise;
- Identifies mandates of environmental experts and types of environmental expertise, including the state and public environmental expertise;
- Includes a list of types of economic activities subject to a mandatory environmental expertise. Projects of the national and local level that may have a negative impact on the environment are subject to the state environmental expertise;
- Identifies the procedure for submitting documents for the environmental expertise and the mandates of the environmental expertise authority;
- Identifies the timeframe for the environmental expertise. According to the new law, the decision should be taken within 30 days after the official receipt of the documents by the authorized state environmental expertise body. For complex projects, the review period may be extended up to 60 days;
- Includes provisions for the public environmental expertise that may be initiated by the stakeholders. The opinion of the public environmental expertise is nonbinding; the state environmental expertise body retains the right of the final decision-making.

Law on Environmental Impact Assessment of the Republic of Tajikistan (2017)

This law establishes the legal and institutional basis for environmental impact assessment, its relationship with the state environmental expertise, as well as the procedure for accounting and classification of the environmental impact assessment objects. The environmental impact assessment in Tajikistan is regulated by the Law on Environmental Impact Assessment of July 18, 2017, No.1448. The law requires a classification of the economic and other planned activities depending on the level and types of potential environmental impacts into the following categories: “A”, “B”, “C” and “D”.

- a. Facilities that have a significant negative impact on the environment and are associated with the areas of application of the best available technologies, and subject to the presence of harmful (polluting) substances discharged and emitted into the environment as well as substances of hazard class 1 and (or) 2 (according to sanitary standards) are classified as category “A” facilities;
- b. Facilities which have a moderate negative impact on the environment and subject to the presence of substances of hazard class 3 in discharges and emissions of harmful (polluting) substances into the environment are classified as category “B” facilities;

- c. Facilities which have an insignificant negative impact on the environment and under condition of presence in discharges and emissions of harmful (polluting) substances in the environment of hazard class 4 and (or) 5, are classified as category “C” category facilities;
- d. Facilities that have a minor negative impact on the environment and under condition of insignificant emissions and discharges are classified as category “D” facilities.

An environmental expertise for categories “A”, “B”, “C” facilities shall be assigned to the national authorized body, and the assessment for category “D” facilities shall be assigned to the regional authorities on environmental protection. An environmental impact assessment is required for the projects of categories “A” and “B”. Activities not included in categories “A” or “B” require a statement on environmental impact assessment and a declaration of commitments to implement the established and proposed environmental protection measures from the client of an activity

Environmental Impact Assessment Process in Tajikistan.

The Law on State Environmental Expertise includes provisions about the process of Environmental Impact Assessment (EIA) in Tajikistan. Detailed procedures for the implementation of these provisions are provided in Resolution No. 532 on the Procedure for Environmental Impact Assessment (EIA) of the Government of the Republic of Tajikistan dated November 1, 2018. The document defines general approaches to the organization and implementation of an environmental impact assessment, taking into account the legislative and regulatory framework of the Republic of Tajikistan.

An environmental impact assessment includes the following phases:

Phase 1 – review and assessment of the environment of the facility, it is carried out in order to justify the optimum selection of the appropriate land plot for the location of a facility;

Phase 2 – preliminary environmental impact assessment, simultaneously accompanied by a feasibility study of the project and formalized in the form of an application for environmental impact assessment;

Phase 3 – environmental impact assessment, conducted in order to fully and comprehensively analyze the potential impacts of the project implementation, justify alternatives and develop an environmental management plan (program). The environmental impact assessment report shall contain a description of the technical solution to prevent negative impacts on the environment. At this stage, standards for emissions to air and discharges to water bodies, generation, storage and disposal of solid and liquid waste are developed;

Phase 4 – post-project analysis carried out one year after commissioning of a facility (beginning of economic or other activities) to confirm safety for the environment and to adjust the environmental management plan (program).

Review and approval of the EIA – is carried out by the State Environmental Expertise. The review of the environmental impact assessment documents, in accordance with the category of assessed facilities shall be conducted for up to 60 days. The decision on selecting a proper procedure of the state environmental impact assessment shall be made by the authorized state agency within no more than 10 calendar days after registration of acceptance of the submitted materials. The opinion of the state environmental expertise related to the documents on environmental impact assessment shall be binding on the client as part of the planned economic and other activities.

Requirements for the EIA report – Law on Environmental Impact Assessment dated July 18, 2017, sets out a detailed list of requirements for the EIA report, such as justification of the need for the project; description of project activities and processes; impact on abiotic and biotic components of the environment, public health and socio-economic conditions; mitigation and monitoring; design standards for emissions (discharge) of pollutants and waste disposal; information disclosure to the public.

Disclosure of information to the public in the EIA process – Law on EIA of 2017 provides that the authorized state agency shall develop a procedure for informing citizens at the appropriate stages of the environmental impact assessment of projects classified as categories “A” and “B”. At the same time, it provides for the possibility of consultation and review of public opinions.

The procedure for information disclosure to the public includes as follows:

- Indication of places for obtaining information and consultations;
- Indication of an method of informing the public (including through websites, mail, mass media, organization of public hearings, use of figures, tables, diagrams, etc.);
- Identification of methods for the public consultation (including in the form of discussion of written submissions, findings of public surveys);
- Establishment of deadlines for the relevant phases of an environmental impact assessment.

All the information, including reports, expert opinions, project feasibility studies, modifications in projects, findings of studies related to the facilities subject to an environmental impact assessment shall be posted on the website of the authorized state agency.

In making a decision to grant or deny a project permit, the authorized state agency shall provide the following information to the public:

- The content of the decision;
- The basic facts and considerations that are fundamental to the decision;
- A description of the main actions to prevent, mitigate, and, if possible, eliminate adverse environmental impacts during the course of the project implementation.

Law on Environmental Monitoring of the Republic of Tajikistan

The law establishes the institutional, economic and social framework for an environmental monitoring in the country. It identifies the goals, objectives, responsible parties and principles of environmental monitoring in Tajikistan. It introduces a unified system of environmental monitoring in the country and a framework for the use of information resources. It identifies the responsible agencies and a framework for the public participation.

Law on Atmospheric Air Protection of the Republic of Tajikistan

The Law was adopted by the Parliament in December 2012 and replaced the previous version of the law of February 1, 1996. The current Law:

- Provides the legislative basis for the protection of atmospheric air in Tajikistan;
- Identifies the goals, objectives and basic principles of atmospheric air protection;
- Identifies objects and subjects of atmospheric air protection and general principles for classification of sources of air pollution and pollutants;
- Identifies responsibility for the regulation and atmospheric air protection management at various levels of government;
- Introduces economic mechanisms for air protection, including mandatory payments for air pollutant emissions and incentives for air protection measures. Charges for volumes of pollutants exceeding established limits are increased fivefold;
- Provides legal requirements for the introduction of evidence-based air quality standards, including Maximum Permissible Concentrations (MPCs), permits to emit pollutants into the atmosphere and development of requirements to protect the atmosphere under various conditions. Any facility that has an adverse impact on the air quality is required to obtain a special permit to emit pollutants into the atmosphere.
- Includes provisions for the protection of the ozone layer and transboundary air pollution control.
- Introduces requirements for statistical accounting, inventory and reporting of air pollutant emissions, and monitoring of air pollution activities. Any business with permanent or mobile sources of air emissions to submit a special report for approval of maximum permits (emission limits) as a result of business operations, based on an inventory of emission sources and calculations of the amount of expected pollutants. The normative document

issued in the former Soviet Union for calculation of norms of pollutants titles “Complex norms of air quality I and II (Dushanbe, 1991)” is still valid in Tajikistan. According to Article 18 of the Law, the planning of any construction activities for facilities involving possible air pollution shall take into account the best available information provided by the relevant authority on: (i) background pollution levels; (ii) current quality and emission standards. The design and construction of facilities that may have a significant adverse impact on air quality is prohibited. The Law prescribes that all individuals and legal entities shall have the obligation to take the necessary steps to prevent adverse impacts, noise, electromagnetic radiation vibration and other sources of potential impacts on the environment. There is no requirement to obtain a permit for the emission of pollutants for this project.

Law on Environmental Audit of the Republic of Tajikistan

The Law on Environmental Audit includes provisions for environmental audits of businesses and other organizations. An environmental audit is defined as an analysis and assessment of an enterprise’s compliance with environmental laws and regulations. The law defines the objectives, tasks, objects and principles of an environmental audit. An environmental audit can be initiated by the relevant state agency. The audit initiated by a state agency is mandatory. There is no information about additional by-laws related to this law.

Law on Industrial and Household Waste Management of the Republic of Tajikistan

The Law under No. 109 was adopted by Parliament on July 25, 2005, and it replaced the previous version of Law No. 44. The law charges the waste generators with the responsibility for proper waste management and requires careful control of waste generation activities as well as relevant waste storage, removal or disposal. During the design, construction and operation of plants, structures or other facilities, individuals and legal entities are responsible for complying with established rules and regulations.

Law on Plant Protection

This Law determines legal, economic and organizational basis for activities in protection of plants and agricultural products from pests, diseases and weeds. The main objectives of the plant protection state policy are: (i) provision of the favorable phytosanitary environment; (ii) prevention control of the adverse influence of pesticides on health of humans and animals, agricultural products and environment in course of the phytosanitary measures; and (iii) promotion of food security. There are a number of laws and sub-laws, which regulate the use of pesticides and agrochemicals: Law on the Factories Quarantine Law (N5, 12.05.2001), of 2001, revised in 2003; Law on Production and Safety Implications of Pesticides and Agro-chemicals law dated April 22, 2003; The Decree on Factory Quarantine (N38, 4.02.2002) concerning creation of the Government Inspection (service) on factories quarantine of 2002; The Law of the Republic of Tajikistan "On the Production and Safe Management of Pesticides and Agrochemicals" No. 2 dated April 22, 2003; Government Decision "On the establishment of the Commission on Chemical Safety of the Republic of Tajikistan" No. 92 of March 3, 2003; A list of chemicals and biological preparations permitted for use in the Republic of Tajikistan, which was approved by the decision of the Commission on Chemical Safety of the Republic of Tajikistan of June 11, 2004 No. 4; Government Decision "On Approval of the List of Especially Hazardous Pests" No. 477 of August 31, 2012; Resolution of the Government "On the Program for the Control of Pests and Diseases of Gardens and Vineyards for the Period 2011-2015" No. 625 of December 3, 2010; Government Decision "On approval of the Program for the Development of the Cotton Sector in the Republic of Tajikistan for 2010-2014" No. 586 of October 31, 2009.

Water Code of the Republic of Tajikistan

This legislative instrument establishes policies for water management, permitting, dispute resolution, water use planning, and cadaster. The code encourages a sustainable use and conservation of water resources by all users and identifies the water use types and roles of the regional and local authorities in the distribution of water resources to various users, fee collection, water use planning, the rights of water users, and dispute resolution. Code 29 delegates the management and maintenance functions for irrigation and drainage infrastructure to the Water Users Associations at the farm level.

Land Code of the Republic of Tajikistan

The current Land Code (adopted in 1992) identifies the land use types, the roles of various levels of government in land management, principles of land taxation, land use planning, rules for land use rights mortgages and resolving land disputes. The Code defines the rights of land users and lessees and regulates the land use of the special land fund for the purpose of farmland restructuring. The Code regulates land transactions and aims to encourage sustainable land use and protect land resources and soil productivity. Only sustainable land use is allowed, the determination and control of which is delegated to the local land use authorities under the Code. The Code also includes mechanisms allowing the withdrawal of land use certificates from farmers in a number of cases, including situations where land use leads to land degradation.

Liability for Environmental Legislation Violations

The administrative and criminal codes of Tajikistan include a wide range of liabilities and penalties for violations of environmental legislation. Penalties range from relatively small fines (up to 300 minimum wages) to life imprisonment for those found guilty of ecocide by a court. Inspectors can directly impose fines and/or compensation for an adverse impact on the environment, or the penalties can be imposed through the courts.

Administrative System of Environmental Protection in Tajikistan

The main state authority that oversees the environmental issues is the Committee on Environmental Protection (CEP) under the GoT. The CEP is structured into several departments. During the project implementation, close interaction with a number of agencies may be required, including: Department of State Environmental Expertise (review of project documentation, obtaining permits to perform actions to implement project activities), Department (Inspectorate) of Water Resources Protection, Department of Atmospheric Air Protection and Department of Waste Management (a permit for household waste disposal may be required).

Tajikistan's state authority responsible for the social sector is the Ministry of Labor, Migration and Employment, which regulates employment and development of social and labor policies, labor remuneration, labor protection and conditions, labor market regulation, population migration, etc. The Ministry of Health and Social Protection of Tajikistan ensures proper control over the issues of health and social protection of the population.

The Federation of Independent Trade Unions of Tajikistan is a public organization that protects the interests of labor, social and economic rights of workers, supervises and controls the creation of healthy and safe working conditions, proper on-the-job working conditions, elimination of environmentally harmful and hazardous factors affecting the health of people and the environment.

2.2 Overview of Social Legislative Framework in Republic of Tajikistan

Law on protection and use of historical and cultural heritage of the Republic of Tajikistan (2012, amended in 2017) regulates social relations in the field of protection, use, conservation

and promotion of historical and cultural heritage. Article 5 prohibits the construction of new facilities on the territory of historical and cultural heritage sites without an authorized permit, and Article 21 addresses the measures to be taken to restore historical sites and cultural heritage and their preparation for restoration works.

Law on Freedom of Information of the Republic of Tajikistan is based on Article 25 of the Constitution, which states that state bodies, public associations and officials are obliged to ensure everyone the opportunity to receive and become familiar with documents related to their rights and interests, except in cases stipulated by law. The law applies to affairs related to access to information contained in the official documents and not classified as restricted information in the interests of national security in accordance with the legislation on state secrets and other normative and legal acts regulating relations in the field of protection of state secrets.

Law on Appeals of Physical and Legal Entities of Republic of Tajikistan (2016) contains legal provisions on established information channels for citizens to file their complaints, requests and grievances. Article 14 of the Law sets the timeframes for handling grievances, which is 15 days from the date of receipt that do not require additional study and research, and 30 days for the appeals that need additional study. These legal provisions will be taken into account by the project-based Grievance mechanism.

Law on Local Public Authorities of Republic of Tajikistan (2004) gives the governor of a district or city administration the authority to manage natural resources, construction and reconstruction of environmental facilities, supervision of local structures in waste management, sanitary and epidemiological supervision, health and social protection of the population within the boundaries of an administrative and territorial unit. The public assemblies are allowed only if the local authority (district hukumat) is notified in advance.

Civil Code of Republic of Tajikistan establishes the procedure for exercising property rights and other property rights, rights to the results of intellectual activity, regulates contractual and other obligations, as well as other property and related personal non-property relations, based on equality, independence of will and property independence of their participants. Family, labor affairs, relations on the use of natural resources and environmental protection shall be regulated by the civil legislation, unless otherwise stipulated by the laws on family, labor, land and other special legislation.

Labor Code of the Republic of Tajikistan (2016) is a fundamental legislative act aimed at regulating all labor issues arising in the Republic of Tajikistan. This Code regulates labor affairs and other actions directly related to the protection of rights and freedoms of parties to labor affairs, the establishment of minimum guarantees of rights and freedoms in the field of labor. Article 7 of the Code prohibits discrimination and guarantees equal labor rights for all citizens; any discrimination in labor affairs is prohibited. Articles 18-19 Section II. “Labor relations” define the basic rights and obligations of both the employee and the employer. Article 22 of the Labor Code of the Republic of Tajikistan establishes the principle of equal treatment of all workers. Article 8 prohibits forced labor. Article 74 “Duration of working time” sets the minimum age of 15, but in some instances of vocational training light work may be allowed for those aged 14. Tajikistan’s legal and regulatory framework provides an adequate and appropriate enabling environment for the key activities that this Project will support. Chapter 14 of the Labor Code, Articles 198-206 regulate labor disputes between the employer and the employee. Section 5 of the Labor Code describes the roles and responsibilities of employers and employees related to occupational health and safety. Article 216 describes types of jobs where women’s labor is prohibited, i.e. it is prohibited to employ women for heavy work, underground work, and work in hazardous working conditions. The list of jobs where women’s labor is prohibited and the maximum permissible norms of loads for them when lifting and moving weights manually are approved by the Government of the Republic of Tajikistan.

Law on Water Users Associations of the Republic of Tajikistan. This Law establishes economic, institutional and legal framework for water users associations' activities and is aimed at ensuring water saving and effective use of hydraulic structures in the service area.

Law on Dekhkan Farms of the Republic of Tajikistan (2016) provides the legislative framework for the establishment and operation of private dekhkan farms. It clarifies and establishes the rights of members of dekhkan farms as land users. The law improves the management of dekhkan farms and defines the rights and responsibilities of their members. It allows farmers to legally create field camps on the land as temporary structures, which makes it possible to significantly increase the crop yield during the agricultural season. The law requires dekhkan farms to take actions to improve soil fertility and the environmental condition of land, to pay for water and electricity in a timely manner, and to provide statistical information to the state authorities.

According to the ***Law on Public Associations of the Republic of Tajikistan***, public associations may be established in one of the following institutional and legal forms: public organization, public movement or public amateur organization. Article 4 of the law establishes the right of citizens to form associations for the purpose of protecting common interests and achieving common goals. The article outlines the voluntary nature of associations and defines the rights of citizens not to join such organizations, as well as to withdraw from them. Amendments to the law in August 2015 require NGOs to notify the Ministry of Justice of all funds received from international sources before such funds are used.

Law on Public Assemblies, Marches and Rallies of the Republic of Tajikistan of 2014 (Article 10) prohibits the organization of assemblies by persons who have committed administrative offences (i.e. non-criminal violations) under Articles 106, 460, 479 and 480 of the Code of Administrative Offences. Article 12 of the Law stipulates that organizer of a mass gathering must obtain permission from a local administration fifteen days prior to organizing a mass gathering.

2.3 National Institutional Framework for ESMF implementation

The national environmental and social policy in the Republic of Tajikistan is based on the provisions of the country's Constitution, which guarantees the exclusive state ownership of land, subsoil, water, airspace, fauna and flora, and other natural resources, and their effective use for the benefit of all the people. (Article 13). Proclaims the freedom of economic and entrepreneurial activities and legal protection of all types of activities, including private ones. (Article 12). Guarantees the protection of the health of all citizens and the adoption of measures to protect the environment. (Article 38). Makes every citizen and legal entity responsible for the protection of the environment, historical and cultural monuments (Article 44).

Majlisi Oli – the Parliament of the Republic of Tajikistan is the highest legislative body and consists of two Majlises – “Majlisi Milli” and “Majlisi Namoyandagon”. Majlisi Oli determines the national environmental and social policies, approves the national environmental programs, develops and adopts the national environmental and social legislation, coordinates the activities to monitor compliance with environmental requirements, determines the rates of environmental charges and establishes appropriate incentives.

The Government of the Republic of Tajikistan (Hukumat) is the executive branch. It consists of the Prime Minister, Deputy Prime Ministers, Ministers, and Chairmen of the State Committees. The Government exercises the state control over the environmental protection jointly with the Committee for Environmental Protection (CEP) under the Government of the Republic of Tajikistan and local authorities. Based on this, the competence of the Government of the Republic of Tajikistan in the field of environmental protection includes:

- Determination of directions of the state policy in the field of environmental protection;

- Determination of the procedure for the development and approval of regulatory documents and requirements in the field of environmental protection for economic and other activities;
- Encouragement of scientific, scientific and technical developments and research in the field of environmental protection, ensuring environmental safety and sustainable environmental management, prevention and preclusion of environmental degradation;
- Approval of regulations on the state funds for environmental protection;
- Establishment of the procedure and conditions for carrying out the compulsory environmental insurance for individuals and legal entities;
- Determination of the procedure for arranging and conducting the state environmental expertise and the procedure for assessing the impact of the planned activity on the environment;
- Making decisions on the use of natural resources, concluding agreements and contracts, including concepts;
- Approval of programs, concepts, strategies and action plans for environmental protection, national reports and reports on the state of the environment, as well as schemes for the integrated use, reproduction and protection of natural resources, the procedure for maintaining the state cadasters of natural resources;
- Financing and logistical support of environmental protection measures within the limits and scopes established by the state budget;
- Establishment of the structure, content and procedure for the state monitoring of environment and natural resources, formation of the state system for monitoring the state of the environment and ensuring the functioning of this system;
- Approval of the list of product groups, performance of works and services in the field of environmental protection subject to mandatory standardization and certification;
- Approval of the list of environmental objects of special ecological, scientific, historical and cultural significance, organization of the state reserves, state national and natural parks, and other specially protected natural areas;
- Determination of the procedure and conditions for collecting, analyzing, summarizing, providing information and maintaining the state statistics in the field of environmental protection;
- Establishment of the procedure for the state control in the field of environmental protection;
- Determination of the authorized state body of the Republic of Tajikistan in the field of environmental protection and approval of its position;
- Exercising other powers in accordance with this Law and other regulatory legal acts of the Republic of Tajikistan.

Local executive bodies of the State Power within their powers:

- Carry out the state control in the field of environmental protection and regulate the use of natural resources;
- Organize the development and implementation of programs and action plans for environmental protection and nature management in the respective territories, carry out the construction and reconstruction of environmental protection facilities;
- Make proposals to the authorized state body in the field of environmental protection on the protection of environmental objects of special ecological, historical, scientific and cultural value, as well as on the organization of specially protected natural areas;
- Promote environmental protection, form the ecological education of the population;
- Exercise other powers stipulated by the legislation of the Republic of Tajikistan.

Self-governing authorities of settlements and villages, within the powers established by the legislation of the Republic of Tajikistan, ensure the implementation of laws and other regulatory legal acts of the Republic of Tajikistan and decisions of the authorized state body in the field of environmental protection, as well as the participation of the population in resolving issues in the field of environmental protection.

Ministry of Energy and Water Resources (MEWR) – the Ministry was established by the Government Decree under No. 12 dated November 19, 2013, according to which the MEWR is responsible for policy and management in accordance with the water sector reform guidelines. The MEWR is also responsible for coordinating activities related to the implementation of the Water Sector Reform Program for the years 2016-2025, and is also guided in its activities by the charter of the Ministry adopted in 2014.

Ministry of Labour, Migration and Employment (MLME). The Ministry of Labour, Migration and Employment is the executive body that performs functions related to the provision of public services in the field of employment and migration. Jamoat documentation reflecting the characteristics of households will be used as the basis for a thorough screening and survey of households, and the screenings will be conducted jointly with the representatives of jamoats and community leaders, local representatives of the MLME, as well as local NGOs hired by the Project to manage and monitor the implementation of public works programs.

Committee for Environmental Protection under the GoT (CEP). The main government body that controls the issues of environmental protection is the Committee for Environmental Protection under the Government of the Republic of Tajikistan, which is responsible for implementing the state policy in the field of environmental management and control over environmental protection and the use of natural resources. The Committee is divided into several departments that are responsible for water permits and licensing. The Committee carries out its activities both directly and jointly with its substructures, also coordinates its activities with other ministries and departments, local executive bodies of the state power, public and other organizations

Agency for Land Reclamation and Irrigation (ALRI) - The central executive body of the state power in the field of melioration and irrigation, which performs the functions of developing a unified policy and regulation in the subsector of melioration and irrigation. The main functions of ALRI include conducting the state accounting and monitoring the state of water resources, providing services to water users and their regulation in accordance with contracts; management of irrigation and drainage facilities that are under the control of the Agency; analysis and monitoring of the conditions of bank strengthening works on canals and rivers; development of a cadaster of reclamation conditions of irrigated lands, etc.

ALRI is the main executive body responsible for the implementation of the policy and in accordance with the Decree of the Government of the Republic of Tajikistan dated December 02, 2014 under No. 755 “On the regulation and support of WUA activities”, since the state authorized body will regulate and support the activities of WUAs through WUA support groups (WUA SG). ALRI is the key executing agency for the project with actual implementation and fiduciary duties delegated by the PMU.

Sanitary and epidemiological services (SES). Sanitary and epidemiological service (SES) - monitors the sanitary and hygienic state of the environment. For example, it is authorized to prohibit the use of agricultural plant and animal growth stimulants and regulators, pesticides and other substances in case of harmful impact on human health.

Interaction with the above-mentioned structures will be carried out at all stages of the project, including the stage of development and completion. More detailed information is reflected in the Stakeholder Engagement Plan.

Committee on Women and Family Affairs under the GoT is the central executive body that carries out the functions of implementing the state policy to protect and ensure the rights and interests of women and the family, creating equal conditions for the exercise of their rights and interests and achieving the gender equality, expanding the scope of their participation in addressing the socio-economic issues, in managing the affairs of the state and society, as well as in legal regulation, the provision of public services and the management of the state property in this industry.

State Committee for Land Management and Geodesy of the Republic of Tajikistan.

The Committee's responsibilities include: - carrying out a unified state policy in the field of land relations, geodesy, cartography, state registration of real estate and rights to it, performing topographic and geodesic, aerospace, cartographic and cadastral works, carrying out activities in the field of naming and renaming geographical objects, as well as participation and provision of work on the delimitation and demarcation of the line of the State Border.

2.4 International Conventions Ratified

Tajikistan has acceded to and ratified the following International Environmental Conventions:

- a. UN Convention on Biological Diversity (CBD), 1997;
- b. UN Framework Convention on Climate Change, 1998;
- c. Ramsar Convention (joined in 2000);
- d. Convention on the Conservation of Migratory Species of Wild Animals (joined in 2001);
- f. Stockholm Convention on Persistent Organic Pollutants (ratified in 2007);
- h. Aarhus Convention (acceded to in 2001).

The international treaties prevail over the national legislation; hence, the above-mentioned Conventions also constitute the legal basis for relevant aspects of environmental protection in the country.

List of international treaties and conventions on social affairs ratified by Tajikistan:

- a. Convention for the Safeguarding of the Intangible Cultural Heritage (2006);
- b. International Covenant on Economic, Social and Cultural Rights;
- c. Convention on the Elimination of All Forms of Discrimination Against Women;
- d. Convention concerning Minimum Age for Admission to Employment (1993);
- e. Worst Forms of Child Labor Convention (2005);
- f. Abolition of Forced Labor Convention (1999);
- g. Employment Policy Convention (1993);
- h. Labor Inspection Convention (2009);
- i. Convention on the Rights of the Child (CRC) (1993)
- j. Tripartite Consultation (International Labor Standards) Convention (2014) and
- k. Occupational Safety and Health Convention (1981).

2.5 Overview of World Bank's Environmental and Social Standards

The World Bank is committed to supporting Borrowers in the development and implementation of projects that are environmentally and socially sustainable, and to enhancing the capacity of Borrowers' environmental and social frameworks to assess and manage the environmental and social risks and impacts of projects. To this end, the Bank has defined specific Environmental and Social Standards (ESSs), which are designed to avoid, minimize, reduce or mitigate the adverse environmental and social risks and impacts of projects.

The 10 WB Environmental and Social Standards (ESSs) are the followings:

- 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 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities;
- ESS 8: Cultural Heritage;
- ESS 9: Financial Intermediaries; and
- ESS 10: Stakeholder Engagement and Information Disclosure.

The requirements of these ESSs and their implications for the current project are presented in the Table below.

Table 1: The WB Environmental and Social Standards relevant to the Project

ENVIRONMENTAL AND SOCIAL STANDARDS	RELEVANCE RATE	MAIN REQUIREMENTS	ADDRESSING ESSs
<p><u>ESS 1:</u> Assessment and Management of Environmental and Social Risks and Impacts</p>	<p>Relevant</p>	<p>ESS 1 sets out the Borrower’s responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs). As required by this standard, the ESIA should be conducted based on current information, including a description and delineation of the project and any associated aspects, and environmental and social baseline data at an appropriate level of detail sufficient to inform characterization and identification of risks and impacts and mitigation measures. The assessment evaluates the project’s potential environmental and social risks and impacts, with a particular attention to those that may fall disproportionately on disadvantaged and/or vulnerable social groups; examine project alternatives; identify ways of improving project selection, siting, planning, design and implementation in order to apply the mitigation hierarchy for adverse environmental and social impacts and seek opportunities to enhance the positive impacts of the project.</p>	<p>As part of the preliminary assessment, the environmental and social risk rating is substantial and it triggers ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6 and ESS 10. For the most part, long-term positive impacts are expected from the project activities; negative impacts are temporary and related to construction activities. Risks and adverse environmental impacts may be associated with construction and rehabilitation activities of irrigation systems, pumping stations, pipelines, headworks water intake structures, WUA office buildings, river bank strengthening works, which may cause a number of direct and indirect environmental risks in case of non-compliance with technical and safety policies, such as: increased environmental pollution with waste, noise, dust, air, surface water, soil pollution, erosion, waterlogging and salinization of soils, vegetation loss, GHG emission, etc. Health hazards (including COVID-19) and occupational safety issues due to construction activities are also included in the range of environmental and social risks. Social risks may occur in the allocation of grant funds and job creation. Environmental and social risks associated with the project will for the most part be manageable and mitigation measures will be detailed in the ESMP. Since the technical assessment and specific locations of project activities are not defined at the project design preparation stage, a framework approach is adopted and each project basin is described separately. The Environmental and Social Management Framework is prepared in accordance with the requirements of ESS 1, which sets out the rules and procedures for the Environmental and Social Impact Assessment of activities and subprojects to prepare site-specific Environmental and Social Management Plans (site-specific ESMPs). To manage risks throughout all phases of the project, the relevant labor management and stakeholder engagement plans will be developed. A grievance redress mechanism will be established at the national and basin levels, a specific GRM for the project employees including feedback mechanisms, and a small grants management program will be developed including a targeted and equitable allocation mechanism.</p>

<p><u>ESS 2. Labor and Working Conditions</u></p>	<p>Relevant</p>	<p>ESS 2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker- management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. ESS 2 applies to project workers including fulltime, part-time, temporary, seasonal and migrant workers. Considering specified requirements, the Borrower must develop and implement written labor management procedures applicable to the project. These procedures should set out the way in which project workers will be managed, in accordance with the requirements of national law and this ESS. The procedures should address the way in which this ESS will apply to different categories of project workers including direct workers, and the way in which the Borrower will require third parties to manage their workers in accordance with ESS 2.</p>	<p>The project will engage core workers directly hired by the PMU to perform project-related tasks and contract workers hired by a contractor or other third party. The role of community workers will be determined by the Small Grants program. The bulk of the contractor’s workers will likely be locally hired. The category of core supplier workers will not be applied as the project does not include the services of a single regular supplier.</p> <p>The category of core workers will include in-house specialists and consultants whose relations will be regulated on the basis of the signed contract and terms of reference.</p> <p>The categories of contract workers will be represented by employees of consulting companies, including design firms and employees of contractors and subcontractors.</p> <p>The core central office workers will generally need to be full-time, and for all periods of the project. Consultant workers may be employed for the duration of the project or for a specific period of time. The contract workers employed for civil works will be employed for a period of 12 to 18 months. For small-scale rehabilitation works, the terms of employment may be between 2 and 3 months, depending on the scope of the work.</p> <p>Contracting procedures will be transparent, publicly available, non-discriminatory, and open. The labor relations with employees of the Project will be formalized by agreements in accordance with the provisions of the Labor Code of Tajikistan and the WB. In order to manage the risks that may arise in relation to Project employees, the Labor Management Procedures (LMP) are developed. The employees at all levels will be required to comply with workplace and leisure area safety regulations, and employers will be required to conduct regular the OHS instructions and ensure that they are strictly enforced.</p>
<p><u>ESS 3. Resource Efficiency and Pollution Prevention and Management</u></p>	<p>Relevant</p>	<p>ESS 3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and</p>	<p>The Environmental and Social Management Framework (ESMF) includes sections describing Pollution Prevention and Management with a focus on those issues which might arise while conducting civil works for facilities construction and rehabilitation activities as well as indirect impacts. Assessment of associated with civil works risks and impacts and proposed mitigation measures related to relevant requirements of ESS 3, including raw materials, water use, air pollution, hazardous materials, organic and hazardous waste included in subproject-specific ESMPs as relevant</p> <p>In addition, the training program for activities under Subcomponent 1.1: Strengthening national and basin-level water resources policy and planning of Component 1: Water sector reform and institutional strengthening will support</p>

		<p>achievable. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with Good International Industry Practice (GIIP).</p>	<p>the NWC and MEWR in the development of by-laws, further development and application of the national water information system (WIS), support for national water accounting and reporting, and investment planning and monitoring. Targeted training will be provided for the NWC. The project does not assume high water consumption, as it will not support any major investment in the development of the irrigation sector, it will only support the rehabilitation of existing irrigation infrastructures.</p> <p>As part of the air pollution related to the project, the IA will characterize the sources of and estimate the gross GHG emissions resulting from the project, providing that such estimation is technically and financially feasible. The Bank will provide technical assistance to the IAs in capacity building on carbon balance calculation methodologies, working with their counterparts and using project information provided by the Borrower. For subprojects that have diverse and small sources of emissions (for example, WUAs development subprojects) or where emissions are not likely to be significant (for example, subprojects in designing national irrigation sector development strategy, activities in education and social engagement), GHG estimations will not be required. Options for reducing GHG emissions will include alternative project locations; adoption of low carbon energy sources and transmissions; more sustainable agricultural, carbon sequestration and storage; sustainable transport alternatives; and proper waste management practices.</p>
<p><u>ESS 4.</u> Community Health and Safety</p>	<p>Relevant</p>	<p>ESS 4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. ESS 4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.</p>	<p>The main risk related to community health and safety is associated with physical labor, machinery operations in the rehabilitation of existing irrigation infrastructures and the COVID-19 pandemic, as well as the spread of other infectious diseases. To prevent environmental and social risks and impacts that may affect public health and safety, each subproject will develop a site-specific ESMP and Action Plan to prevent the penetration of COVID-19 and other pathogens into PMU/PIU offices and construction sites, reflecting preventive measures. The ESMP will reflect safety measures for the local population living near the project sites, including distribution and installation of posters and special signs, booklets warning local residents about the hazards, conduct appropriate fencing in the work areas. The PMU, PCU, and all contractors are required to adhere to the Project-specific Codes of Conduct, including requirements for respectful behavior and interaction with local communities and in the workplaces, prohibition of involvement in illegal</p>

			<p>activities, forced or child labor, and sexual harassment in the workplace. Additional risk prevention and mitigation actions to be undertaken by the PMU include the establishment of a grievance redress mechanism, training and awareness raising for staff, contractors and local communities (adjoining areas to construction sites). In addition, site-specific ESMF/ESMP requirements will include necessary measures to ensure effective management of waste, soil contamination, water, noise, etc., including sanitation and healthy nutrition requirements.</p> <p>The Project involves the rehabilitation and use of water infrastructure downstream of several existing dams and the one under construction within the Vakhsh cascade. Failure of an upstream dam could cause extensive damage to or failure of the project facilities. The project primarily depends on the storage and operation of Golovnaya Dam in Sarband, for which a dam safety assessment have been completed under an ADB-financed project, with most of the recommendations addressed through the project rehabilitation works. Nurek dam is the largest storage capacity in the country. Upstream of Nurek, the Rogun HPP is currently under construction. Other existing dams are small in scale. A Dam Safety Report for Nurek Dam was prepared under the World Bank-financed Nurek Hydropower Rehabilitation Project, which includes the requirement to prepare an Emergency Preparedness Plan (EPP) for all six dams within the Vakhsh Cascade. The EPP has specified predetermined actions that a dam owner should implement if a dam safety emergency develops. The EPP will also comply with the applicable Tajik laws and regulations. The requirements of EPP will be considered by the PMU if appropriate and reflected in site-specific ESMPs.</p>
<p>ESS 5. Land Acquisition, Restrictions on Land Use and Involuntary Resettlement</p>	<p>Relevant</p>	<p>ESS 5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term “involuntary resettlement” refers to these impacts.</p> <p>Experience and research indicate that physical and economic displacement, if unmitigated, may give</p>	<p>The rehabilitation of irrigation schemes and required civil works will not result in involuntary land acquisition or resettlement. All project activities will be implemented on existing sites, i.e. on the lands that are on the balance sheet of the local state water management organization and in accordance with the "Water Code of the Republic of Tajikistan" are exclusion zones and are used as operational areas for rehabilitation and maintenance works. It is possible that in the course of rehabilitation works, part of the water protection zones is illegally used for arable land, which is a temporary obstacle for construction and rehabilitation works, but is an additional source of income for the local community or an individual. In this case, negotiations will be carried out with the affected persons/parties to reach a mutually beneficial and acceptable solution and conclude an appropriate agreement on a voluntary basis, or the provisions reflected in the Project’s Resettlement Policy Framework will be</p>

		<p>rise to severe economic, social and environmental risks: production systems may be dismantled; people face impoverishment if their productive resources or other income sources are lost; people may be relocated to environments where their productive skills are less applicable and the competition for resources greater; community institutions and social networks may be weakened; kin groups may be dispersed; and cultural identity, traditional authority, and the potential for mutual help maybe diminished or lost. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented.</p>	<p>applied.</p>
<p>ESS 6. Biodiversity Conservation and Sustainable Management of Living Natural Resources</p>	<p>Relevant</p>	<p>ESS 6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services. ESS 6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. All habitats support complexities of living organisms and vary in terms of species diversity, abundance and importance. This ESS also addresses sustainable management of primary production and harvesting of living natural resources.</p> <p>This standard aims to safeguard natural habitats and their biodiversity; avoid significant conversion or degradation of critical natural habitats, and to ensure sustainability of services and products which natural habitats provide to human society.</p>	<p>The activities envisaged by the project are small in scale and will be implemented on the existing irrigation schemes. It is assumed that the facilities to be rehabilitated will not have any impact on protected areas, as they are located at a considerable distance and will not cause any risk for sustainable management of biodiversity and living natural resources. At the same time, along the irrigation schemes during their long-term existence colonies of rare animals, nesting birds, rare plants may emerge. In order to prevent damage to biodiversity, a detailed study will be conducted at the screening stage to detect such habitats and species, and if they are found, measures to mitigate or prevent negative impacts, or alternative protective measures, will be elaborated.</p> <p>In addition, compensatory planting will be investigated and planned on a case-by-case basis in consultation with local authorities and supervisory bodies if the removal of forest vegetation along canals is required. If necessary, the appropriate amount of compensatory planting and habitat conservation will be included in the bill of quantities.</p>
<p>ESS 7. Indigenous Peoples/Sub-Saharan</p>	<p>Not relevant</p>		<p>There are no such groups of people/communities in the Republic of Tajikistan, and therefore this ESS is not relevant to the Project.</p>

<p>African Historically Underserved Traditional Local Communities</p>			
<p><u>ESS 8.</u> Cultural Heritage</p>	<p>Not relevant</p>	<p>ESS 8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people’s cultural identity and practice. ESS 8 sets out measures designed to protect cultural heritage throughout the project life cycle. The requirements of ESS 8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified or disturbed. The requirements of ESS 8 apply to intangible cultural heritage only if a physical component of a project will have a material impact on such cultural heritage or if a project intends to use such cultural heritage for commercial purposes. The Borrower will implement globally recognized practices for field-based study, documentation and protection of cultural heritage in connection with the project, including by contractors and other third parties. A chance finds procedure is a project-specific procedure which will be followed if previously unknown cultural heritage is encountered during project activities. It will be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, flooding or other changes in the physical environment.</p>	<p>It is considered to be not relevant to the project. Activities that may have a direct or indirect impact on cultural heritage sites will be excluded from the list of project activities.</p> <p>As a precaution, chance finding procedures will be included in the ESMF and will be part of the site-specific mitigation measures that will be outlined in the site-specific ESMPs.</p>

ESS 9.
Financial
Intermediaries

Not relevant

ESS 9 recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. Financial Institutions (FI) are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI. Financial Institutions are required to develop and maintain, in the form of an Environmental and Social Management System (ESMS), effective environmental and social systems, procedures and capacity for assessing, managing, and monitoring risks and impacts of subprojects, as well as managing overall portfolio risk in a responsible manner.

This standard is not relevant, since financial intermediaries are not involved in the project implementation.

**ESS 10.
Stakeholder
Engagement
and
Information
Disclosure**

Relevant

This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. The client will engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. The nature, scope and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts.

The project targets beneficiaries at the national, basin, district and local levels. The project beneficiaries will be: (i) the Ministry of Energy and Water Resources and Agency for Land Reclamation and Irrigation, (ii) river basin organizations (RBOs) and river basin councils, (iii) regional and district irrigation authorities, (iv) public institutions including water user associations (WUAs), (v) farmers and rural households including female-headed households; and (vi) development partners and NGOs. In order to identify, establish and maintain effective stakeholder engagement for successful and sustainable management of environmental and social risks throughout the project implementation, the PMU has developed a Stakeholder Engagement Plan (SEP). The SEP will identify all stakeholders, identify needs, and plan engagement methods. The methods of engagement also focus on categories of vulnerable people and the involvement of women in project activities. The SEP describes the expectations and concerns of the project beneficiaries and sets out a program of engagement. The SEP describes the national legislative framework and the WB environmental and social policy on this issue. In order to provide timely information about the project to all stakeholders, in particular affected communities, the SEP provides for public meetings in the affected areas, publication of project materials in the media, including the ALRI and MEWR websites, public consultations and roundtables both during the project preparation and implementation.

2.6. Environmental, Health, and Safety Guidelines

The World Bank requires borrowers/clients to apply the relevant levels or measures of the EHS Guidelines. When national regulations differ from the levels and measures presented in the EHS Guidelines, projects will be required to achieve whichever is more stringent. The EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP) and are referred to in the World Bank's Environmental and Social Framework. The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. The EHS Guidelines will be used in the Project practices for training PMU/PIU and contractors' specialists as well as for monitoring the project E&S performance.

3. SOCIO-ECONOMIC AND ENVIRONMENTAL BASELINE DATA

The main project investments will be directed to the lower sub-basin of the Vakhsh River, where it is expected to rehabilitate and modernize the irrigation infrastructure, to provide institutional and technical support for structures involved in the water sector. For the districts of the lower sub-basin of the Vakhsh River and the Zarafshon River Basin, it is planned to rehabilitate selected small-scale irrigation infrastructure, as well as work to protect this infrastructure from floods and mudflows. In the upper basin of the Kofarnihon River, institutional arrangements will be carried out.

In addition, the Project area will be extended to special activities in the districts: Dangara (Dangara tunnel), Jomi and Khuroson (Shurobad main canal). Below is the socio-economic and environmental information for the project districts in the context of the basins/sub-basins of the Vakhsh, Zarafshon and Kofarnihon rivers.

3.1 Social and Environmental Characteristics of Vakhsh River Basin Districts.

The Vakhsh River basin is represented by the following districts:

1. Upper sub-basin: *Rasht, Tojikobod and Lakhsh.*
2. Lower sub-basin: *Levakand, Kushoniyon, Vakhsh, Balkhi, Jayhun and Dusti;*

3.1.1 Upper Sub-Basin of the Vakhsh River

Rasht district – was formed on March 10, 1931, in the year 2001 the name of Gharm district was changed to Rasht district. Rasht district borders with Sangvor district to the south, with Tajikabad and Lakhsh districts to the southeast, with Ayni district to the northwest, with Kuhistoni Mastchoh district of Sughd region to the north, and with Nurobod district to the west. The district is located at an altitude of 1350 meters above sea level. The relief of the district is mostly mountainous. The total area of the district is 461,260 hectares. As of January 1, 2021 the population of the district is 130 thousand people. The district consists of 12 rural jamoats and 2 towns and 156 villages and mahallas. The main sector of the economy is agriculture, the population of the district is mainly engaged in the agricultural sector, where the main focus is on horticulture, animal husbandry, horticulture, apiculture, potato-growing, vegetable growing and pisciculture. More than 88% of the district's population live in rural areas and are engaged in agriculture. The main sources of water supply for the district are the Surkhob River and small rivers such as Runob, Shurak, Obi Kabud and Sorbog.

Lakhsh district – is located in the northeastern part of the Republic of Tajikistan in the upper part of the Surkhob River (Vakhsh River basin) at an altitude of 1795 meters above sea level, it borders with Chong-Alay district of the Kyrgyz Republic to the northeast, with Rasht district to the southwest, with Murghab district of Gorno-Badakhshan Autonomous Region to the southeast, with Sangvor district to the south, with Rasht district to the west, and with Tajikabad district to the southeast. Part of the district is occupied by the Oloy range (2,646 meters high, Peak Shumkor) and the Pasi Oloy (Trans-Alai) range (up to 5,900 meters high), the eastern part

is occupied by the western ranges of the Academy of Sciences ranges (up to 7,495 meters high, Peak Somoni) and the southern part is occupied by the eastern slopes of the Peter the First range (up to 6,785 meters high, Peak Moscow). As of January 1, 2021 the population of the district is 67.7 thousand people. The total area of the district is 458,011 hectares. The district consists of 9 rural jamoats and 1 town and 54 villages. The main sector of the economy is agriculture, where the main focus is on horticulture, animal husbandry, horticulture, apiculture, potato-growing, vegetable growing and pisciculture. More than 56% of the district's population live in rural areas and are engaged in agriculture. The main source of water supply is the Vakhsh River.

Tajikabad district – borders with Sangvor district to the south, with Lakhsh district to the east, and with Rasht district to the northwest. The total area of the district is 0.73 km². As of January 1, 2021, the population of the district is 46.9 thousand people. The total area of the district is 73,437 hectares. The district consists of 5 rural jamoats and 45 villages. The main sector of the economy is agriculture, where the main focus is placed on horticulture, livestock, horticulture, apiculture, potato growing, vegetable growing and grain-growing. More than 80% of the district's population live in rural areas and are engaged in agriculture. The main source of water supply is the Surkhob River, small rivers Shurak, Kaerma, Taghoyak.

Table 2. General Socio-Economic Characteristics of Project Districts in Upper Sub-basin of Vakhsh River as of 01.01.2021².

Characteristics	Districts of Republican Subordination		
	Lakhsh	Tojikobod	Rasht
Total area in thous. sq. km	4,6	0,75	4,6
Total population (thous. pers.)	67,7	46,9	127,4
Population density per km ² .	14,4	68,4	27,7
% of urban population	9,7	-	12
% of rural population	90,3	100	88
% ethnic composition: Tajiks	41,0		
<i>Uzbeks (Kyrgyzs)</i>	59,0		
<i>others</i>	0,4		
Number of jamoats	9	5	12
Number of villages	54	45	156
Number of households	11096	6942	18552
Number of working-age population	29,0	24,2	68,5
<i>including employed population (thousand)</i>	3,4	2,1	8,5
<i>of which, employed in the agricultural sector (%)</i>	56	40	88

Table 3. Land area by type of land cover as of 01.01.2021³.

Land category	Lakhsh	Tojikobod	Rasht
Total land area, including irrigated lands	458011	73437	461260
	8623	4222	9036
Total arable lands, including irrigated lands	6277	3188	4693
	4475	1863	3346

² Data from the Agency for Statistics under the President of the Republic of Tajikistan, Population of the Republic of Tajikistan as of January 1, 2020; and

³ Data from the State Committee for Land Management and Geodesy of the Republic of Tajikistan, Information on land area and its distribution by type across regions, cities/towns and districts in the Republic of Tajikistan as of 01.01.2021.

Perennials, including irrigated perennials	477	497	2119
	471	425	1577
Abandoned lands, including irrigated lands	400	-	102
	331	-	79
Grasslands, including irrigated grasslands	465	3	373
	28	-	-
Pastures, including irrigated lands	129012	35802	160961
	-	-	296
Total agricultural lands, including irrigated lands	136631	39490	168248
	5305	2288	5298
Lands under reclamation works	-	-	-
Total household plots including irrigated lands	3143	2453	5554
	2991	1820	3618
Privately-owned lands including irrigated lands	1243	437	482
	1027	88	78

Climate

Lakhsh district – the climate of the district is highly continental, with hot summers and relatively cold winters. The average monthly air temperature in summer is up to +36.8°C and in winter it reaches -27.5°C. The amount of precipitation on the slopes of the Oloy range and Pasi Oloy (Trans-Alai) range is 200-700 mm, and on the slopes of the Peter the First range and Academy of Sciences range is 700-900 mm.

Rasht district – located at an altitude of 1,350 meters above sea level. At an altitude of 1,500-3,000 meters the climate is temperate, with cool summers and cold winters. The average air temperature in July is +18°C +24°C, and in January from -5°C to -10°C. The duration of the warm period is 128-216 days.

Tajikabad district – located at an altitude of 1,650 meters above sea level. At an altitude of 1,500 to 2,500 meters the climate is temperate, with cool summers and cold winters. The average temperature in July is +18°C +24°C and in January from -5°C to -15°C. The average annual amount of precipitation is 600-900 mm, and the duration of the warm period is 128-216 days.

3.1.2 Lower Sub-basin of Vakhsh River

Levakand district – occupies 2.4% of the total territory of Khatlon region. Levakand district is located in the southern part of the Republic of Tajikistan in the Vakhsh valley and is part of Khatlon region. The total area is 131.09 km². The district borders with Danghara, Bokhtar, Vakhsh and A. Jomi districts. The length of the district to the city of Bokhtar, which is the center of Khatlon region is 17 km, and to the city of Dushanbe is 115 km. As of January 1, 2021 the population of the district is 49.4 thousand people. The district consists of 2 rural jamoats and 1 city and 14 villages. The main sectors of the economy are industry and agriculture, where the main focus lies on horticulture, animal husbandry, horticulture, cotton-growing, potato-growing, vegetable growing and grain-growing. More than 63% of the district's population live in rural areas, and 9.7% are engaged in agriculture. The main source of water supply is the Vakhsh main canal.

Dusti district – is located in the southeastern part of the Republic of Tajikistan, borders with the districts of J. Balkhi, Jaykhun, Kubodiyon, and also borders with the Islamic Republic of Afghanistan to the south. 55% of the district's area is covered by the lower ranges and valleys, including the Rudaki range from the northern part, the Ariktau range from the western part, and the Vakhsh River from the southern part of the district. The district is located at an altitude of 601 meters above sea level. The population as of January 1, 2021 is 120.5 thousand people. The

total area of the district is 123,619 hectares. The Vakhsh River with 60 km in length flows on the territory of the district.

Vakhsh district – administrative district within Khatlon region of the Republic of Tajikistan. The district center is the urban-type settlement of Vakhsh, located 25 km south of the city of Bokhtar. Vakhsh district is located in the valley of the Vakhsh River. It borders with Levakand district to the north, with Danghara and Farkhor districts to the east, with Balkhi district to the south, and with Kushoniyon district of Khatlon region to the west. The territory of Vakhsh district is 1,101.4 km². The total area of the district is 96,347 hectares. On the territory of the district center, the administration of the Vakhsh irrigation system operates, the construction of which began in the early autumn of 1931. The weather in Vakhsh district is formed by a subtropical climate. Short, mild winters, transient springs, hot summers and warm autumns characterize its features throughout the year. In January, the air temperature ranges from -2°C to +3°C. Snow falls only in the mountains that border the valley. In summer, the temperature often reaches +32°C. The main part of the district's lands are floodplain lands of the Vakhsh River. In irrigated areas, large areas are occupied by cotton fields and orchards where figs, peaches, and persimmons are grown. As of January 1, 2021 the total population is 204.2 thousand people. The level of precipitation per year is 500-700 mm. The soil of Vakhsh district is favorable for growing early vegetables, cotton-growing, growing melons and watermelons.

J. Balkhi district – located on the right bank of the Vakhsh River in Khatlon region at a distance of 70 km south of the city of Dushanbe and 20 km north of the regional center - the city of Bokhtar. The district center is Rumi urban-type settlement, which is located 17 km east of the Dushanbe-Bokhtar main road. The project district has a well-developed inter-farm and intra-farm road network. The territory of the district has a continental climate with an average annual temperature of +16.2°C, relative air humidity of 46%. The duration of the frost-free period is 296 days. Northeasterly winds prevail in the territory of the district. The area of the district is 90,502 hectares. The main part of the lands of the district are floodplain lands of the Vakhsh River. As of January 1, 2021 the total population is 205.8 thousand people.

Jaykhun district – administrative district in Khatlon region of the Republic of Tajikistan. It was formed on February 6, 1965 as Kumsangir district. It received its current name in February-March 2016. The district includes 1 urban-type settlement and 6 rural communities. The project district is located on the right bank of the Panj River in Khatlon region. The main borders of the district are: with J. Balkhi district to the north, with Panj district and the Islamic Republic of Afghanistan to the south, with the lands of Panj district to the east, and with the lands of Dusti district to the west. The distance from the district center to the city of Dushanbe is 160 km, and to the regional center the city of Bokhtar the distance is 60 km. The district center is the urban-type settlement of Dusti, which is located along the Dushanbe-Panj main road. The project district has a well-developed inter-farm and intra-farm road network. The length of main road in the district is 255.8 km, including roads for international purpose 65.8 km, roads for republican purpose 8.4 km and roads for local purpose 181.6 km. The territory of the district has a continental climate with an average annual temperature of +16.2°C, and relative air humidity of 46%. The duration of the frost-free period is 296 days. Northeasterly winds prevail in the territory of the district. The total area of the district is 96,715 hectares. The main part of the district's lands are floodplain lands of the Panj River. As of January 1, 2021 the total population is 142.3 thousand people.

Kushoniyon district – administrative district in Khatlon region. The district center is the urban-type settlement of Ismoil Somoni (former Oktyabrsk) located 15 km south of the city of Bokhtar. The area of the district is 55,600 hectares. The district is located in the valley of the Vakhsh River. It borders with Jomi district to the north, with Sarband and Vakhsh districts to the east, and with Khuroson district of Khatlon region to the west. Population as

of January 1, 2021 is 251.1 thousand people. The district spreads over the territory of a vast plain formed by the main river of western Tajikistan, the Vakhsh River. In the east, the foothills of the low Teriklitau range begin, and in the west, the foothills of the Aktau range. Kushoniyon district is the largest agricultural district of the Republic of Tajikistan, the population of the district is mainly engaged in sowing and growing agricultural products, and horticulture. The climate of the district favors the cultivation of all types of agricultural products.

Table 4. General Socio-Economic Characteristics of Project Districts in Lower Sub-basin of Vakhsh River as of 01.01.2021

Characteristics	Khatlon Oblast					
	Levakand	Kushoniyon	Vakhsh	Balkhi	Jayhun	Dusti
Total area in thous. sq. km	0,1	0,6	1,0	0,9	0,1	1,2
Total population (thous. pers.)	49,4	251,1	204,2	205,8	142,3	120,5
Population density per km ² .	483,0	409,3	199,3	223,7		97,5
% of urban population	36,5	8,7	10,3	13,1		6,1
% of rural population	63,4	91,3	89,7	86,9		93,9
% ethnic composition: Tajiks	39588					49,6
Uzbeks (Kyrgyzs)/Turkmens	8593					33,4/ 16,7
others	325					0,3
Number of jamoats	2					
Number of villages	14					
Number of households	7296					
Number of working-age population	78,6					53,4
including employed population (thousand)						19442
of which, employed in the agricultural sector (%)	9,7					35,0 thous.

Table 5. Land area by type of land cover as of 01.01.2021

Land category	Levakand	Kushoniyon	Vakhsh	Balkhi	Jayhun	Dusti
Total land area, including irrigated lands	13109	55600	96347	90502	96715	123619
	2448	24392	22920	24697	28202	22261
Total arable lands, including irrigated lands	1795	17073	16846	17842	18896	15335
	1704	16865	15701	16808	18555	15052
Perennials, including irrigated perennials	220	1781	1307	1513	1985	1201
	179	1772	1295	1503	1912	1200
Abandoned lands, including irrigated lands	6	382	854	155	2202	1050
	6	382	853	155	2069	1050
Grasslands, including irrigated grasslands	-	7	352	-	-	2127
	-	-	-	-	-	1
Pastures, including irrigated lands	5637	19134	60031	49424	41516	44889
	-	-	-	-	-	-
Total agricultural lands, including irrigated lands	7658	38377	79390	68574	64599	64602
	1889	19019	17849	18466	22536	17303
Lands under reclamation works	-	-	-	-	-	-
Total household plots including	992	4697	5698	6362	5959	5347

irrigated lands	378	3552	3933	4667	4333	4141
Privately-owned lands including irrigated lands	181	1851	1336	1561	1333	817
	181	1778	1120	1561	1333	817

3.2 Districts in Shurobad Irrigation System

Khuroson district – administrative district in Khatlon region. The district center is the urban-type settlement of Obikiik. The area of the district is 89,613 hectares. Population as of January 1, 2021 is 119.6 thousand people. Most of the inhabitants of the district are represented by Tajiks and Uzbeks. The industrial sector is mainly represented by enterprises specializing in the processing of local agricultural products. The territory of the district occupies the mountainous and foothill parts of the Aktau range. Its weather conditions are determined by the action of a sharply continental climate.

In the coldest period of the year, in the middle of winter, the air temperature on average varies from -1.5°C to -3.5°C, sometimes drops to -11°C. Spring marks its arrival with abundant rainfall. During the rainy season, strong mudflows are possible that can disrupt transport connection.

Hot and long summers contribute to the cultivation of a high yield of fruits and grapes on irrigated lands through irrigation systems. During the warmest period of the year, rains and thunderstorms are rare and are of a torrential nature caused by a short period of time.

Warm and mild autumn is considered the most favorable period. Moderately dry, windless weather and an abundance of all kinds of fruits are considered its main indicators. The temperature drop starts from the end of October. In the last ten days of November, the first frosts appear in the mountains - heralds of the approaching winter.

Starting from 2010 rehabilitation of old gardens and laying out new areas for fruit trees is being carried out in the rural communities of the district. As a result of many years of hard work, agricultural workers began to receive high yields of plums, cherries, apricots, quinces, apples, pistachios, walnuts. Part of the grown products is exported, but its main part fully covers the needs of the local population.

Jomi district – is located in the northern part of Khatlon region and borders with Yavan, Khuroson, Kushoniyon districts and the city of Sarband. The area of the district is 58,776 hectares. There are 1 settlement jamoat and 7 rural jamoats on the administrative territory of the district. Population as of January 1, 2021 is 180.4 thousand people.

The district is located at an altitude of 420 meters above sea level, the climate is mid-continental, the average annual temperature is +10°C +14°C (in the hot months from July to August more than +30°C to +37°C) and in winter from January to February the temperature averages -3°C - 5°C and in some cases the temperature averages -25°C -28°C. The norm of precipitation from January to February is 450-550 mm, from March to April 750-800 mm, and less is observed in summer and autumn. The Vakhsh River with a length of 21 km and the Yovonsu River with a length of 32 km flow through the territory of the district. In particular, the Vakhsh River provides great opportunities for the development of pisciculture and irrigation of fallow lands. The distance between A. Jomi district to the regional center the city of Kurgan-Tyube is 35 km, and to the city of Dushanbe is 87 km. Inter-district highways pass through the territory of the district

Tables 6 and 7. Land Area by Type and Socio-Economic Characteristics as of 01.01.2021.

Land category	Khuroson	Jomi
Total land area, including irrigated lands	89613	58776
	10632	19048
Total arable lands, including irrigated lands	11380	16268
	7153	14251
Perennials, including irrigated perennials	20791	780
	1357	708
Abandoned lands, including irrigated lands	-	-
	-	-
Grasslands, including irrigated grasslands	-	-
	-	-
Pastures, including irrigated lands	55217	23002
	24	26
Total agricultural lands, including irrigated lands	69388	40050
	8534	14985
Lands under reclamation works	-	-
Total household plots including irrigated lands	3554	4046
	1493	2713
Privately-owned lands including irrigated lands	2049	1521
	605	1350

Characteristics	Jomi	Khuroson
Total area in thous. sq. km	0,6	0,9
Total population (thous. pers.)	180,4	119,6
Population density per km ² .	293,0	129,4
% of urban population	7,8	10,6
% of rural population	92,2	89,4
Number of jamoats	7	
Number of villages	TBD	

3.3 General Socio-Economic and Natural-Environmental Characteristics of Zarafshon River Basin Districts

The Zarafshon basin project area where the interventions will be implemented includes the districts of Sughd Oblast: Panjakent, Ayni and Kuhistoni Mastchokh located along the river and two districts to the north of the river basin, Devashtich and Shahrison.

Panjakent – located in the central part of the Zaravshan River basin, is one of the largest cities in Sughd region, bordering with Samarkand, Jizzakh and Surkhandarya regions of the Republic of Uzbekistan and with Ayni district. The territory of the district is intersected by three mountain ranges: in the north by the Turkestan Range, in the central part by the Zaravshan Range, and in the south by the Hissar Range. The Zaravshan valley lies between the Zaravshan range and the Turkestan range. The total area of Panjakent is 3.67 thousand km². The city of Panjakent includes 14 rural jamoats, 18 mahallas (within the city) and 139 villages. As of January 1, 2021 population of the city is ... thousand people. The main sectors of the city's economy are industry and agriculture. The main industrial enterprises mainly focus on the production and processing of gold, silver, construction materials and the processing of agricultural products. In the agricultural sector, the main focus is on horticulture, animal husbandry, and horticulture.

Ayni – administrative mountainous district of Sughd region, located in the upper reaches of the Zaravshan valley. Formed on November 23, 1930. The total area of the district is 5,158.6 km² and 97% consists of mountains. Ayni district borders with the administrative districts of the Republic of Tajikistan - Panjakent, Kuhistoni Mastchokh, Devashtich, Shahrison, Hissar, Shahrinav, Varzob, Vahdat, Gharm, and also borders with Jizzakh region to the north, and with Surkhandarya region of the Republic of Uzbekistan to the southwest. The distance between Ayni and the capital city Dushanbe is 140 km, and the city of Khujand is 177 km. Ayni district consists of an administrative center and 7 rural jamoats. The population of the district at the beginning of 2021 was almost 86 thousand people. Ayni is considered an agricultural district, where the mining industry is also developing. Agriculture is not only the main development

sector of the district's economy, it also carries a social nature, since 98.8% of the able-bodied population lives in rural areas. Particular importance is given to the development of yak breeding, as one of the profitable and lucrative industries in the mountainous conditions of the Republic of Tajikistan. On the territory of the district Yaghnob Valley is located, inhabitants of which are a special group of Tajiks (direct descendants of the Sogdians), they speak the ancient language - Yaghnobi, one of the little-studied dialects of the ancient Sogdian language.

Kuhistoni Mastchoh – one of the most remote districts of the Republic of Tajikistan, located along the banks of the mouth of the Zaravshan River between the high-mountainous Turkestan range and Zaravshan range. Formed on February 2, 1996. The district center is the village of Mehron, 252 km from the city of Dushanbe. It borders with the Kyrgyz Republic to the north, with Rasht district to the southeast, with Ayni district to the west, and with Devashtich district to the northwest. The district consists of two jamoats: Langar and Ivan-Tajik. The total area of the district is 3,723 km². The basis of the district's economy is the agricultural sector: 84% of the population is engaged in this sector. The main types of agricultural activities are: potato-growing, grain-growing, horticulture and partially animal husbandry.

More detailed socio-economic characteristics on project districts are provided in the table below

Table 8. General Socio-Economic Characteristics of Project Districts as of 01.01.2021

Characteristics	Sughd Oblast		
	Panjakent	Ayni	Kuhiston Mastchoh
Total area in thous. sq. km	3,67	5,2	3,7
Total population (thous. pers.)	303,4	85033	25 920
<i>including: men</i>	50,9%	42571	13 115
<i>women</i>	49,1%	42462	12805
Population density per km ² .	81,9	16	6,9
% of urban population	7,24	23642 2,8%	-
% of rural population	92,7	82669 97,2%	100
Ethnic composition: %:			
<i>Tajiks</i>	76,3	98	
<i>Uzbeks</i>	22,7	0,4	
<i>Others</i>	1	0,6	
Number of jamoats	14	8	2
Number of villages	143	62	45
Number of households	-	19161	4321
Number of working-age population	176000	46530	15 0 247
<i>including employed population (thousand)</i>	103155	19037 60%	
<i>of which, employed in the agricultural sector (%)</i>	-	11521	
Average monthly salary (TJS)	1642,4	1833,5	

Table 9. Land area by type of land cover as of 01.01.2021.

Land category	Panjakent	Ayni	Kuhiston Mastchoh
Total land area, including irrigated lands	367133	515820	368305
	21804	3298	3868
Total arable lands, including	18900	1441	2629

irrigated lands	11880	1424	2506
Perennials, including irrigated perennials	5067	864	550
	5012	864	537
Abandoned lands, including irrigated lands	36	-	-
	0	-	-
Grasslands, including irrigated grasslands	557	2	-
	27	-	-
Pastures, including irrigated lands	132149	141454	79255
	372	-	-
Total agricultural lands, including irrigated lands	156709	143761	82434
	17291	2288	6086
Lands under reclamation works			
Total household plots including irrigated lands	9511	1625	823
	3088	803	425
Privately-owned lands including irrigated lands	2486	624	400
	1286	207	400

The main part of the irrigated agricultural zone of the valley is located in its western part in Panjakent district. Despite the fact that the Zaravshan River carries large flows, it provides water for only about a third of the irrigation zone of the district, mainly due to pumping stations; the rest of this area is served by smaller tributaries, mainly through water intake facilities with gravity water supply to horizontal channels. Upstream of the river, in the districts of Ayni and Kuhiston Mastchoh, the irrigation systems are much smaller, dispersed and isolated in what is truly a mountainous environment; Irrigation zones are served from the main river by high-lift pumping stations or from tributaries by small gravity water intakes.

Table 10. Main characteristics of agriculture in project districts as of 01.01.2021.

	Panjakent	Ayni	Kuhiston Mastchoh
Number of dekhkan farms	4,720	1,006	814
Cropping pattern (ha)			
Wheat and barley	4,600	680	245
Rice	912	0	0
Legumes	196	0	0
Maize	590	0	0
Sunflower	670	0	0
Vegetables	561	80	7
Potatoes	1,819	518	1,817
Fodder crops	33	460	577
Fruit trees	1,951	399	541
Grapes	1,057	0	0
Total, cultivated area	12,383	2,137	3,187

It should be noted that 2.4% (3,182 hectares) of pastures belong to Ayni district, which were transferred to Panjakent district for long-term use. Rainfed lands (household and presidential plots) are mainly used by farms. In the general structure of sown lands, the main place is occupied by lands for sowing grain crops and animal feed, the total area of which is 19,887 hectares or 76.7% of sown lands. During recent years, the proportion of land used for oilseeds

and tobacco has declined, while the area for growing cereals, vegetables, potatoes and rice has been increasing. One of the main reasons for this change is the change in demand for different types of agricultural products, taking into account the needs of the population on this basis, the establishment of agricultural production.

Natural conditions and resources

Climate

The climate of the Zaravshan Valley is subtropical continental, with hot summers and moderately cold winters. The average annual temperature in the plains of the valley is +18.0°C, while in the mountainous part +12.7°C. The average January temperature in the plains is -1.1°C, and in the mountainous part -3.5°C. The average July temperature in the plains is +29.0°C, and in the mountainous part +20.0°C. The absolute minimum temperature is -35°C, and the absolute maximum temperature is +57°C. On average, the valley area receives from 114 to 400 mm of precipitation per year, increasing from the west to the east. Most of the precipitation falls in spring and autumn. Vegetation period lasts 215-220 days.

The project areas are mainly characterized by a temperate continental climate.

The air temperature in the districts of Panjakent, Ayni and Kuhistoni Mastchoh ranges from +24°C to +38°C in summer and from -22°C to -30°C in winter. The average annual temperature is +9.0°C.

The Zaravshan Mountains are an invaluable depository of natural resources. On the territory of the districts there are deposits of gold, silver, mercury, antimony, tin, tungsten/wolfram, fluorite, phosphorite, coal, marble stone, copper, lime, and other building materials.

Water resources

The Zaravshan River flows through the territory of the three project districts Panjakent, Ayni and Kuhistoni Mastchoh. In the past, it was the largest right tributary of the Amudarya River. At present, due to the intake of a huge amount of water for irrigation, the waters of this river do not reach its former mouths. The Zaravshan River is glacier-snow fed. It originates from the borders of northern Tajikistan and its basin is located between the Turkestan and Hissar mountain ranges. The length of the river is 877 km, and the catchment area is 12.3 thousand km². The average annual flow of the Zaravshan River is 82 m³/s. This river is of great importance for agriculture and economy not only in Sughd region of the Republic of Tajikistan, but also in the Republic of Uzbekistan.

The Zaravshan River, from the source of which to the confluence of the Fondarya River, is called the Mastchoh River, originates at an absolute altitude of 2,775 meters of the Zaravshan Glacier. The length of the Mastchoh River is 200 km, and its catchment area is 4,650 km². The Zaravshan River in the Republic of Tajikistan passes a 301 km long border and, before the "May First" head water intake, leaves the Republic of Tajikistan into the wide Zaravshan valley. The waters of this river, the lower mouth of the Mogiyon River, are often taken by a network of irrigation channels (their total length is 2,500 km) for irrigation. As a result, the water content of Zaravshan is gradually decreasing and the riverbed called Toykir ends near the city of Karokul, in the salty drying lake Dengizkul.

On the territory of the district, in addition to the Zaravshan River, its tributaries the Mogiyon River, the Kishtud River and the Say Kishtudak River flow, which have a small average annual flow rate.

The population uses water for economic and domestic needs, including partially for drinking, from the irrigation network.

Soil

The soil/ground in the project districts mainly consists of sands and sandstones. The soil cover of hilly-ridged adyrs and lowlands is formed mainly by meadow-serozem (gray earth) soils and solonchaks. Land in dehkan farms is used for production of agricultural crops. In all territories of rural jamoats along both banks of the Zaravshan River there are slopes and hills where landslides and soil erosions are found.

Flora and Fauna

The districts of Zaravshan valley are characterized by picturesque nature and are rich in mountain medicinal plants and herbs, as well as wildlife. On the territory of Panjakent 150 species of medicinal plants, 50 species of honey plants, 100 species of nutritious plants, 120 plants containing essential oils are registered. During the development period of this territory for the purposes of irrigated agriculture, the primordial vegetation cover has changed radically. The current vegetation cover in the sub-project territory is represented by agricultural lands of various row crops and garden plantations. In settlements and private households, various fruit and ornamental plantations and vegetable crops are widely cultivated.

Flora. The plots along the irrigation canals are covered with natural plant formation and are used for livestock grazing. In agricultural fields, where there is a close arrangement of ground and saline soils, unproductive grassy vegetation grows. Uncleaned canals are often overgrown with reeds and other unproductive vegetation.

Fauna. The adjacent territories are inhabited by foxes and hares, golden eagles, which hunt small rodents in the fields.

The wildlife of Ayni, and Kuhistoni Mastchoh districts' territories is represented by various species of plants, wildlife and feathered inhabitants typical for this region. Tamarix (taray), camelthorns (alhagi), psoralea, althaea officinalis (marshmallow) and other plants are widespread, some of which have great forage value for the Hissar and Karakul sheeps bred in this territory, as well as other animals. In the highlands, walnuts, junipers, apple trees, pistachios, wild roses, astragalus, berberis (barberry), and cotoneasters are found in wild-growing form. The fauna of the project area is diverse, where there are bears, wolves, foxes, jackals, hares, mountain goats, porcupines (hystrix), wild boars, pheasants (phasianus) and other animals.

The mountain expanses of Shahristan are rich in medicinal plants, such as shilajit (mumijo), angath, mountain almond, mountain onion "allium oreoprasum" (anzur), (ephedra) and other mountain herbs, about 40 species of plant and medicinal herbs, which are considered the main source for the development of small enterprises for the production of pharmaceutical products.

The project activities are aimed at improving water resources management and will not have a potential adverse impact on the flora and fauna of the project sites. Project activities have no impact on fruit plantations and private household plots.

4. DESCRIPTION OF PROJECT ACTIVITIES BY RIVER BASIN

4.1. Vakhsh river basin.

The Project related to the Vakhsh River Basin will support small-scale irrigation schemes in the upper sub-basin of the Vakhsh River and upgrade large-scale irrigation systems in the lower part of the river. The main investments are aimed at supporting the lower sub-basin of the Vakhsh River, which will include the following activities: (i) modernization of water intake structures; (ii) replacement of irrigation sluice-gates, (iii) mechanized cleaning and upgrading of main canals to increase their water supply efficiency, (iv) procurement of machinery for system maintenance, (v) upgrade of pumps and pumping stations, and (vi) works to protect irrigation infrastructure from floods and mudflows, remodeling of ALRI offices. Support will be provided to build the capacity of WUAs in the selected schemes in the lower Vakhsh basins, which provides for the construction or renovation of existing WUA office buildings, landscaping around their offices, and institutional support.

Vakhsh irrigation system. The water catchment of the Vakhsh River is located in the highest part of Central Asia. A significant part of the catchment is located on the peripheral ridges of the Pamir-Alai mountain system, so the basin is marked by high moisture, precipitation and high specific and absolute water content. A distinctive feature of the Vakhsh river basin is the insignificant distribution of a plane area within its boundaries, which occupies only 13% of its total area, which limits the possibility of using water resources within its basin.

The area of the Vakhsh river basin is 39,100 km², the length of the river is 524 km. The Vakhsh River belongs to the rivers of glacier-snow feeding, the increase in discharges begins in March and the highest value of discharges is observed in the month of July, and the annual minimum is observed in January-February.

The Vakhsh irrigation system became the first-born in the field of irrigation construction in Tajikistan. The system is located in the Vakhsh valley, in the zone of dry subtropics. According to climatic conditions, the valley is very favorable for the cultivation of the most valuable fine-staple varieties of cotton. The climate of the Vakhsh valley is sharply continental with dry, hot summers and moderately cold winters. The source of irrigation for the system is the Vakhsh River.

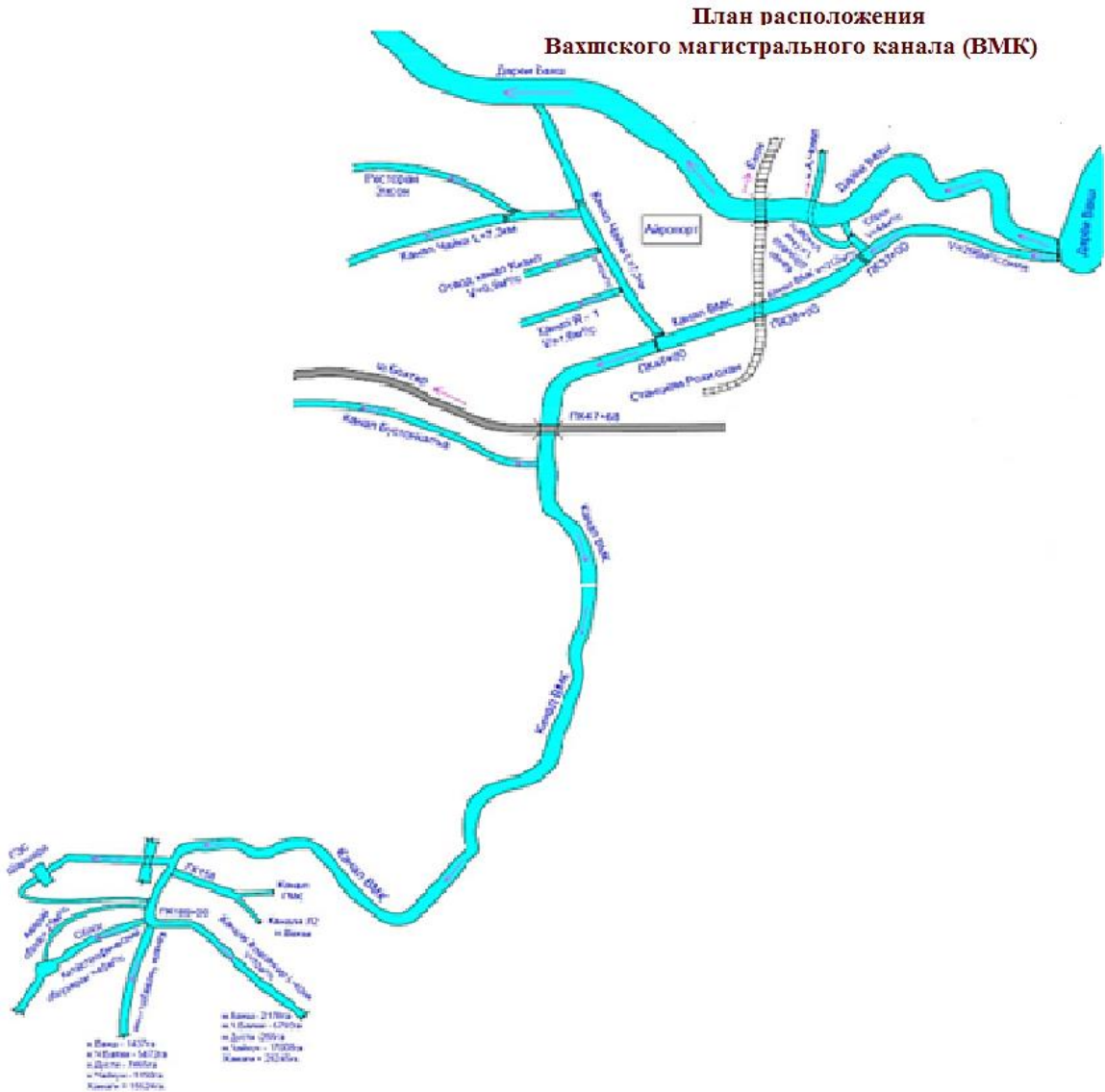
The construction of the Vakhsh irrigation system began in 1931 and by 1933 the construction of the main canal had been completed. The main regulator of the Vakhsh main canal is located on the left bank of the Vakhsh river, 3.3 km below the river's exit from the mountain gorge into the Vakhsh valley. At CH 46, the Northern Branch departs from it, with a length of 25 km. It ends with a regulator along with a profile section of the Juybor canal and a catastrophic escape into the river Vakhsh. The Vakhsh Main Canal ends at CH 189 with a profile section for the Kumsangir and Jilikul canals.

In the mid of 1950s, pumped irrigation was developed in the Vakhsh valley, and the creation of an energy base was required to supply energy to pumping stations. For these purposes, three power plants were constructed:

1. Perepadnaya (Overfall);
2. Golovnaya (Head);
3. Central.

After the completion of the construction of the Golovnaya HPP (1966), water supply to the Vakhsh main canal began to be carried out from the connecting canal of the HPP, and the former head regulator now plays the role of a spillway structure. The Vakhsh main canal has become an irrigation and energy canal and is one of the major hydro-technical structures. Its length is 28.9 km, the discharge capacity is 212 m³/s at the head and 100 m³/s at the end. Throughout its length, the Canal is made without lining and it is an earthen Canal. At present, the Vakhsh irrigation system serves the irrigated lands of J. Balkhi, Dusti, Jaihun, Vakhsh, Kushoniyon districts and Levakant city. The total area of land in the irrigation system is over 110,000 ha.

Figure 1. Vakhsh Irrigation System Layout



Shurabad Main Canal. To service the irrigation network and hydro technical structures of the A. Jomi district (formerly Aral, Kuibyshev) in 1929, on the basis of the irrigation section of “Vakhshvodstroy No. 4”, the Aral district Water Management Organization was organized. The irrigation network of this district before the technical improvement and reconstruction of existing systems (1928) consisted of canals: Khojakala, Kataganshoh, Askarashoh and Yakkatut. The water intake structure of the canals was primitive, their rehabilitation and repair was carried out several times over the summer. In 1935, a temporary water intake structure was constructed, through which water flowed into the Shurabad Main Canal, and then into the Khojakala Canal. In 1980, water supply to the Shurabad main canal began to be carried out from the discharge structure at CH 33 + 00 of the Vakhsh main canal through a siphon (length -240 m, cross section

of 2 reinforced concrete rectangular blocks sized 3.5x2.5 m) to CH 15 + 60 under the riverbed of the Vakhsh river. Before the fork section, the length of the canal is 4.77 km with a capacity of 40 m³/s at the head.

At present, the Shurabad irrigation system serves the irrigated lands of Jomi and Khuroson districts. The total land area under the Shurabad irrigation system makes about 15,000 ha.

Figure 2. Shurabad Irrigation System Layout

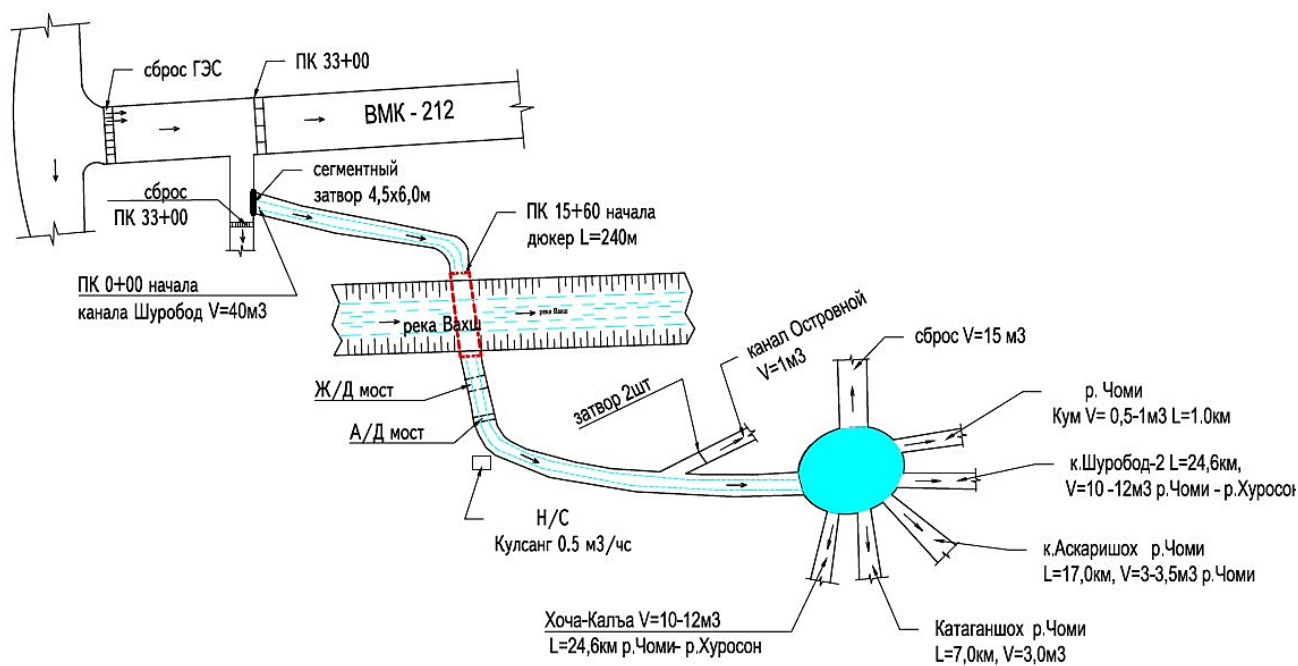


Table 11. Activities on the Shurabad Main Canal.

No.	Canal names	Name of the structure and types of activities	Unit measure	Length/ number
1	Shuroobod	Canal cleaning, pile leveling before and after cleaning	meter	4532
		Repair and rehabilitation of sluice gates	Nos.	twenty
		Canal lining and concrete works	m ³	164
		Rehabilitation of segment gates	Nos.	one
		Drainage works	m ³	29630
		Repair and rehabilitation of a siphon from reinforced concrete blocks	m ³	288
2	Hoja-Qala	Canal cleaning, pile leveling before and after cleaning	meter	24600
		Repair and rehabilitation of sluice gates	Nos.	10
		Canal lining and concrete works	m ³	80
3	Shurobod-2.3	Canal cleaning, pile leveling before and cleaning	meter	14400
		Canal lining and concrete works	m ³	45

4.2. Zarafshon river basin

The Project plans activities for the Zarafshon river basin, which covers three proposed districts: Panjakent, Ayni and Kuhistoni Mastchoh. As part of the implementation of “Zarafshon Irrigation Rehabilitation and Management Improvement Project” (ZIRMIP) in the above districts of the Sughd region in the period from 2018 to 2020 works were executed related to the rehabilitation of irrigation infrastructure and key bank protection structures. Public activities were also held for manual cleaning of irrigation canals and institutional level activities to strengthen the capacity of the Agency for Land Reclamation and Irrigation (ALRI) and WUAs. Below is information about the planned types of work.

Panjakent district

- Repair and rehabilitation of the pumping station “Margedar-3” (remaining works) “Nilufar-3”, “Shashkat”;
- Repair and rehabilitation of the Yori-1 and Yori-2 canals (remaining works);
- Rehabilitation of irrigation head intakes and water intake structures of the Eshon and Toksan-Korez canals on the Magiyan-Darya river, the Margedar canal;
- Bank protection works on the Kumsoy, Maikata, Mugulon and Argamon embankments;
- Repair and rehabilitation of the “Kishtudak” canal and channels of the “Yori” Jamoat (manual works);
- Rehabilitation of the pipeline D = 400mm (irrigation of the lands of the territory of Zarinrud village/Yori village, Dashti Kozi village;
- Repair and rehabilitation of pipelines with a diameter of 235 mm. P/S Takobi Khalk village;

Kuhistoni Mastchoh district

- Repair and rehabilitation of on-farm irrigation systems (concreting), rehabilitation of polyethylene pipes in the territory of Langar and Ivan-Tojik rural jamoats;
- Rehabilitation of pipelines with a diameter of 400 mm. in the villages of Dashti Padask, Samchon and the lands of the village of Muchdiv.

Ayni district

- Rehabilitation of the siphon “Khushekat”;
- Rehabilitation of the canal in Pokhud village of Rarz rural jamoat (concreting);
- Rehabilitation of polyethylene pipes with a diameter of 315 mm for Azizmoh" J. Rarz;
- Rehabilitation of P/S “Karktuda-1”, “Karktuda-2”, “Ustoobid-2”;
- Rehabilitation of the Dashti Ustoobid canal (concreting) of the Urmetan rural jamoat and the Khushekat Iskodar canal (concreting) of the Ayni Jamoat.

The following is overview of the proposed sites and potential impacts including a description of the existing status, types of work required, and possible environmental and social impacts.

Headworks Water Intake Structure for Tukhsan Korez and Eshon Canals, Panjakent



The main head works water intake structure (HWIS) for the two canals Tukhsan-Korez and Eshon, the source of which is the Canal of the Magiyandarya River, is located in the area of Chorbog village. The checking structure with headwater intakes was constructed in 1941. Through the Eshon canal, water is supplied for irrigation of land with an area of 645 hectares, through the Toksan-Korez canal – on 2427 hectares.

Description of current status:

The long-term operation of the structures (more than 60 years) led to the complete destruction of the checking structure. The head water intakes were partially restored so as not to stop the water supply. This was mainly critical during the spring flood period, when intensive snowmelt and heavy precipitation began. Mudflows, falling into the river runoff, progressively destroy the stable operation of structures

Planned actions:

Rehabilitation of an existing or construction of a new embankment site with a common water intake for two canals.

Ayni Jamoat – Khushekat Siphon



The siphon Khushekat takes water from a source called Sai Khushekat (a tributary of the Zarafshon River) and supplies water to the Khushekat canal. The maximum flow rate of the siphon is $Q=0.1\text{m}^3/\text{s}$. The command area is 193 hectares

Description of current status:

- Partially destroyed sections of the siphon at a length of 2200 m.

Planned actions:

- Rehabilitation of the head structure of the siphon;
- Replacement of asbestos-cement pipes with polyethylene ones.
- Rehabilitation of other parts of the siphon.

Construction/expansion of a capitation structure and water intake system in the Shahrستان-sai riverbed and provision of a gravity flow pipeline to improve the water supply of irrigated lands in Shahrستان district.



Nilufar-3 Pumping Station, Panjakent

Description of current status:

Irrigation of the lands of the Shakhristan district is carried using the shaft structures installed in the Canal of the Shakhristan-sai river and located 1.5 km on the upstream from Shahrستان district. Groundwater intake is carried out by perforated pipes laid at a depth of 7 meters. From two wells, water is supplied by gravity through the pipeline to the Shahrستان main canal and the volume of water intake of 80-90 l / sec., is insufficient for the command areas of the district.

Nilufar-3 pumping station, constructed in 1991, it is located in Sarazm Jamoat and is intended for irrigation of 372 hectares of land. The source of water intake is the Zarafshon River. There are 510 households and 5 dehkan farms on the territory of the sub-command area of the P/S. Water supply and distribution for water users is carried out through the Nishon-Sarazm WUA.

Description of current status:

In the initial Design, 3 units with pumps were installed: 2 working units and 1 standby. Referring to the data of Bunyod Loiha LLC dated 2018 one pump unit and other pump equipment are out of service.

Planned activities:

- purchase and installation of the 1st pump, taking into account electrical parts, purchase of spare parts for the pumping station;
- repair and rehabilitation work on the building of the pumping station, including the installation of window and door blocks and gates;
- landscaping the territory of the pumping station, through the construction of a fence, the rehabilitation of a toilet room and a patrolling hut;
- excavation and leveling works on the site and access road to the P/S, taking into account the gravel cover, expansion of the capitation structure and the system of water intake structures

5. ASSESSMENT OF PROJECT SOCIAL AND ENVIRONMENTAL RISKS AND IMPACTS

5.1. General Overview of Social and Environmental Risks

This section discusses the potential environmental and social risks and impacts that may arise from the implementation of the Project and proposes measures to mitigate them at all stages of the project activities, during design, construction and further activities. Ultimately, all proposed measures to prevent or mitigate possible adverse effects related to construction will be included by the ALRI/PMU and MWER/PIU in the tender or contract documents, thus becoming mandatory elements of contracts for construction work and construction supervision.

In general, from project activities (repair, mechanized cleaning and lining of main canals; repair and rehabilitation of irrigation canals, rehabilitation and automation of head and control structures, irrigation pipelines, modernization and rehabilitation of pumps and pumping stations, replacement of irrigation sluice gates, structures/water intakes, rehabilitation of existing vertical wells, work to protect irrigation infrastructure from floods and mudflows and bank protection works; rent and purchase of machineries (excavators, bulldozers) for maintenance of irrigation and drainage systems) a long-term positive impact is expected. Modernization and rehabilitation works of the Project will have a positive environmental and social impact, in particular, will lead to the following:

- Reducing the level of waterlogging and salinization of the soil;
- Improving the distribution of water for irrigation;
- Reduction of water losses, including seepage losses.
- Prevention of further destruction of riverbank lines by flood waters, reduction of the risk of floods and waterlogging;
- Protection against flooding of adjacent irrigated lands and settlements, prevention of loss of dwellings;
- Improving the agricultural productivity of arable lands, increasing their area, increasing crop yields, increasing the income of farms and households;
- Improving employment opportunities, i.e. ensuring the level of employment and income of the population - use of local goods and services during construction works;
- Reduce poverty in rural areas of the project area.

However, in the preliminary assessment of possible impacts, environmental and social risks are assessed as significant and are covered under ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6 and ESS 10. The assessment and assigned rating of the environmental and social risks of the project are determined by the scale of this project, covering three river basins in remote regions of the Republic of Tajikistan, are related to: the rehabilitation of irrigation infrastructure, including the waste management; the risks associated with indirect disturbance of the existing ecosystems and established habitats; associated with possible pollution of water and soil. There are also possibilities of potential risks associated with the use of pesticides for pest control within the expanded and upgraded agricultural systems.

The following are the possible risks and adverse impacts that may occur during the implementation of project activities:

General environmental and social risks and impacts

Direct adverse risks:

- temporary generation of dust (including asbestos dust), noise and shaking;
- temporary inconvenience on inter-farm roads;
- possible violations during the functioning of construction camps;
- pollution of soil and water;
- GHG emission

- land degradation (salinization, waterlogging and soil erosion), use of water resources in case of errors during the design and operation of irrigation and collector-drainage systems;
- loss of vegetation, including windbreak and economic forest plantations;
- generation of additional household and industrial waste;
- possible risks to the health and safety of workers and the local population during the construction work;

As well as indirect risks:

- increase in the use of agrochemicals, including unacceptable doses of nitrogen fertilizers and plant pest control agents (pesticides).
- growing extent of possible climate change negative impacts

Social risks and impacts

- the influx of labor force from outside and the infringement of the interests of the local community in terms of employment opportunities;
- limited opportunities for ethnic minorities to access the project benefits;
- limitation of the opportunities for rural women to benefit from the project activities, wage discrimination;
- possible use of child and forced labor;
- emergence of the risk of social insecurity in employment without formal contractual obligations;
- emergence of disputes and misunderstandings;
- insufficient coverage and misallocation of the grant funds, limitation of the access to the grant funds by vulnerable groups;
- risk associated with the introduction and spread of infectious diseases among the personnel of the PMU, the contractor and its working staff, the local population located in the project area;
- risk of dissatisfaction and misunderstanding among the water users associated with the changes in water tariffs;
- risk of minor changes in the perimeters of lands during the rehabilitation of irrigation systems, and the associated adverse economic consequences.

The listed risks will be temporary in nature. For the irrigation schemes, especially large scale ones, priority of rehabilitation works will be determined during the project preparation. This procedure will also include an assessment of energy and water losses, and alternatives for their reduction; improvements in water distribution; and reduction of the risk of floods and mudflows, soil erosion and groundwater salinization.

The risks and possible adverse impacts of the project are discussed in detail below.

5.2. Environmental impacts, potential risks and measures for their mitigation

Waste generation will occur during the construction phase and during the construction/renovation works on irrigation infrastructures, as well as other types of project activities. Waste generation - the project activities are expected to generate two types of waste: non-hazardous and hazardous. Non-hazardous waste will be represented by the construction waste that will be generated during the construction/renovation works. The storage of such waste in areas close to settlements and delayed or improper disposal can affect the air quality, dust generation, acceleration of the erosion process, disturbance of the natural habitat, and affect the neighboring communities. In addition to this waste, used welding electrodes, packaging materials and wood will also be generated. Generally, most of the waste that will be generated at this stage is recyclable waste, and their timely and correct disposal will ensure minimal environmental impact. Construction waste, as well as other waste (paper, glass, plastic, etc.) should be sorted into separate containers. Waste disposal sites at the construction site should be

thoroughly selected, and the waste sorting and recycling rules should be prepared in the Environmental Management Plans. In addition, the waste generated as a result of the project implementation can be divided into the following categories:

Inert construction materials; household waste; hazardous and toxic waste.

Inert construction materials include soil surplus (waste piles), as well as aggregated and other material stocks. Surpluses and stocks of the construction materials will be subject to erosion, especially during the rainy periods, and dust dispersal during the dry periods.

Inert natural materials (such as soil, stones) may be disposed of in the project area at the discretion of the contractor. In such cases, the materials to be disposed of should not cause any adverse environmental impacts. Disposal or storage of solid materials is not permitted within or near the following areas: villages and residential areas, cemeteries, river/stream beds, banks or slopes directly above the river/stream beds; cultivated lands; pastures; local fauna, including trees, shrubs and meadows. Surplus materials generated after earthworks must be disposed of properly without adverse impact on the landscape and nature. The fertile soil layer should be piled up and, after the completion of work, used at the place of removal or, in the case of a surplus, should be transferred to its intended purpose at the discretion of local authorities and farms.

The operation of construction camps and other facilities can lead to the formation of significant volumes of liquid and solid household waste. Improper handling and disposal of household waste can cause health problems, odors, air and water pollution.

The Contractor shall, on his own or under contract with a service organization, provide a sufficient number of clearly marked containers or buckets for the collection of waste in the construction camps and construction sites. Household and construction waste must be regularly removed from the construction site and disposed of in a licensed sanitary landfill, or an equivalent landfill approved by the local authorities on environmental protection.

Air pollution. Impacts on the air quality will be of a short-term nature in certain locations, as the proposed construction and renovation works under the project are only temporary. These sites are mostly located in the area where they can have the least impact on human and environmental receptors. Conditions in these areas should be such that the dust does not carry long distances and that it settles quickly, thereby affecting only localized areas. In addition, dust generation will occur during most construction/rehabilitation works associated with earthworks, transport traffic, building rehabilitation, etc. In particular, the risk of dust pollution will increase in the windy weather. The magnitude of the impact will increase with construction/rehabilitation works in close proximity to settlements. Significant impacts will only occur if stationary point sources such as stocks of materials, crushing and concrete mixing plants are located near sensitive areas and if large volumes of construction materials are transported or equipment is continuously operated in close proximity to sensitive areas. At the same time, during the construction and rehabilitation of irrigation infrastructures, the trucks and heavy machinery can disturb the top layer of soil, which can contribute to dust problems for workers and residents in nearby settlements.

Special care must be taken when coming into contact with the toxic asbestos dust (see the section on ACM handling below), which may occur when dismantling thermal insulation or roofs containing asbestos gaskets. Personnel must wear protective masks. Adverse impacts can be prevented by applying the best construction practices and appropriate measures for mitigation of the impacts.

As part of the air pollution related to the project, the gross GHG emissions resulting from the project is expected. The IAs will explore the possibilities for capacity building on carbon balance calculation methodologies, and the Bank will provide technical assistance on this matter. For subprojects that have diverse and small sources of emissions (for example, WUAs development subprojects) or where emissions are not likely to be significant (for example, subprojects in

designing national irrigation sector development strategy, activities in education and social engagement), GHG estimations will not be required. Options for reducing GHG emissions will include alternative project locations; adoption of low carbon energy sources and transmissions; more sustainable agricultural, carbon sequestration and storage; sustainable transport alternatives; and proper waste management practices.

Noise can occur mainly during the operation of equipment and the movement of trucks. Noise levels are not expected to exceed the specified limits during the project activities. Noise can be mitigated through the use of recommended measures. Given the nature of the project, vibration is not expected to affect the human health and structural integrity as there will be no activity that generates significant vibration. To ensure acceptable noise levels in residential areas in Tajikistan, the “Sanitary Regulations and Standards” under No. 2.2.4.016-14 dated 2017 are applied and in accordance with the World Bank Group’s Environmental, Health and Safety Guidelines, the sensitive receptors, such as areas of residential buildings, institutional and educational establishments should have a noise level of 55 dB (A) from 7 am to 10 pm (during the daytime) and no more than 45 dB (A) from 10 pm to 7 am (at night time). The use of construction machinery and vehicles should be limited to a reasonable time when they have the least adverse impact. The speed of construction vehicles near and inside the villages will be limited to <20 km/h.

Surface water pollution. Earthworks, oil storage, storage of hazardous materials will become sources of pollution of river water if the watercourse is nearby. Oil spills, hazardous materials, debris and household waste can lead to chemical contamination. All fuel and chemical reagents storage facilities (if any) should be located on impervious foundations/substructures inside the bund and protected by a fence. The storage area should be located away from any watercourse or wetlands. The base and walls of the bund must be impervious and have sufficient capacity to hold 110% of the tank volume. Do not dispose of lubricating oil and other potentially hazardous fluids onto the ground or into reservoirs.

In the event of an accidental spill, immediate cleanup will take place. All cleaning materials must be stored in a secure location on site where hazardous waste can be disposed of. The Surface Water Treatment Plan must be carefully planned during the feasibility study to meet the wastewater quality standard. The sediment excluding basin, neutralization tank and reserve tank must be prepared for flooding. This plan is included in the Site-specific Environmental and Social Management Plans (ESMP).

Also, the Project is likely to create some short-term and minor adverse impacts on water quality, including (i) an increase in the volume of silt deposits in areas where irrigation facilities are located; (ii) construction materials such as gravel, sand and fill will be washed into the local watercourses and rivers during rains; (iii) hydrocarbon leaks and/or spills in places of storage and placement of mixing installations; and (iv) discharge of waste water and sewerage from construction camp sites into the local watercourses and rivers, or seepage due to leakage and pollution of the water surface.

The main likely types and sources of water pollution include:

- Washouts, fuel and oil leaks from vehicles, storage tanks and machinery;
- Temporarily abandoned sediments removed during the earthworks in watersheds; washing water from the use of crushing plants;
- Human waste from construction camps and non-observance of sanitation standards and regulations; indiscriminate dumping of household and construction waste;
- Washing water containing oil or detergents used to clean the equipment.

The single most destructive event, however, may be a landslide or landslides caused by the construction works that partially or completely block the flow of a river. As noted earlier, the

disposal of excess fill material, stone fragments, etc. into a watercourse can also lead to floods of local scale.

Contractor will not discharge any materials and substances other than channel linings, creation of a water slab, etc., except with the permission of the CEP and regulatory authorities. The Contractor will ensure that all existing watercourses and drains are not endangered by construction debris and materials discharged as a result of the works, and will protect watercourses, waterways, canals, channels, drains, etc. from pollution, silting, flooding or erosion as a result of implementation of project activities.

Interference with the natural flow of rivers, watercourses or streams within or adjacent to the work sites, as well as the prevention of water intake and pollution of water resources at the project sites will not be allowed.

Soil pollution. Leakage of fuel, lubricants, debris and pit latrines can cause soil pollution. A possible source of soil pollution should not be near farmers' fields or water sources. Surface runoff from the construction site must be removed. All ground tanks with fuels and lubricants will be equipped above the ground, and the integrity of their walls will be constantly monitored. Rules for the registration, handling and storage of hazardous materials, a Soil Pollution Prevention Plan and a Fire Safety Plan should be prepared within the ESMP.

Asbestos dust pollution – asbestos dust generated during the dismantling of old roofs of restored/reconstructed buildings, buildings of pumping stations, water pipes can cause a serious health hazard to people living in houses next to or near the construction sites. In such cases, prior to construction work, the contractor shall develop a specific Asbestos-Containing Materials Management Plan based on a model, the recommendations are provided in Annex 7 below. The Asbestos-Containing Materials Management Plan (ACMMP) describes and assesses the risk that contractors (and other entities) will encounter asbestos-containing material (ACM) at Project construction sites during the project implementation phase; and it provides a procedure for quickly and safely dealing with any ACM that can be found. WB's ESS 3: Recourse and Efficiency, Pollution Prevention and Management requires the World Bank-funded Projects to apply pollution prevention and control technologies, as well as the occupational health and safety measures in line with the international best practice, as reflected in the international standards, such as the General Environmental, Health, and Safety Guidelines of the IFC/World Bank (2007) and the Law of the Republic of Tajikistan "On industrial and household waste" dated May 10, 2002 under No. 44.

Erosion and sedimentation. Soil erosion and landslides are a significant problem for Tajikistan. Erosion is a widespread natural phenomenon due to the relief and climate of the country, which is accelerated by inappropriate land use practices, such as cultivating land on steep slopes; excessive clearing of forests, plants and shrubs; overgrazing; and inadequate irrigation.

The project may contribute to the occurrence of soil erosion and increase in sedimentation levels. During the construction, a number of potential sources of erosion and sedimentation exist, and activities that could result in increased runoff and soil loss. These include:

I. Site clearing and work on unprotected surfaces

This will include the removal of boulders and stones, and in some cases vegetation, soil and excess of material cutting. Site clearing not only exposes to erosion the exposed soil layer in the cleared area, but also contributes to the formation of new channels and ditches that can cause damage (through erosion and possibly land movement) to land outside the cleared area. Excessive steepness of slopes and modification of water flows can cause landslides, while the release of materials from the road onto graft can lead to the destruction of vegetation and provoke additional problems associated with erosion and slope instability. Erosion can lead to pollution and sedimentation of the river.

II. Riverbeds changes

This may be required in some cases for temporary changes in flows that will be carried out during the construction work. Such temporary redirection of flows or changes in drainage can result in flooding of neighboring lands and destruction of the property, agricultural crops and the natural environment if not properly designed.

Erosion can accelerate (i) soil stock instability, (ii) slope overload and resulting collapse; (iii) changing the structure of drainage. However, soil erosion and sedimentation will be limited to activities directly on and near the irrigation system sites. Erosion protection measures may include silt protection fences, hay bales, temporary drainage channels, temporary measures associated with energy dissipation, etc.

Loss of vegetation cover - since the program does not provide funding for sub-projects requiring land acquisition and resettlement, i.e. all project activities will be carried out within the existing facilities, no significant impact on flora is expected. However, for some sub-projects related to the modernization of irrigation infrastructure, there is a certain risk of loss of trees and other valuable vegetation. The construction works will directly cause minor degradation of the local ecology due to the clearing of small areas of vegetation (soil cover) in the main and ancillary working areas. Short-term environmental impacts may occur within and around the material storage areas and construction sites during the construction period due to the minor clearing of areas of vegetation (not trees). Permanent, but relatively minor environmental impacts may result from adjustments to sections of the access road. The Contractor shall, where practicable, minimize the general adverse effects of clearing areas of vegetation for the construction, namely: avoid all areas with vegetation cover; implement corrective measures, including replanting local or food plant species, after all construction work is completed. Vegetation cover that has been removed in the areas described above will be preserved to protect against landslides and strengthen slopes. Contractors will be responsible for planting new vegetation where it has been removed. Construction vehicles must use temporary travel roads built in order to minimize damage to agricultural land and local access roads. Where local roads are used, they will be restored to their original condition upon completion of the work. Compaction around the trees will be done carefully to avoid dripping moisture. Workers will be trained on the issues of environmental protection and the need to avoid felling trees during construction. Native species should be used, as far as possible, as a bioengineered slope protection measure, as this will ensure the survival of existing species and avoid potential problems associated with the use of new species.

Contractors will be responsible for supplying appropriate fuel to the construction camps in order to prevent collection of fuelwood.

In addition, if it is necessary to destroy the forest cover along the canals, in each specific case, the issues of remedial landscaping will be studied and planned in coordination with local authorities and supervisory authorities. Where necessary, appropriate scope of remedial landscaping and habitat conservation will be included in the bill of quantities

Biodiversity Impacts

During their long existence, colonies of rare animals, bird nests, and rare plants could form along the irrigation systems. In order to prevent damage to biological diversity during the screening phase, a thorough study will be carried out in order to detect such habitats and species, and if they are found, measures will be taken to reduce or prevent negative impacts, or alternative protection measures.

Biodiversity can be affected by pesticides used by farmers. Pesticides can accumulate in soils where they can penetrate ground or surface water and be toxic to micro-organisms, animals and humans. Accumulated pesticides in the soil can harm arthropods, earthworms, fungi, bacteria, protozoa, and other organisms that contribute to soil function and structure. Effects of pesticides

on birds can cause harm to their reproductive function or even kill them directly, in sufficiently high doses. Domestic animals can also be harmed by pesticide exposure.

Once pesticides enter an ecosystem, they can persist for long periods of time. In addition, pesticides that enter the food chain can undergo biomagnification, resulting in accumulated concentrations in organism tissues that are many times higher than in the environment.

The Republic of Tajikistan has joined the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (1997). In accordance with the provisions of the Cartagena Protocol, the Parties shall ensure that any living modified organisms are obtained, handled, transported, used, transferred and released in such a way that risks to biological diversity are not tolerated or mitigated taking into account the risks to human health. It is expected that the use of genetically modified and/or hybrid seeds will be further regulated in accordance with the document mentioned above. At present, there is no national regulation in the Republic of Tajikistan that properly sets out the existing procedure for the use of genetically modified and/or hybrid seeds. Therefore, in the event that a project directly or indirectly affects the use of plant seeds, the Guidelines for Environmental and Social Management (FAO, 2015), namely the Standard 3 (ESS 3) will apply, in which the International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA) is defined as the total variety of plants used or the capacity that will be used in agriculture for the production of food, feed and fiber. ESS 3 recognizes the safeguards of the Cartagena Protocol on Biosafety and covers any activity that requires the use of seeds and planting material in projects developed or transferred. Project activities should not destroy genetic diversity. Thus, the project will avoid or minimize: the introduction of new agricultural crop varieties on a large scale that could “displace” other crops and varieties with the immediate effect of reducing the diversity of agricultural crops and varieties grown by farmers; the introduction of agricultural crop varieties resulting from genetic modification that can, through gene flow, lead to the transmission of the transformation to other varieties or closely related species.

Protected Areas. Designed sites are located outside the Specially Protected Natural Areas (PAs) of Tajikistan. The nearest protected area is the Tajik National Natural Park, which covers an area of more than 26,000 km² and is located on the territory of GBAR and districts of Lakhsh and Sangvor under the Districts of the Republican Subordination (DRS) of Tajikistan. It is not expected that the activities of the sub-components of the Project may have a direct impact on the natural habitat or any species living in the National Park.

The following national/international officially protected nature reserves exist in the Project areas. The natural reserve Tigrovaya Balka, with an area of 49,786 hectares, is located in the southwestern part of the Khatlon region of the Republic of Tajikistan in the districts: Dusti, Jayhun and Kabadiyan. The reserve stretches along the Vakhsh River for 40 km to the border with Afghanistan and the confluence of the Pyanj and Vakhsh rivers. Approximately 4000 hectares of the reserve are reservoirs and lakes; there are more than 20 lakes in the reserve, many of which are connected by collectors. The reserve was established in 1938. The main task of the reserve is to preserve the unique riparian plant complex, floodplain forests of the dry subtropics zone. Riparian forests occupy an area of 24.1 thousand hectares. The territory of the reserve is exposed to negative anthropogenic impact: unregulated hunting and fishing, illegal logging, poaching, settlement, development for agricultural land, grazing. All this has led to a decrease in the number of many species of animals.

It is not expected that the activities for the implementation of the sub-components of the Project may have a direct impact on the natural habitat or any biological species living in the Tigrovaya Balka Reserve. However, possible indirect impacts (through water, atmosphere, etc.) will be

assessed and controlled as part of the development of the ESMP for each specific sub-project



Water filtration and spreading causes saturation of the soil in the vicinity of the canal, which can lead to loss of stability of the canal slopes, flooding and waterlogging (and in especially severe cases, also salinization) of the area. High-quality implementation of project works for the rehabilitation of irrigation systems will reduce the degree of filtration in irrigation canals. One of the methods to control water filtration from canals is forming a waterproof layer along the perimeter of the canal section. The waterproof layer is arranged by covering the bottom and slopes of the Canal with a lining of foreign material. In addition, surveys, design and rehabilitation of collector-drainage systems will be carried out in areas of continuing risks of seepage and spreading.

Risks during the operation phase of irrigation and drainage systems - swamping of soils, silting, erosion, destruction of the canal sides, salinization, garbage dumping by the local population. In this regard, the operators of irrigation systems will need to increasingly focus on the integrated use of water in order to improve living conditions, on the need for environmental protection for sustainable development and on the use of water resources. Operation is concerned with adjusting the installations of the facilities, while maintenance is the upholding of the capacity of the facilities. The operation of irrigation canals is the daily work to provide agricultural crops with irrigation water at the appointed time according to the water consumption plan and irrigation norms in the right amount. To achieve this goal, it is necessary to protect irrigation systems from silting, aquatic plants and trees planted on slopes and canal embankments. Silting of irrigation systems mainly comes from mudflows, formed on the river and along the alignment of the Canals from silting, and along the route of the Canals passing in upland areas, as well as the result of grazing on the sides of the Canals and adjacent areas. To prevent silting, it is necessary to close the sluice gates at the main water intake structure during mudflows on the river and ensure the operation of the spillway facilities. During the passage of mudflows in the sections of the canals, ensure the passage of flows through the mudflow flumes. Not allowing planting trees on slopes and canal embankments, which lead to a decrease in design data, reduces the capacity. To this end, it is also necessary to organize a capacity building courses among the local administration and residents to prevent domestic animals from grazing along irrigation and collector-drainage systems.

5.3. Workers and Community Health and Safety

For workers - the main risk in the field of occupational health and safety for project workers is associated with the mechanized works on rehabilitation of existing irrigation systems, the COVID-19 pandemic, and non-compliance with sanitary rules in places of food, accommodation

and recreation. Failure to comply with occupational health and safety requirements can create a risk for construction workers in the form of illness, injury and mutilation. Contractors must comply with Occupational Health and Safety regulations, including strict adherence to established occupational health and safety policies and procedures, which depend on the type of work performed, the use of PPE, training activities and monitoring. In addition, all workers should be familiar with the hazardous materials handling practices (such as asbestos materials, etc.). Contractors must provide workers with adequate living conditions: safe water supply, laundry facilities, rest rooms, etc. Construction sites are potentially dangerous, thus serious accidents often occur there, especially if safety measures are not provided. Construction and rehabilitation of irrigation infrastructures will include a number of activities that carry a particularly high risk, such as the use of heavy machinery, earthworks on steep and potentially unstable slopes, and the movement of construction equipment. This is of particular concern due to the remoteness of some of the construction sites from the hospital. The construction phase can lead to a range of adverse impacts on health and safety of people. The main adverse impacts on health and safety are associated with (i) risks during construction works (noise, risk of injury), (ii) transmission of infectious diseases; (iii) contamination of local water supplies; (iv) consumption of contaminated or poor-quality food, and (v) issues of road traffic safety. The Contractor will comply with the requirements of the laws of the Republic of Tajikistan on occupational health and safety. The contract must include specifications and terms based on international standards. The Contractor shall be liable for any safety risk to the public and will be required to compensate for any damage caused as a result of his negligence towards the health and safety of any member of the society. The Contractor shall ensure and be responsible for the proper training of all employees in the safe use of equipment and machinery.

The Action Plan for occupational health and safety will be prepared by the Contractor to ensure the safety of workers.

Risks associated with health at the construction site are significant due to the uncontrolled situation of COVID-19 and its mutated strains. Each contracting organization will develop an “Action Plan for the prevention/avoidance of the spread of COVID-19 at construction facilities” and take prompt measures in case of its occurrence. PMU will provide assistance to the contracting organizations in the development of an Action Plan for construction facilities and the development of urgent measures in case of its occurrence. The Contractor will appoint a person responsible for the issues associated with COVID-19 at the level of a foreman/deputy, in case of illness, and issue internal orders “On the approval of the Management Team in the event of incidents at construction facilities, on the compliance with the requirements and precautionary measures, and on the development of necessary measures in case of its occurrence”. The Contractor organizes the prompt purchase of preventive equipment: non-contact temperature meters, personal respiratory protective equipment, soap, disposable paper towels, gloves, hand sanitizers, disinfectants for surfaces and premises in an amount sufficient to provide all employed workers and carry out these activities.

The Action Plan, in addition to the procurement and provision of workers with personal protective equipment (PPE) and other preventive means, should include the following activities:

- a) activities to arrange the transportation of employees;
- b) activities to arrange the access to the construction facility and arrange the work process;
- c) activities to monitor the health of employees;
- d) activities to ensure the personal hygiene of employees;
- e) disinfection of premises, transport and construction equipment; and
- f) activities to arrange the catering for employees.

Health risks at the PMU/PIU/PCU level are also associated with COVID-19. In order to prevent the spread of the viral infection in the IA implementing agency offices, the PMU administration will use the internal administrative documents: Order No. 79 dated May 7, 2020 on the formation of a group on COVID-19 issues will be updated and responsible persons will be

appointed to carry out the instructions. On a quarterly basis, personal protective equipment (respiratory masks and gloves) and skin antiseptics will be purchased and distributed to all employees. For support personnel - disinfectants for the treatment of all surfaces of the office premises based on sodium hypochlorite, detergents for the constant treatment of hands, utensils, etc. During the aggravation of the pandemic, a limited number of employees will operate at the central office of the PMU, determined in accordance with the operational need. Strict records of vaccination against COVID19 will be maintained. As part of the preparation and implementation of the draft ESMP, this practice of taking preventive measures to prevent the spread of "COVID-19" among the staff of the PMU/PCU will continue. As the Project evolves, it will regularly integrate the latest guidance and best practices to combat COVID-19.

Risks associated with the local community living near the project areas.

Inadequate lighting and fencing of construction sites inside the settlements can be dangerous for pedestrians and vehicles, especially at night. The increase in traffic due to the movement of trucks and vehicles to construction sites can also cause inconvenience to the local population. In addition, some construction/restoration works will result in temporary blocking of access to the households. Untimely and inefficient disposal of solid waste and inadequate sanitation by construction workers at construction sites and labor camps can cause environmental pollution and affect the health of the local population. In addition, the movement of heavy equipment can destroy or worsen the condition of roads inside the settlements. Traffic safety on bridges and roads constructed in the framework of the project will be improved. Conflicts between different modes of transport will be reduced by widening the roadsides and improving the system of traffic signals at intersections and bridges. Road accidents, such as fuel or toxic chemical spills, can have serious impacts for local villages as well as villages located in the project areas.

Road crash victims: Although livestock are more visible and more likely to avoid traffic accidents during the daytime, stray animals will be less visible at night. On unlit roads, livestock poses an additional danger to road users. It is also a significant economic asset for its owners and communities. Design construction and restoration works will be carried out only during the daytime. The equipment must work during the established hours from 8:00 am to 6:00 pm. At night, no work will be carried out.

Measures to mitigate the impact.

The impacts associated with this can also lead to accidents for drivers/passengers of vehicles. Injury or loss of life, especially children, has serious social and economic impacts for affected families and communities. Therefore, all practicable measures must be taken to minimize the road traffic deaths and injuries. Suggested measures include: control of the speed and reduction of the traffic intensity, such as speed bumps on the territory of the villages; control of the speed and guide signs, barriers, etc. on dangerous sections of the roads, for example, bends, bridges, etc.; safety barriers and widening of the roadsides on some sections of the roads; measures are needed to minimize the road crash casualties, including the livestock (and local animal species); proposed speed limits in the areas where animals graze; warning signs for the cattle crossing.

Risks associated with inadequate use of pesticides and guiding principles of pest management.

The project activities may stipulate farmers to purchase pesticides and agrochemicals, and proposed project activities could lead to their increased usage. Pesticide and chemical fertilizer use in agricultural production may have a severe cumulative effect. In this respect the project will undertake a number of measures which will be used to ensure compliance with national laws and WB requirements relating to pesticide purchase and use, and also measures to promote safe pesticide handling and disposal practices to reduce human and environmental exposure.

The primary aim of pest management is to manage pests and diseases that may negatively affect production of crops so that they remain at a level that is under an economically damaging threshold. Pesticides should be managed to reduce human exposure and health hazards, to avoid their migration into off-site land or water environments and to avoid ecological impacts such as destruction of beneficial species and the development of pesticide resistance. The project approach in this case emphasizes the use of nonchemical strategies, chemical control may be an option used in conjunction with other methods. The Project will organize trainings on the use of chemicals in agricultural activities (control of pests and diseases of farm animals and plants, safety measures in the application of fertilizers. It is necessary to stimulate and increase the skills of using integrated methods for controlling pests and diseases of farm animals and plants and to raise awareness among beneficiaries of good practices in the safe use of pesticides. To conduct training, it is necessary to prepare and publish various types of information and educational publications (brochures, booklets or other information materials) on the safe use of integrated pest and disease control of agricultural animals and plants, mineral fertilizers. The training program should emphasize the introduction of an integrated plant protection system, including agro-technical techniques, cultivation of resistant varieties, methods of conservation and activation of entomophages and other beneficial organisms, as well as the competent use of mineral and biological / organic drugs and fertilizers. The developed set of measures for controlling pests and diseases of agricultural animals and plants must comply with the principles of environmental protection and include safety issues related to the handling, transportation, use and storage of pesticides and mineral fertilizers.

Where feasible, the following alternatives to pesticides should be considered:

- Rotate crops to reduce the presence of pests and weeds in the soil ecosystem;
- Use pest-resistant crop varieties;
- Use mechanical weed control and / or thermal weeding;
- Support and use beneficial organisms, such as insects, birds, mites, and microbial agents, to perform biological control of pests;
- Protect natural enemies of pests by providing a favorable habitat, such as bushes for nesting sites and other original vegetation that can house pest predators and by avoiding the use of broad-spectrum pesticides;
- Use animals to graze areas and manage plant coverage;
- Use mechanical controls such as manual removal, traps, barriers, light, and sound to kill, relocate, or repel pests.

Detailed program on pest management will be developed by the PMU during the first year project implementation and reflected in the Project Operational Manual as well as further applied in the project site-specific ESMPs.

Response to emergencies, accidents and incidents

Construction works can cause accidents that can also cause environmental and social problems. The main project activities are aimed at rehabilitation of the irrigation infrastructure, which will not lead to serious incidents, but at the same time, the contractor's irresponsible attitude to safety standards and requirements can lead to emergencies and incidents at the construction site and work sites. As part of the project, the relevant requirements and recommendations for the prevention and management of emergency situations will be developed. Emergency response documentation should contain the contact information in case of emergency situations for each workplace, displayed prominently and accessible to all staff. Contact information for emergency situations should include phone numbers and ways to notify the local authorities and services of

what to do in the event of a fire, traffic accident, health emergency, release of hazardous materials, etc.

Preparedness to manage accidental emissions of pollutants should be planned in advance. The Contractor will be responsible for taking all reasonable and precautionary measures to ensure that fires do not occur as a result of the construction of the facility. Open fires at the construction site will be prohibited and the Contractor shall ensure that basic fire-fighting equipment is available at the construction site. The detailed design and construction and rehabilitation of any infrastructure should take due account of natural disaster risks.

The PMU will ensure that the Bank's requirements on response to emergencies are met by all stakeholders (Environment and social incident response toolkit, November 2018).

5.4. Potential Social Impacts and Risks and Mitigation Measures.

5.4.1 Potential Social Impacts and Risks

Social risks associated with (i) the influx of labor from outside and the infringement of the interests of the local community in terms of employment opportunities, (ii) limiting the ability of rural women and ethnic minorities to access the benefits of the Project, wage discrimination are assessed as moderate, because most of the workers will be hired locally. Main contributing factors:

- Requirements of local authorities interested in creating additional jobs for the employment of the unemployed part of the local population and the corresponding tax deduction to the district development fund;
- Some contractors/subcontractors are likely to be recruited locally, i.e. are residents of the same district where the Project activities will be carried out.

In order to prevent (iii) the risk of social insecurity in employment without formal contractual obligations (iv) disputes and misunderstandings, the contractor must conclude a labor agreement with each hired employee, indicating the rights and obligations of the parties, ensuring safe working conditions and timely payment of wages. On a regular basis the PMU Construction Supervision Engineers, Safeguards Specialists, Monitoring and Evaluation Specialists and the PCU Coordinator, under the overall supervision of the Project Manager/Coordinator, will monitor the Contractor's compliance with workers' rights and working conditions. When hiring labor at the local level, the moral and psychological quality of the hired will be taken into account without fail, in order to prevent incidents at the construction site. Before starting construction works, the contractor should be guided by the opinion and recommendations of local representatives of jamoats and mahalla councils. When creating jobs, special attention should be paid to attracting persons from the category of socially vulnerable segments of the population and attracting national minorities living in the area where the sub-project is located. The principle of equal access to Project benefits and non-discrimination must be respected. The Contractor shall pay special attention to gender aspects, i.e. involvement of rural women in Project work.

Labor risks at the level of the PMU and its regional subdivisions (PCU) are rated as moderate as they are regulated by the Constitution and regulatory legal provisions of the Republic of Tajikistan in the field of labor, guaranteeing the right to work, the right to rest, health protection and social security. Control over the fulfillment of the labor rights of employees, compliance with contractual obligations and safe working conditions, on a semi-annual basis, is carried out by the State Service for Supervision in the Sphere of Labor and Social Protection of the Population. The labor relations with the main employees are regulated by contractual relations indicating the terms, wages and bilateral obligations

Sexual Employment and Abuse/Sexual Harassment (SEA/SH) risks are also rated as moderate, mainly due to the status of national legislation, rural gender norms based on respect for local

rules and traditions. It is necessary to take into account the fact that construction activities will be carried out in rural areas and most of the workers will be hired locally. Local contractors/subcontractors will most likely be involved in the construction and rehabilitation works of the Project. The relationship between an employer and his employee is likely to be based on the mutual respect inherent in rural areas. However, the contractor will be contractually obligated to commit against child/forced labor, and the PMU staff, the contractor's supervisory engineers, and environmental and social specialists will monitor and report on no violations.

Risks associated with forced labor and child labor. No child, forced, involuntary or unpaid labor will be used in any construction work, contract work or directly related to the Project. Article 8 of the Labor Code of the Republic of Tajikistan prohibits the use of forced labor and Article 4 "Principles of the legislation of the Republic of Tajikistan on labor" states the prohibition of discrimination, forced labor and the use of female labor and the labor of minors in heavy, underground and work with harmful working conditions. In accordance with the Law of the Republic of Tajikistan "On Education", in educational institutions, regardless of organizational and legal forms and ownership, it is not allowed to involve students and pupils in agricultural and other work not related to education and training. In previous years, schoolchildren and students were actively involved in picking cotton during the cotton harvesting season, which, of course, had a negative impact on the quality of their education. In 2006, Tajik President Emomali Rahmon issued a decree banning the use of the labor of students and schoolchildren in cotton harvests. The implementation of the Project is financially supported by the World Bank, which includes requirements for the Borrower to prevent the use of forced and child labor. The Project does not provide for works related to the sowing and collection of any agricultural products. Public manual work associated with the cleaning of channels is not envisaged. Construction and rehabilitation work will be labor-intensive and mechanized. However, the PMU will ensure effective control over the prevention of the use of forced and child labor, and within the framework of outreach activities, special attention will be paid to interpretation of the provisions of the legislation of the Republic of Tajikistan and the Social and Environmental Policy of the World Bank on this subject. During the Project implementation, a risk monitoring group will be established, consisting of PMU specialists, representatives of local hukumats responsible for children's rights and representatives of water users associations, who will be responsible for identifying facts and taking measures within the Project's authority or reporting facts to local authorities, in order to solve the problem and take appropriate measures within the Project's authority or reporting facts to local authorities, in order to solve the problem and take appropriate measures. The contractor's code of conduct should contain provisions for the protection of children and the prevention of the use of labor in construction works.

Possible risks associated with the implementation of the small grants program. To support the local communities, the Project provides for the allocation of small grants for rehabilitation works, which will also contribute to the provision of local employment for the population. The allocation of grants may contribute to risks associated with the misallocation of grant funds and restricting access to grant funds by vulnerable groups of the population. In order to prevent these risks, an appropriate SG program management manual will be developed and included in the POM as a background document. The Manual has three goals:

- a. It contains the necessary instructions to ensure that the Grant is executed in accordance with the management instructions of the PMU and the World Bank.
- b. It serves as a reference resource for grant recipients on managing the Small Grants Program;
- c. It serves as a training document for the grantee in the preparation and implementation of small grants.

To ensure openness and transparency in the distribution of grant funds, the Project will carry out an information campaign on the possibilities of obtaining SG and a special evaluation commission will be created to select the most eligible recipient.

Resettlement and Land Acquisition. The activities planned by the Project will not lead to involuntary land acquisition or resettlement as the rehabilitation of irrigation systems and necessary construction works will be carried out at existing facilities, i.e. on the territory of lands that are on the balance sheet of the local state water management organization and are used as operational sites for repair and maintenance works. The Project will not take into consideration sites where there is a risk of land acquisition, restrictions on their use, or the risk of involuntary resettlement already at the project design preparation phase.

The WUA support is envisaged under Sub-component 1.2., in particular, the construction of new WUA office buildings is possible. In order to provide land for the construction of WUA buildings, a permit (certificate) will be obtained mandatorily from the local authorities and the committee on land management and geodesy of the Republic of Tajikistan. The allocation of such lands is carried out only from among the free public lands or on the territory of the jamoat administration. However, for unforeseen circumstances during the implementation of Project activities associated with any social or economic damage for the community or the individual, PMU has developed a Resettlement Policy Framework (RPF). This document has been prepared in accordance with the Environmental and Social Standard 5 of the World Bank: (Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement (ESS 5), covers the provisions of the legislation of the Republic of Tajikistan and will be used by the Implementing Agencies as a guide when necessary.

5.4.2 Mitigation Measures to mitigate and reduce social risks

In order to show all stakeholders, starting with state and non-state structures involved in water resources management, including affected communities, local, district and regional authorities, to identify their expectations and concerns, as well as to plan interaction activities, the PMU has developed a “Stakeholder Engagement Plan” (SEP). The document allows the Project to identify different stakeholders and develop an appropriate approach.

The SEP has been prepared in accordance with requirements of the Environmental and Social Standard (ESS) 10 of the World Bank "Stakeholder Engagement and Information Disclosure" and covers the provisions of the legislation of the Republic of Tajikistan.

Target – active involvement of Project-affected people and other stakeholders, through consultations and giving each group an opportunity to express its opinion.

In document:

- Various stakeholders are identified;
- Mechanisms for interaction with various groups have been developed;
- Methods for consultations and information disclosure are prescribed.

ESS 10 identifies two broad categories of stakeholders:

Project affected parties means individuals and groups, including local communities, who may be affected by the Project due to actual impacts or potential risks to their physical environment, health, safety, cultural practices, welfare or livelihoods⁴.

“Other Stakeholders” are individuals, groups, or organizations with an interest in the Project, which may be due to the Project's location, characteristics, impacts, or public interest issues. For example, these may include regulators, government officials, the private sector, the scientific community, academia, professional associations, women's organizations, other civil society organizations and cultural groups;

⁴ Affected Persons - individuals, groups, local communities and other stakeholders who may be directly or indirectly, positively or negatively affected by the project (World Bank template for preparing SEP).

Also, it is necessary to single out one more category - **Vulnerable groups of the population and ethnic minorities**, which may be subject to a disproportionate impact of the Project or in the future be more disadvantaged compared to other groups of the public due to their vulnerable position. Since the Project activities will mainly be implemented in rural areas, the following poor and vulnerable groups of the population can be considered:

- low-income families;
- female-headed households or single mothers with minor children;
- women employed in seasonal agricultural work;
- households with persons with disabilities;
- landless households;
- ethnic/linguistic minorities;
- no family members abroad sending remittances;
- numerous families without adult children.

The document also reflects information on meetings and consultations with key stakeholders and provides an overview of their needs. On the basis of the interaction program, activities are planned with interested stakeholders, which will be carried out throughout the life cycle of the Project. The SEP discloses methods for disseminating information to the public, including methods of interaction during the exacerbation of the situation with COVID-19.

Stakeholder engagement activities are expected to create an atmosphere of understanding in which Project-affected persons and other stakeholders can express their views and concerns regarding possible environmental and social risks and impacts that may arise during Project implementation and management practices.

In accordance with the requirements of World Bank ESS #10, the Project will implement a Complaints and Other Grievance Mechanism. The Project provides for a three-level implementation of the GRM at the local, national and basin levels. User involvement in water resource planning and allocation is expected to increase transparency and accountability in the sector.

The SEP activities will be funded under Component 3 of the proposed Project. Based on the needs of the SEP, the stakeholder engagement budget will cover the following activities: staffing, travel, communication strategy development, beneficiary surveys, media coverage costs; printed information materials; videos (clips) production; seminars/sessions/events, training, GRM, etc.

The SEP will be updated as the Project evolves and will remain publicly available on the websites of the executing and implementing agencies. Detailed information is reflected in the stand-alone Stakeholder Engagement Plan prepared for the project.

Gender Gaps. The Project will take actions to ensure equal opportunities for all eligible Project beneficiaries. Women are expected to make up about 5-10 percent of the workforce and are likely to be finance staff, procurement, safeguards, monitoring and evaluation, support staff working in PMU and PCU offices. For continuity purposes, ALRI specialists at the national and basin levels will be involved in the Project as experts, with priority given to women involved in the irrigation sector.

Women make up more than half of the population in the Project districts. Since the main part of the planned activities is focused on carrying out construction and rehabilitation works in rural areas, women will be represented in the construction activities of the Project in a limited number for light types of work (cleaning the territory of the facility, cooking for workers, washing

dishes, etc.), since construction work is mechanized and labor-intensive⁵.

For gender empowerment, i.e. greater involvement of women in Project activities and their receipt of appropriate benefits, specialized trainings will be conducted aimed at increasing the capacity of women involved in the irrigation sector.

Closing the gender gaps. Women make up more than half of the population in the project areas.

The project will narrow three gender gaps:

- The representation of women in technical and decision-making roles in the water sector;
- The access to necessary resources for women working in irrigated agriculture; and
- The level of gender-disaggregated data available to guide irrigation management.

The project will prepare a Gender Action Plan (GAP) that identifies specific measures for mainstreaming gender gaps under the project consistent of next actions:

Table 12.

Gender Gap	Action	Indicators
Women are under-represented in national/basin level WRM institutions and in irrigation management agencies.	<ol style="list-style-type: none"> 1. Conduct Equal Aqua survey in MEWR and ALRI to acquire gender data and identify barriers to female employment. 2. Set gender targets for sector institutions and provide awareness training on promote gender balance. 3. Establish water sector networks and mentoring initiatives to increase women’s participation as leaders and decision-makers in WUAs, ALRI, RBOs/RBC. 4. Establish women-led platforms to identify gender-specific issues for RBO consideration in basin planning. 5. Liaise with educational institutions to identify internship opportunities for young staff and prioritize participation of female students. 6. Organize trainings on finance, billing, IT, GIS, communication, and conflict resolution targeting females. 	<p>% women in national/basin level WRM institutions, ALRI, and WUAs. The indicator is captured in the RF as part of assessment of the gender tagged PDO indicator on effective institutions.</p> <p>Targets: MEWR WIS and water wing (10%), NWC/RBO/RBC (20%), ALRI WUA and IMIS units (30%), WUAs (30%).</p>
Women in irrigated agriculture (as WUA leaders or farmers) have poorer access to technology, finance, and extension services than men.	<ol style="list-style-type: none"> 1. Prioritize grants to female headed WUAs. 2. Conduct training needs assessments to determine specific needs/preferences for delivery mode of female/male farmers (part of GAP). 3. Target female WUA members for ToT on the provision of irrigation extension services and recruit them for delivery of trainings to female WUA members/farmers. 4. Prioritize women’s trainings and access to demonstration plots (informed by GAP). 	<ol style="list-style-type: none"> 1. % grants awarded to women (target 30%). 2. % women beneficiaries of extension services (target 30%). 3. % women in training and ToT delivery (target 30%). <p>These indicators are not explicitly in RF but will be included in the WUA DB and be part of IMIS-based reporting.</p>

⁵ In accordance with Article 216 of the Labor Code of the Republic of Tajikistan (July 23, 2016), No. 1329, the use of women's labor in hard work and in work with harmful or dangerous working conditions is prohibited.

Little gender-disaggregated information available for irrigation management.	1. ALRI to include gender-disaggregated information into the national WUA database on (i) memberships (including de-juro/defacto), (ii) training needs/delivery, and (iii) grants awarded.	National WUA DB established with gender-disaggregated information, linked to IMIS: Y/N. The indicator is captured in RF as part of assessment of gender tagged IR indicator on IMIS use in reporting.
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Since the main part of the planned activities is focused on carrying out construction and rehabilitation work in rural areas, it is planned to attract women to light types of work, for example: cooking, washing dishes, cleaning the territory of objects, etc.⁶

With regard to gender-related risks in employment, the Project will strengthen human resources management practices, following the provisions of ESS 2 and the LMP, namely the requirement that all workers have written contracts with conditions consistent with national laws, equality and non-discrimination in employment and wages, decent working conditions and occupational health and safety standards, taking into account the needs of women and men.

The risks associated with gender exploitation and harassment are assessed as moderate, mainly due to the status of national legislation, gender norms of rural residents based on respect for local rules and traditions. However, the contractor will be required in the contract to make a commitment against the use of any violence, and the Code of Conduct (CC) should clearly state that the contractor and his staff must respect and observe local customs and traditions, respect local women, women involved in rehabilitation activities of the Project and their privacy.

Labor Management Procedures. To manage the risks that may arise in relation to the employment and working conditions of Project workers, the PMU, as the Project Implementing Agency, has developed a document “Labor Management Procedures” (LMP). This document has been prepared in accordance with the legislation of the Republic of Tajikistan and covers the provisions of the World Bank Environmental and Social Standard 2: Labor and Working Conditions (ESS 2). The document defines the main aspects of planning and regulation of labor relations, helps the implementing agencies (I/A) PMU and PIU determine the preliminary number of staff needed to address personnel issues and establishes the main requirements for personnel and risks associated with the Project.

According to the provisions of ESS 2 “Labor and Working Conditions”, Project workers are divided into the following categories:

1. Key employees, persons employed or engaged directly by the borrower and involved in the performance of Project activities;
2. Contract workers, those. hired and engaged by a third party (contractors, subcontractors, etc.) to perform work related to the main functions of the Project, regardless of the place of its implementation;
3. Employees of the main suppliers, those. employed or engaged by the main suppliers of the Borrower, who on a regular basis directly supply goods and materials necessary for the implementation of the main functions of the Project;
4. Community workers, persons employed or engaged to perform public works.

⁶ In accordance with Article 216 of the Labor Code of the Republic of Tajikistan (July 23, 2016), No. 1329, it is prohibited to employ women in heavy work and in works with harmful or dangerous working conditions.

The focus of the Project will be placed on key employees directly hired by the PMU/PIU to carry out tasks related to the Project and contracted employees, i.e. project workers employed by a contractor or other third party. The role of community workers will be determined as the Project develops, as part of the implementation of the Small Grants program. Since the Project's main works are construction and rehabilitation works, and will be carried out in rural areas, members of the local community may be hired as the contractor's labor force. The category of employees of the main suppliers will not be applied as the Project does not provide for the services of one permanent supplier. Procurement of services will be carried out on the basis of competitive bidding in accordance with the requirements of the World Bank. The Project will establish a Grievance Redress Mechanism for Project workers in accordance with ESS 2 prior to the Project going into effect. More labor management details are described in the Labor Management Procedures prepared for the Project, which will be also followed by all project contractors.

Land Acquisition and Involuntary Resettlement Mitigation Measures. The implementation of investment projects may be associated with issues of resettlement and involuntary land acquisition, which may have a negative impact on communities and individuals. To manage the risks and negative impacts that may arise from economic and physical displacement associated with the project for the local community, the PMU has developed a Resettlement Policy Framework (RPF). This document is prepared in accordance with the legislation of the Republic of Tajikistan and covers the provisions of the World Bank's Environmental and Social Standard 5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement (ESS 5).

In general, it is expected that the proposed activities will not have a serious negative impact on human health and the social environment. The Tajikistan Resilient Irrigation Project will focus on modernizing large-scale irrigation systems and supporting small-scale farmer-managed irrigation infrastructure. Project activities will not result in involuntary land acquisition or resettlement as all activities will be carried out at existing facilities, i.e. on the territory of lands that are on the balance sheet of the local state water management organization and are used as operational sites for repair and maintenance works.

Considering that, detailed information on subprojects and associated impacts will be known only after detailed technical designs are prepared, this document adopts a framework approach. At the stage of project development as a whole, when preliminary work is underway to select sites and determine their compliance with the acceptance criteria, only a general assessment of the anticipated risks is possible. During a further detailed survey of the project area, an assessment of the current state of the facilities will be carried out, including the identification of possible buildings, crops, tree plantations, etc. If the listed risks are identified at the design stage of subprojects, objects where there is a risk of land acquisition, restrictions on their use, or the risk of involuntary resettlement will not be taken into consideration and further development. All such issues must be resolved prior to design development in accordance with local and national legislation; otherwise, these objects will not be included in the Project support

Examples of potentials solutions to such issues, taking into account the experience of previous World Bank projects to improve irrigation infrastructure, are provided below:

1. It is possible that some buildings or structures will be marked on the Project irrigation canals. As practice shows, these objects do not interfere with project activities as in their certificates there are notes that all repair and maintenance and operational activities of water management systems and structures are carried out at the expense of the owners of these buildings and structures.
2. It is possible that part of the water protection zones is used for arable land, which is a temporary obstacle to construction and repair work. In this case, negotiations will be held with interested persons/parties to reach a mutually beneficial and acceptable solution and conclude an appropriate agreement on a voluntary basis. So, for example, mechanized

- canal cleaning can be postponed for periods that exclude damage to crops or harm crops. In addition, fertile manure from the canal can be provided to the farmer as fertilizer.
3. There may be cases when wild shrubs or small trees grow in the water protection zone of the canal. The uprooted bushes, by written agreement with local authorities, can be provided for the needs of the local population, for example, as fuel. In the event that valuable species of trees are subject to uprooting, also by agreement with local authorities and nature protection authorities, sites for compensatory landscaping can be provided at the expense of the contractor. The volume and location of such plantings is specified in an additional act drawn up by all parties, which should be an integral annex to the Environmental and Social Management Plan (ESMP) and the contract with the contractor.
 4. It is possible that some free land plots will be provided for temporary use to contractors during the construction period by local authorities or Dehkan farms. These aspects will be governed by contractual relations. After construction and rehabilitation activities, all land plots provided for temporary use will be restored to their original state, and, if necessary, on access roads to the structure measures will be taken to improve it. All of these activities are included in the ESMP and the contractor's bill of quantities.
 5. Under Sub-component 1.2. WUA support is envisaged, in particular, the construction of new WUA office buildings is possible. In order to provide land for the construction of WUA buildings, a permit (certificate) will be obtained necessarily from the local authorities and the committee on land management and geodesy of the Republic of Tajikistan. The allocation of such lands is carried out only from among the free state lands or on the territory of the Jamoat administration⁷.

In view of the foregoing, the Project will avoid, to the extent possible, any adverse impacts associated with land use restrictions. However, in the event of unforeseen circumstances during the implementation of project activities, resulting in economic damage to the local community or an individual, provisions indicated in the Resettlement Policy Framework will be applied.

The Framework Document will be used as guidance for Implementing Agencies as needed. The RPF sets out the sequential steps for the preparation and implementation of resettlement plans (RPs), resettlement principles, organizational arrangements, and design development criteria to be applied to subprojects or project components to be prepared during project implementation. Once the subproject or specific project components are identified and the necessary information becomes available, the framework approaches will be detailed and expanded. If necessary, specific action plans for the relevant structure will be developed. Project activities that result in physical and/or economic displacement will not begin until such specific plans have been finalized and approved by the Bank.

⁷ Decree of the President of the Republic of Tajikistan dated July 25, 2000 No. 335 "On the protection and rational use of irrigated lands", states that in order to prevent the reduction of irrigated agricultural land and ensure their sustainable and efficient use, it is prohibited to allocate irrigated lands for personal plots, construction of housing and commercial facilities

6. RULES AND PROCEDURES FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

According to the World Bank's Environmental and Social Principles, each Project must comply with the national environmental and social regulatory framework and the World Bank's Environmental and Social Standards (ESS). This section provides guidance on the actions required to conduct an environmental and social assessment in accordance with national legislation and the WB ESS.

6.1 Framework approaches to environmental and social assessment

Social and environmental support for the preparation and implementation of subprojects under Component 2, taking into account the experience of the PMU in the implementation of previous Projects in the field of irrigation, will be organized by the PMU in two ways.

The first way is to hire two specialists in the PMU – an environmental specialist and a social development specialist, who will be responsible for compliance with the World Bank's environmental and social standards and compliance with national legislation, and keep close contact with relevant Bank specialists from the Project team, as well as with national authorities responsible for environmental protection, compliance with labor legislation and social protection.

The second way is that, simultaneously with the specialists in the PMU FVWRM, on a competitive basis, the PMU hires a design company, which should include specialists on environmental and social issues to conduct an environmental and social examination (screening) of proposed subprojects, determine the necessary ESIA tools, conduct a detailed assessment of environmental and social impacts, draw up relevant documents on EMF tools (site-specific ESMPs, checklists, etc.) required and based on the Bank environmental and social standards, and national legislation. To support a design company the PMU will hire an international environmental and social individual consultant skilled in the Bank EMF requirements. The PMU will assist this consultant and design company in collecting the necessary inputs for the development of the ESIA and other environmental and social instruments.

In addition, after finalizing ESIA/ESMPs the PMU will engage an environmental and social consulting company with an appropriate national license and sufficient experience in the implementation of similar projects, which will be responsible for organization and conducting public hearings, and in the future, for an outreach campaign and consultations with stakeholders, trainings for contractors and the public on social and environmental issues. During the implementation of subprojects this company will carry out control and monitoring of social and environmental risks and the results of the project activities, and provide regular reporting, including gender aspects. At the final stage, this environmental and social company will develop criteria and assess the social and environmental performance and sustainability of each subproject, as well as of the whole Project results.

World Bank tools

The following tools for social and environmental assessment of subprojects, recommended measures and actions to prevent and reduce risks will be applied in this Project:

Socio-environmental screening – carried out in order to identify the risks of subprojects, their potential impact on the natural and social environment, classify the subproject to any of the risk or hazard categories in accordance with the social and environmental principles of the World Bank and/or national legislation, to determine the appropriate and necessary procedures, documents and tools.

Environmental and Social Impact Assessment (ESIA) is a tool for identifying and assessing the potential environmental and social impacts 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.

Environmental and Social Management Plan (ESMP) is a tool that details (a) the measures to be taken at a specific facility during the implementation and operation of the Project to eliminate or compensate for adverse environmental and social impacts or reduce them to an acceptable level; (b) the actions necessary to implement those measures. An example of an ESMP is provided in Annex 1. The ESMP is prepared by the PMU and is an integral part of the tender documentation and the contract with contractors for any construction and repair work.

Checklist – a simplified ESMP, which is usually used for construction and rehabilitation works with typical and relatively minor impacts. An example of an ESMP checklist is provided in Annex 2.

6.2 Tools in accordance with the national legislation of the Republic of Tajikistan

In addition to these World Bank tools, within the framework of the National Environmental Impact Assessment, along with the development of the ESMP, the National Environmental Documentation must be prepared based on the requirements of national legislation. The approaches of the legislation of the Republic of Tajikistan are essentially similar to the approaches and principles of the World Bank, but differ in details. For example, national procedures do not involve social risk assessments, but only environmental risks and potential negative impacts. Therefore, these two procedures will be applied in parallel. When planning and performing work, the contractor will have to be guided by both documents, and in case of conflict, apply those that set out more stringent requirements on specific issues. The content of the national environmental documentation is presented in the following paragraphs

Key phases of national EIA procedure

Taking into account the requirements of environmental assessment specified in the national law of the Republic of Tajikistan on Environmental Impact Assessment (EIA), the EIA process for selected subprojects includes the following phases:

- review and assessment of the environment of the facility, it is carried out in order to justify the optimum selection of the appropriate land plot for the location of a facility;
- preliminary environmental impact assessment, simultaneously accompanied by a feasibility study of the project and formalized in the form of an application for environmental impact assessment;
- environmental impact assessment, conducted in order to fully and comprehensively analyze the potential impacts of the project implementation, justify alternatives and develop an environmental management plan (program). The environmental impact assessment report shall contain a description of the technical solution to prevent negative impacts on the environment. At this stage, standards for emissions to air and discharges to water bodies, generation, storage and disposal of solid and liquid waste are developed;
- post-project analysis carried out one year after commissioning of a facility (beginning of economic or other activities) to confirm safety for the environment and to adjust the environmental management plan (program).

All facilities that have a negative impact on the environment, depending on the level of such impact, according to paragraph 1 of Article 12 of the Law on Environmental Impact Assessment of the Republic of Tajikistan are divided into 4 categories.

- Facilities that have a significant negative impact on the environment and are associated with the areas of application of the best available technologies, and subject to the

- presence of harmful (polluting) substances discharged and emitted into the environment as well as substances of hazard class 1 and (or) 2 (according to sanitary standards) are classified as category “A” facilities;
- Facilities which have a moderate negative impact on the environment and subject to the presence of substances of hazard class 3 in discharges and emissions of harmful (polluting) substances into the environment are classified as category “B” facilities;
 - Facilities which have an insignificant negative impact on the environment and under condition of presence in discharges and emissions of harmful (polluting) substances in the environment of hazard class 4 and (or) 5, are classified as category “C” category facilities;
 - Facilities that have a minor negative impact on the environment and under condition of insignificant emissions and discharges are classified as category “D” facilities.

Category “A” and “B” projects require an Environmental Impact Assessment (EIA). Activities that are not included in category “A” or “B” require an environmental impact assessment statement and a declaration of commitment to implement the established and proposed environmental protection actions. An environmental impact assessment statement shall also be submitted when the planned activity has no adverse impact on the environment or has a positive impact on the environment.

First phase – Draft Environmental Impact Statement (DEIS). This document must be prepared by the Client of this activity, which determines the content of the DEIS. An environmental impact assessment statement is also submitted when the planned activity does not have a negative impact on the environment or has a positive impact on it. The content of the DEIS for Projects of category "C" and "D" is more simplified than for Projects of categories "A", "B". The full DEIS must specify a wide range of environmental and social issues based on the subproject feasibility study, and in particular the following: Activities classified as Category A facilities must meet one of the following criteria:

- the object of assessment has a negative and large-scale impact on the environment and (or) sanitary and hygienic well-being of the population;
- the object of assessment has a direct impact on specially protected natural areas protected by environmental conventions and other international agreements or having a different international status;
- the object of assessment has a direct impact on the facilities of historical and cultural heritage;
- the object of assessment has a transboundary impact.

Facilities of assessment belonging to category “A” are subject to a full-scale assessment of the impact on the environment. An environmental impact assessment report as part of Project documentation must be submitted to the state environmental expertise in accordance with the legislation of the Republic of Tajikistan. Technical regulation of the issues of ensuring the environmental safety of facilities of assessment belonging to category “A” is carried out in accordance with the principles:

- the obligation to assess the impact on the environment when making decisions on the implementation of economic and other activities, including the adoption of decisions on the abandonment of economic and other planned activities;
- the admissibility of the negative impact of economic and other planned activities on the environment, based on the regulatory requirements for ensuring environmental safety established in the technical regulations;
- ensuring the reduction of the negative impact of economic and other planned activities based on the use of the best available technologies, taking into account the economic feasibility of their implementation, rational use of natural resources and compliance with technical regulations in the field of environmental protection.

Category "B" facilities include economic and other planned activities that have a predictable impact on the environment, and this is confirmed by the results of earlier examinations. When assessing the impact on the environment of facilities belonging to category "B", the following are taken into account:

- the main indicators of economic and other activities (information on the volume of output or capacity, the presence of long-term cumulative effects, the volume of use of natural resources, the generation of waste, pollution and risks to the environment);
- the location of the object, taking into account the presence and degree of vulnerability of river bank zones, nature reserves and other protected areas and facilities of historical and cultural heritage, the significance of the environmental impact, its geographical distribution, duration and reverse.

The documentation accompanying the statement on the impact on the environment of facilities of category "B" contains an assessment of the types of environmental impact (emissions into the atmosphere and discharges into water sources, the formation and disposal of solid and liquid waste, noise and other types of influence) characteristic of this economic and other activities.

The facilities of category "D" include economic and other planned activities that have an insignificant negative impact on the environment and the issues of reducing this impact have been resolved by engineering and technical measures. A prerequisite for facilities of assessment of category "D" is the compliance of the profile of activity with the purpose of the general plan of the territory.

The DEIS must be reviewed and approved at the national level by the State Ecological Expertise (SEE) for Projects that belong to Category "A", "B" "C" or at the regional level for Projects that belong to Category "D" by the regional department for environmental protection. For subprojects classified as Category "C", "D" an Environmental Impact Assessment (EIA) will be prepared by the consulting company, in accordance with the requirements of national legislation and the final report is submitted for approval to the State Ecological Expertise. The EIA will contain information on environmental mitigation measures but, unlike the ESMPs prepared as required by the Bank, will not contain details of their costs and the institutions assigned to implement them, or a detailed monitoring plan, nor will it contain an assessment of social risks. The SEE confirms the category of the Project and defines the main issues on what the Project beneficiary should focus on in the next stages of the Environmental Assessment process and during Project implementation (construction or rehabilitation works).

Second phase – development of an Environmental Impact Statement (EIS). This step must be implemented if required by the Environmental Opinion issued by the DEIS. Typically, such documents are developed to fulfill the information provided in the DEIS or to conduct research on specified parameters. The EIS needs to be developed prior to commencement of construction works.

Third phase – development of an EIS for subprojects under Category "C" and "D" will need to be developed before the selected subprojects start operating. For sub-Projects not included in the list with activities that are the subject of a national EIA, there is no need to conduct an impact assessment.

6.3 Environmental and Social Due Diligence for Subprojects.

Taking into account the stages of environmental assessment conducted in accordance with the legislation of the Republic of Tajikistan, the environmental and social assessment of subprojects within the framework of this Project will be carried out in the following sequence:

Phase 1: Preliminary screening (in accordance with the requirements of the Bank and the national legislation of the Republic of Tajikistan)

During this initial phase of Project implementation, the design company with support of international environmental and social individual consultant will conduct a preliminary review of subprojects, including determining the level of socio-economic risk in accordance with the requirements of the WB, as well as assigning those to environmental categories “A”, “B”, “C” and “D” in accordance with the requirements of national legislation.

In line with the experience of the PMU in implementing previous Projects in the field of irrigation, all proposed sub-projects under this Project are expected to have significant, moderate or low risks according to the Bank's classification, and according to the national classification - categorized as “C” or “D” environmental risks. If the screening results show that the subproject has a high risk (according to the World Bank’s environmental and social framework) or category “A” or “B” (according to national legislation)⁸, then it will be excluded from the financing.

For Projects that will not be excluded from the financing, the following framework approaches are applied during the screening phase:

1. For screening, the PMU, with the support of a consulting company, develops criteria that are subsequently approved by the Bank.

2. Based on the screening results, a report is drawn up, in which for each of the subprojects accepted for financing, the environmental category (according to the legislation of the Republic of Tajikistan) and the risk level (according to the World Bank ESS 1), a list of the main environmental and social risks identified at the preliminary stage, and recommendations on the tools to be used and the necessary documentation that needs to be prepared, will be indicated

3. Going forward, the procedure described above is applied to comply with national procedures, and the following framework approaches are applied to comply with the requirements of the Bank. When assigning a risk category and selecting appropriate tools, relevant factors such as the type of subproject, location, sensitivity and size of the subproject are taken into account; the nature and extent of potential environmental and social risks and impacts; as well as the material and technical base of the potential Contractor and its ability to manage social and environmental risks and impacts identified at the screening stage. Depending on the nature of the subproject and the context in which it is being developed, other risk factors may also jeopardize the implementation of environmental and social mitigation measures. These may include legal and institutional aspects; the nature of the proposed measures and technologies; governance structures and legislation; and factors related to stability, conflict or security. Eventually:

- for subprojects with substantial risk and subprojects with moderate risk, but which are unique in nature or location, or impacts on the natural and social environment, it is proposed to develop a full ESMP tool, including an environmental and social commitment plan (ESCP).

- for standard subprojects with moderate risk (for example, construction and repair of WUA buildings, mechanized cleaning of on-farm canals, etc.), the Project will use a standardized ESMP tool in the form of a checklist; in this case, the social and environmental requirements are integrated into the table of this checklist.

- for low-risk subprojects, specific ESMPs are not developed, however, these subprojects are assessed in the screening report in terms of the potential for increased direct or indirect risks during the course of the subproject, and these subprojects are included in the regular environmental and social monitoring plan so that if the risk category increases, appropriate measures can be taken in time and the necessary documents developed.

⁸ Resolution of the GoT “On the procedure of the Environmental Impact Assessment (EIA)”, No. 532 dated November 1, 2018,

Examples of the selection of environmental and social tools and required actions for the activities under the subprojects of the Project are shown in the table below.

Table 13. Preliminary selection of categories for the proposed types of subprojects and the proposed E&S tool (LR - low risk, MR - moderate risk, SR - substantial risk)

#	PROJECT COMPONENTS AND ACTIVITIES	WB	Tajikistan	NOTES	ACTION REQUIRED
COMPONENT 1: WATER SECTOR REFORM AND INSTITUTIONAL STRENGTHENING.					
1.	Subcomponent 1.1: Strengthening national and basin-level water resources policy and planning RBO office renovation and equipment	MR	D	Renovation works will be carried out for the RBO office buildings	<u>Existing facilities</u> Environmental firm will prepare an ESMP checklist
2.	Subcomponent 1.2: Improving irrigation sector management and service delivery. (i) Renovation and equipment of ALRI office buildings on the territory of the targeted schemes;	MR	D	Renovation works will be carried out for the ALRI office buildings	An ESMP checklist will be required
3	(ii) Modernization of workshops to improve the quality of service of irrigation pumping stations	LR	D	Replacement of equipment and renovation of existing workshop buildings	ESIA and preparation of an ESMP checklist
4.	(iii) WUA capacity building.	MR	C	Renovation of existing and construction of new WUA office buildings.	Preparation of an ESMP, an ESMP checklist will be required
COMPONENT 2. IRRIGATION SCHEME .					
5.	Subcomponent 2.1: Improving large-scale irrigation schemes. (i) Modernization of selected water intake structures;	SR	C	Modernization of existing water intake structures	Preparation of an ESMP
6.	(ii) Replacement of irrigation sluice gates, as well as Rehabilitation and automation of headworks/water intake structures;	MR SR	C	Modernization of existing headworks/water intake structures, sluice gates	Preparation of an ESMP
7.	(iii) Rehabilitation, mechanized cleaning and, possibly, concrete lining of main canals	SR	C	The works will be carried out on existing irrigation canals	Preparation of an ESMP
8.	(iv) Rental/procurement of machinery (excavators, bulldozers) for the scheme maintenance;	LR			
9.	(v) Modernization of pumps and Pumping stations;	MR	C	Replacement with energy-efficient pumps	Preparation of an ESMP

#	PROJECT COMPONENTS AND ACTIVITIES	WB	Tajikistan	NOTES	ACTION REQUIRED
10.	Subcomponent 2.1: Improving small- and medium-scale irrigation schemes. (i) rehabilitation of selected small-scale irrigation infrastructure	MR	D	Rehabilitation work will be carried out on existing irrigation schemes	Preparation of an ESMP, an ESMP checklist
11.	(ii) Protection of this infrastructure from floods and mudflows	SR	C	Rehabilitation of existing embankments	Preparation of an ESMP

Phase 2: Preparation of documentation. For each subproject, in accordance with the recommendations made during the screening phase, a design company, under general management by PMU prepares the necessary documents and coordinate with the World Bank and government agencies, and after completing work on their projects, make these documents publicly available prior to the public consultations. The preparation of these documents should take into account the environmental and social requirements in the design of subprojects.

Phase 3: Consultations with the public. After the environmental and social assessment and preparation of the ESMP, all documents (prepared in accordance with the principles of the World Bank and in accordance with the legislation of the Republic of Tajikistan) are subject to discussion at consultations with the public. During the consultations with the public, the document will be distributed among all stakeholders and the local population by posting it on the websites and presenting to the local councils, or in another way available for wide discussion. The minutes of public meetings will be maintained and included in the final ESMP. During the consultation session, the PMU, with the support of a consulting environmental and social company and/or regional specialists, will consult a draft ESMP, which should contain information about the project, its location and implementation schedule, an overview of the ESIA process, as well as any conclusions about the impacts, proposed mitigation measures and benefits. This data should be defined as preliminary or intermediate, indicating that benchmark data from the participants can still be applied to the project planning. The participants will be invited to directly submit comments and corrections to what is presented.

The consultations with the public on the ESMP of the specific subproject will include an announcement of the PMU meetings on the website no later than two weeks before the beginning of the session with a brief description of the project, its location and specific contact details (including phone numbers). In addition the consulting environmental and social company on behalf of the PMU, will notify the local, regional state authorities about conducting the consultations with the public by providing an invitation and a brief booklet. Documentation for conducting the consultation should be submitted to the PMU as part of the subproject file. Versions of the ESMP in Tajik and/or Russian languages and the minutes of the consultations with the public should be posted on the websites of the IA.

Phase 4: Approval of the tools for the protection of the natural and social environment. After the consultations with the public, the ESMP documents undergo the examination of the World Bank and are agreed with it. The DEIS undergoes the procedure of the SEE and is agreed with the authorized republican or regional/local authorities. For all approved subprojects, the PMU/PCU will ensure that printed and electronic copies of the final ESMP in the local language are available in a public place. The PMU will post the final documents on the website of the IA.

Phase 5: Integration of ESMP requirements into the project documentation. All tender documents for subprojects must include a requirement to implement the ESMP. These documents must be attached to the tender documents and then to the construction contracts. The

potential contractor must demonstrate at the tendering phase that the requirements of the ESMP are reflected in its proposal and included in the scope of work.

Phase 6: Monitoring of environmental and social risks. The PMU/PCU, consulting environmental and social company will regularly monitor the subprojects during the construction and operation to ensure proper implementation of the ESMP. If any problems in implementation are noted during the monitoring, they will inform the relevant contractor and jointly take the corrective actions. The PMU will present its findings to the World Bank in the project progress report twice a year or more frequently and, if necessary, bring matters to the attention of the World Bank. The World Bank project group will also visit the subproject sites as part of the project supervision, if appropriate and expedient. The Bank has the right to request additional materials during the monitoring to clarify the state of facilities and risks. Based on the review of reporting documentation and field visits, the Bank may require changes to the risk category and related project documentation, including the ESMP, Project Operational Manual given by the ESMF, etc.

Procedures of chance findings. It is assumed that during the construction, rehabilitation and renovation activities of the project at existing facilities the minor earthworks, land mass movements will be involved, or other changes in the physical environment that may unexpectedly reveal tangible objects of cultural heritage. To address this issue, all ESMPs of such subprojects will have specific provisions in all construction contracts under the "Procedures of chance findings" that will specify how the chance findings associated with the subproject will be handled. They will state the following: (a) do not interfere with any accidental discovery until such time as an assessment by competent experts has been made and actions have been determined; (b) notify the relevant authorities of discovered objects or sites by cultural heritage experts; (c) fence off the area of chance findings or site to avoid further infringements; (d) evaluate the discovery objects or sites by cultural heritage experts; (e) identify and implement the actions in line with the requirements of ESS 8 on the cultural heritage and the national legislation; and (f) if necessary, prepare the project personnel and project workers for the procedures of chance findings. For detail procedure for Chance Find procedure refer to Annex-7 of this ESMF.

Roles of different involved parties in the environmental due diligence, ESIA processes and monitoring of ESMP implementation

This subsection describes the responsibilities of all parties involved in the ESIA process, as well as the documents that must be prepared and by whom they must be prepared.

For sub-projects, it is necessary to complete Form 1 of the environmental screening checklist to identify possible environmental and social impacts of the proposed activities⁹. In completing these forms, sub-project applicants will use the information obtained from the field survey and analysis of stock materials, as well as the information provided in the draft environmental impact statement, which will be submitted to the SEE and approved by this body. They are also responsible for obtaining the appropriate permits and approvals that may be required to fund activities and are issued by local authorities responsible for environmental aspects.

A design company, if necessary, will develop an EIA for a specific facility (as required by the legislation of the Republic of Tajikistan) and/or an ESMP.

During Project implementation, the PMU and PCU, together with the consulting company, will also regularly monitor the compliance of the Project activities with the requirements of the ESMP; provide advice to a regional specialist on specific issues. PMU environmental and social specialists will work with potential contractors. Contractors will complete the application form;

⁹ The form provided here is preliminary and will be updated by the PMU prior to the screening with the addition of possible additional criteria depending on the type and location of the subproject

check the availability of all necessary environmental and social documents and required permits and submit the entire set of environmental documents in the form of a package to the PMU. The Environment and Social Development Specialists will review the completeness of the packages and submit the package to the PMU.

7. ESMF IMPLEMENTATION STRUCTURE

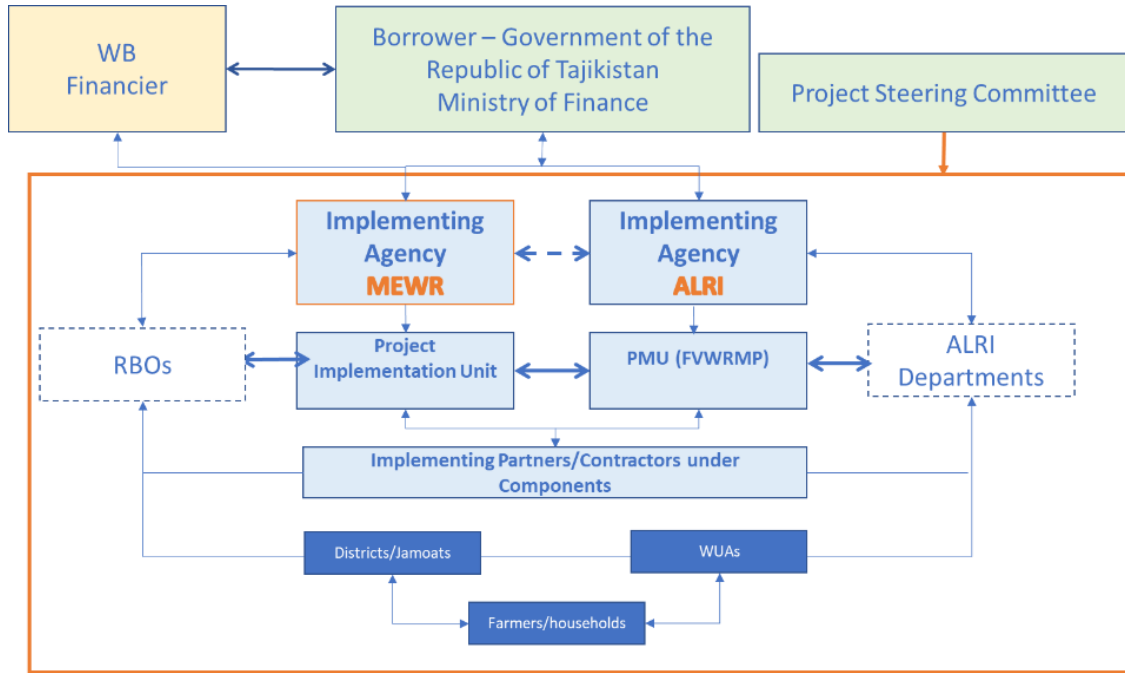
The overall responsibility is assigned to the ALRI and MEWR, with responsibility for project implementation to be vested in the existing PMU including construction works and related procurement and financial management (FM), enforcement of agreed environmental and social measures, and monitoring and evaluation (M&E) for the Project. In parallel with this, the Project Implementation Unit (PIU), which will be established under the MEWR, will take responsibility for the implementation of individual activities under Components 1.1 and 1.2. Component 3 will cover all project implementation costs.

The ALRI PMU has overall responsibility for project management and procurement, and overall responsibility for disbursement and project finance management. In addition, the PMU regularly reports on the progress of the Project, and is also responsible for the exchange of information and monitoring and evaluation of the activities of the Projects. The PMU establishes offices (Project Coordination Units) at the regional level in the Project implementation area.

The PMU has constructed up the necessary capacity for the implementation of WB projects, staffed with appropriate personnel, including environmental and social measures specialists, and introduced appropriate control mechanisms and procedures. Environmental and Social Specialists of PMU are responsible for all environmental and social issues, including environmental and social assessment, overall supervision of the preparation and implementation of the Framework Document and site-specific ESMPs, monitoring and reporting. At the regional level, a Project Coordination Unit (PCU) will be established, which will provide proper implementation of the provisions of the document and the ESMP, field monitoring at the local level. Contractors will be responsible for carrying out rehabilitation works in accordance with the environmental requirements specified in the tender documents and the ESMP. The regional subdivisions of the PMU will work closely with the CEP, local hukumats, jamoats, mahalla councils and water users of all categories. Project Coordination Unit (PCU). The PCU will monitor the activities of contractors, consulting services recruited to implement project activities, as well as conduct awareness-raising campaigns. The PCU provides assistance to local communities in the implementation of their projects on the ground. The PCU is responsible for interacting with regional and district authorities and, if necessary, for establishing and regulating relations with local government agencies, as well as with representatives of Water Users Associations (WUAs), NGOs and other project partner organizations. PMU has built up the necessary capacity to implement WB projects, staffed with appropriate personnel, including specialists in social and environmental safeguards, implemented appropriate control mechanisms and procedures.

In parallel with this, the Project Implementation Unit, which will be established under the MEWR, will take responsibility for the implementation of the activities of Component 1.1. MEWR/PIU will recruit a social development/ communication consultant and assign him / her clear roles, responsibilities and authorities to support the project to comply with the social risk management requirements.

PROJECT ORGANIZATIONAL STRUCTURE



The Project will organize an awareness-raising campaign among the population on the management of environmental and social risks, with a focus on methods and technologies for saving water and energy, preventing loss/pollution of water and soil, health and safety of the population, as well as labor protection measures in carrying out of construction work.

The Bank’s Environmental and Social Team will guide PMU staff in assessing and mitigating potential environmental and social risks and impacts and will support activities during the Project preparation and implementation.

8. MONITORING AND REPORTING

8.1 General Requirements for Environmental and Social Monitoring and Reporting

Environmental and social monitoring during the implementation of subprojects should contain the information on the key environmental and social aspects of subprojects, their impact on the environment, the social consequences of the impact and the effectiveness of measures taken to mitigate the consequences. This information allows the PMU and the PCU to monitor the commitments of the contractors (project beneficiaries) to implement the measures for the environmental protection, assess the effectiveness of mitigation measures, and ensure timely implementation of the corrective actions to be taken, how often, where and by whom monitoring is carried out.

Monitoring of the implementation of environmental protection measures is carried out by the specialists of the PMU for the environmental and social measures. Representatives of the State Committee for Environmental Protection will also carry out monitoring and control according to their own plan or may be involved in joint monitoring as part of this project. The purpose is to check the main points of compliance with the ESMF/ESMP, the progress of implementation, the scope of consultations and the participation of local communities. The standard checklist prepared for monitoring assessment studies will be used for the report on the monitoring results. In the medium term of the project implementation and at the end of the project, an independent audit in the field of environment, social, health and safety will be carried out. Audits are necessary to ensure that (i) the ESMF is correctly implemented and (ii) mitigation measures are identified and implemented appropriately. The audit will be able to identify any adjustments to the ESMF approach to improve its effectiveness.

Monitoring of the social part will be carried out on an ongoing basis by the specialist of the PMU on social measures to ensure that there are no unforeseen impacts during the construction, rehabilitation and renovation works, illegal users, livelihoods of people. Monitoring will also cover the issues of health and labor. If some problems are identified, the mitigation measures will be proposed in the progress reports or the separate corrective action plans.

8.2. Types and Goals of Environmental and Social Monitoring

In order to ensure the implementation of the environmental measures specified in the ESMP, monitoring should be carried out as follows:

- *Visual monitoring*-at the construction stage of sub-projects. PMU specialists should constantly monitor the implementation of the ESMP by contractors. This will be achieved through monthly inspections of Projects for construction/repair and rehabilitation of irrigation infrastructure by specialists throughout the entire period of the Project. The PMU specialist has the right to suspend work or payments if the contractor (sub-borrower) 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 with attachment of photos from the monitoring site.
- *For effective facilities*. The Environmental Specialist shall verify the timeliness of the Contractor's reporting on discharges to water bodies, air emissions and solid waste, which Contractors shall periodically submit to the regional bodies of the Committee for Environmental Protection (CEP).
- *Instrumental monitoring of environmental quality* such as air and water quality. Taking into account the types of activities that will be implemented within the framework of this Project, instrumental monitoring may not be carried out. However, in case of grievances of violations or inconvenience by the local population, instrumental measurements of air or water quality should be carried out by a contracting organization through the hiring of a certified laboratory. In case of exceeding national standards, the contractor is obliged to take additional measures to reduce the detected excesses in order to comply with the standards.

The sub-projects will be monitored on a regular basis by monitoring the implementation of the ESMP by contractors during the construction phase. Environmental and social issues included in the mitigation framework are overseen by environmental and social specialists through the PMU and regional specialists. Although environmental and social impacts are expected to be minor, potential negative environmental impacts are planned to be prevented or mitigated during the construction and operation phases. Monitoring is based on impact/mitigation/monitoring issues as identified in the ESMP checklists and/or sub-project ESMPs. Surveillance monitoring will be carried out through weekly environmental performance audits by contractors throughout the project life cycle. The PMU has the right to issue instructions to correct deficiencies, and in extreme cases, to suspend work or payment if the Contractor violates any of its obligations to implement the ESMP.

In addition, World Bank experts will also visit certain sites annually to monitor compliance. As mentioned above, in the event of non-compliance, the PMU's environmental and social specialists will investigate the nature and cause(s) of the non-compliance and, if necessary, make recommendations to the Project management on what is needed to achieve compliance with the sub-project, or work should be suspended.

8.3 Environmental and social reporting

The implementation of environmental protection measures, including monitoring, should be properly documented and reported. In accordance with national legislation for facilities under construction, each contractor must keep a log with information on the training of workers and another log for recording accidents during construction work. In the case of instrumental monitoring, the original records of the results of the required environmental instrumental monitoring (air and water quality) should also be kept in a separate record file.

For sub-projects related to construction/rehabilitation, it is recommended that the contractor, with the assistance of the PMU, develop a format (checklist) for on-site inspection in order to optimize the environmental supervision 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, contractors will submit summary reports on the implementation of the ESMP. The list of measures that are checked by the environmental and social measures specialists when visiting the site must comply with the measures specified in the ESMP (if we are talking about a specific site, then site-specific ESMP) for the controlled sub-project. Information on monitoring results at facilities under construction/rehabilitation should be submitted to the PMU on a quarterly basis. Based on the reports received by the environmental and social specialists of the semi-annual periods, the PMU will prepare a summary report on the implementation of the ESMF and ESMP, which will be included in the progress reports to be submitted to the WB.

The monitoring reports during Project implementation will provide information on the main environmental and social aspects of Project activities, especially environmental impacts and the effectiveness of mitigation measures. Such information will allow the PMU and the World Bank to assess the success of the mitigation measures under Project supervision and allow corrective actions to be taken as needed.

The environmental and social monitoring system starts from the sub-project preparation stage and functions until the operation stage to prevent negative impacts of the Project and monitor the effectiveness of mitigation measures. This system helps the WB and the PMU to assess the success of mitigation measures as part of Project supervision and allows for action to be taken when needed. The monitoring system provides technical assistance and oversight when needed, early identification of conditions associated with mitigation measures, monitors mitigation results and provides information on Project progress. The monitoring plan defines the monitoring

objectives and defines the type of monitoring and their relationship to impacts and mitigation measures. In particular, the monitoring section of the ESMP contains: (a) a specific description and technical details of the monitoring measures, including parameters measured, methods used, sampling sites, frequency of measurements; and (b) monitoring and reporting procedures to: (i) ensure early identification of conditions that require special mitigation measures, and (ii) provide information on the progress and results of mitigation.

The PMU will provide a summary of the implementation of the ESMF/ESMP and environmental and social performance of the sub-project as part of the progress reports to be submitted to the World Bank every six months.

If social monitoring reveals any negative impacts, it should be mitigated immediately. In case of impact on land, production assets, illegal users, people's livelihood, asset valuation, etc. the sub-project construction works should be stopped and the PMU should be notified immediately. A corrective action plan (CAP) should be developed. The CAP should contain information on the sub-project, the status of Construction works, impact types and social impact assessment, proposed mitigation measures. The CAP shall be prepared by the sub-project implementer and approved by the PMU. All unforeseen impacts within the sub-project that occurred outside the Project Task (PT) shall be compensated/mitigated by the Contractor. This should be reflected in the tender documents. All impacts in the PT must be compensated by the subproject proponent.

The PMU is responsible for the overall summary of progress and results. It is expected that semi-annual reports will be submitted to the World Bank. These reports should include community assessment tables on Project implementation and success, as well as financial reports, Project progress reports, social audit meetings, and feedback and grievances received. Outcome dimensions are the results defined in the results framework and the set of output indicators defined in the Project Operations Manual (POM). The PMU will be responsible for preparing the completion report. All environmental and social issues are controlled by the PMU or the regional PCU. Despite the minor social impact, potential negative impacts should be prevented or mitigated during the construction and operation phases.

8.3. Occupational Health and Safety (OHS) Reporting

The OHS issues should be covered in all supervision and monitoring activities. This means, in particular, monitoring whether the contracting organization is following the appropriate practices of the OHS, checking whether all employees have received training on the OHS, whether any incidents have occurred, checking the registration logs, and the availability and use of protective and preventive equipment. Accordingly, the sections for protective measures of all progress reports contain statements indicating that the PMU has reviewed the occupational health and safety issues and existing procedures in this regard, and ascertained whether there have been any serious incidents or cases of loss of life. Likewise, the PMU will ensure that the project launch workshop and the operation manual contain the appropriate provisions on the occupational health and safety.

Any incidents and occurrences occurring at the project sites and/or as part of the project supported activities should be reported immediately, for example, by the contractor to the employer and then to the PMU. All incidents must be reported to the World Bank no later than 24 hours after their discovery.

Detailed information of any incidents that have occurred or not will be provided in the regular progress reports to the PMU and the World Bank.

An “*incident*” is defined as an accident, incident, or negative event caused by non-compliance with established protective measures or conditions that occurs due to the risks or impacts that are unexpected or unanticipated by the protective measures during the project implementation. Examples of such incidents include: fatal cases, serious accidents and injuries; social impacts due to the labor influx; sexual exploitation and abuse (SEA) or other forms of gender-based

violence (GBV); serious environmental pollution; child labour; loss of biodiversity or critical habitats; loss of tangible objects of cultural heritage; and loss of access to the community resources. In most cases, an incident is an accident or adverse impact that occurs in case when the contractor fails to comply with the WB's safety policy or unforeseen events occur during the implementation of the Project.

The WB Environmental and Social Incident Response Toolkit (ESIRT) does not replace the procedure for monitoring and implementing the regular monitoring of the project's protective measures implementation. The document includes the following six phases of the incident management and reporting process:

Phase 1. Initial informing about the incident. The Contractor, Performer, Inspector informs the PMU, local authorities, WB, the public, providing emergency medical assistance and providing the necessary security measures for employees. All measures must be taken immediately. At the same time, all the necessary data about the incident is collected - its scale, the degree of danger to public health and the environment, place, cause of occurrence, duration, what decisions the Performer will make, what actions should be taken next, etc.

Phase 2. Assessment of the severity of the incident. The Performer must timely provide the WB with information about the incident and the degree of its danger.

Phase 3. Notification. The Performer prepares an incident notification for the World Bank. The filing of notification in the event of an incident shall be determined at the time of signing the contract with the Contractor.

Phase 4. Incident investigation. The Performer provides any information requested by the WB and does not interfere with visiting the scene of the incident. The Performer is also obliged, with the assistance of the Contractor, to analyze the causes of the incident and to document the information received. The Performer may need to involve external experts to investigate the incident. The term of the investigation should not exceed 10 days after the incident. The results of the investigation should be used by the Performer and the Contractor to develop the corrective actions and compile a corrective action plan (CAP) in order to avoid a repetition of what happened in the future. In addition, the conclusions must be submitted to the WB.

Phase 5. Corrective action plan. The Performer develops a CAP with specific actions, responsibilities, implementation deadlines and a monitoring program and discusses it with the WB. In case of serious incidents, the WB and the Performer agree on a set of measures to eliminate the main causes of the sources of such incidents. The CAP specifies the actions, responsibilities and deadlines to be fulfilled by the Performer and the Contractor. The Performer is responsible for the implementation of the CAP. The CAP may include the development or modernization of technical measures for the environmental protection and prevention of further pollution, the provision of training, including on the provision of emergency medical assistance, compensation for insured events of injury or death. If the WB considers that the CAP measures are ineffective, and/or the Performer has shown unwillingness or inability to take corrective measures, the WB may consider a decision to fully or partially suspend the loan payments until such measures are taken, or, in some cases, may consider canceling all or part of the Project after its suspension. Such decisions of the WB are submitted to the PMU to determine the appropriate actions of the WB.

Phase 6. Control over the implementation of the CAP. The Performer implements the CAP, controls the implementation of individual items of the CAP and provides the report on the implementation to the WB.

All project participants will be required to report the major occupational health and safety incidents (by the contractors - to the employer, by the project implementing agency - to the World Bank). It is required that the World Bank be notified of each major incident/accident within 24 hours.

To monitor the OHS issues during the project implementation involving construction works, the specialists of the PMU on environmental and social measures may use, depending on circumstances, the “Inspection Checklists on Occupational Health and Safety, and Welfare”, see Annex 5.

8.4 Integration of ESMF into Project Documentation

The ESMF requirements will be included in the Project Operational Manual and the ESMP requirements will be included in the construction contracts for all subprojects, both in the specification and in the bill of quantities, and the contractors will be required to include the costs of implementing the ESMP in their financial proposals. Based on the ESMF, the roles and responsibilities of all involved parties in the process of the ESA will be outlined. Finally, based on the requirements of the ESMF and ESMP, monitoring and evaluation of the mitigation/prevention measures identified in the site-specific review and ESMP will become an integral part of the subproject implementation, including the inclusion of binding contracts, and the contractors will be required to comply with the environmental and social obligations during the construction works. In addition, all contractors will be required to use the environmentally sound technical standards and procedures when carrying out the work. In addition, the terms of the contract must include the requirements for compliance with all national construction, sanitary, protective procedures and regulations, as well as environmental protection.

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

- (i) Including the requirements of the ESMF in the Project Operations Manual
- (ii) Including the Guidelines on environmental protection, ESMP in the construction contracts for individual subprojects, both in the specification and in the bill of quantities; Contractors will be required to include the cost of implementation of environmental and social activities in their financial proposals;
- (iii) Allocation of follow-up responsibilities to the ESMF within the framework of the PMU;
- (iv) Indication of mitigation and prevention measures during the implementation of selected subprojects;
- (v) 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 implementation, including the contracts obliging the contractors to comply with environmental and social obligations during the construction work.

All contractors will be required to use environmentally sound technical standards and procedures during the conduct of works. In addition, the contractual provisions must specify the requirements for compliance with all national building standards, health protection, protective procedures and regulations, as well as environmental protection.

9. CAPACITY BUILDING ACTIVITIES AND ESMF IMPLEMENTATION BUDGET

The current skills of the PMU/PIU personnel in the new Bank ESF is relatively low and need strengthening at all levels, including IAs, their PMUs/PIU, state environmental and agricultural staff inspectors, designers, contractors and farmers. During the first year of the project implementation the PMU will undertake a detailed capacity building needs assessment and develop a road map on this matter for the whole project life. In general, this road map will include specific measures to ensure proper implementation of various environmental and social activities (prevention/mitigation measures, monitoring and evaluation) recommended in the ESMF, the Project will carry out activities to increase the capacity of institutes involved in the water sector of ALRI, SDLRI, RBO, RBC and WUA and provide support in the necessary institutional strengthening of the regional divisions of the CEP, specialists from hukumats and rural jamoats in the Project districts. Such institutional strengthening will include training, conducting the necessary public information and educational campaigns to raise awareness at the regional and national levels (workshops, conferences, etc.). The training program will strengthen the capacity of the above units through specialized training, aimed at improving the skills and practices of environmental assessment, management and monitoring. Training will also be aimed at increasing the knowledge of farmers as members of the WUAs. Specific training modules will be developed and trainers will be trained on relevant issues, including training on pest control and pesticide application, motivated by the expansion of the number of farmers and the scope of investments in agriculture by increasing the area of arable land. Within the framework of Component 1, it is expected to conduct trainings on the use and implementation of water-saving technologies at all levels - from ministry employees to WUAs and farmers with special emphasis on the prevention of water and soil pollution and labor protection measures during the construction activities.

Awareness and information campaigns on environmentally sustainable water and land use will be organized during meetings with the Project beneficiaries, also through the distribution of information materials (brochures, leaflets, posters and banners) and round tables.

For this purpose, the Project will engage a consulting company with relevant experience in conducting capacity building and information dissemination activities.

10. GRIEVANCE REDRESS MECHANISM

An integral part of the strategy of each Project is to inform and consider the opinions of communities and persons affected by the project. During the implementation of the Project, the beneficiaries may have issues of an economic, social, environmental and other nature that need to be considered within the framework of the Project.

In accordance with the requirements of the World Bank's ESS No. 10, the Project will implement the Mechanism for filing and reviewing complaints and other types of appeals. A feedback mechanism will be implemented as one of the main tools for the prevention of social risks/conflicts. These mechanisms are necessary to ensure that the beneficiaries (benefit recipients) of the Project have the opportunity, at all stages of the project implementation, to submit their appeals in the form of complaints, suggestions for improving the project activities or suggestions for eliminating problems at no cost and with a guarantee of their timely resolution. Effectively implemented GRM and feedback mechanisms will help avoid litigation.

The project envisages a three-level implementation of the GRM. The component 1.2 will support the GRM at the national and basin levels, which will be based on the existing mechanism of the MEWR and ALRI. It is expected that user involvement in water resource planning and allocation will increase the level of transparency and accountability in the sector. The details of the mechanisms at the national and basin levels will be determined at the initial stage of the project implementation, information about which will be posted on the websites of the I/A implementing agencies.

Main objective: *obtaining prompt and objective information, consideration of appeals and their evaluation at all stages of the project implementation, which come from the beneficiaries for further improvement of work.*

Types of appeals: *complaint/claim, suggestion, request, positive feedback/gratitude.*

Appeals directly related to the implementation of the project are subject to consideration, where their compliance with the eligibility criteria will be determined. Each complaint must be tracked and evaluated, even if it was submitted anonymously. As an indicator for measuring the success of the project, a parameter called "number of complaints filed and resolved" can be included.

Channels for submission of appeals:

- ➔ *Boxes for complaints and suggestions (at the jamaat/at the project facility);*
- ➔ *Through contact phone numbers of the project representatives indicated on the complaints box;*
- ➔ *Oral or written appeals received during on-site working meetings;*
- ➔ *Incoming correspondence to the reception or by e-mail of the PMU/PIU;*
- ➔ *Websites of the MEWR and ALRI.*

Appeals can be both individual and collective. The review of complaints and suggestions is carried out free of charge. All appeals will be recorded in the log-register of complaints and suggestions, categorized and registered in the ISUMP system. Complaints and feedback may be submitted anonymously, and confidentiality will be ensured in all cases, including when the person making the complaint/feedback is known. Information on the project and implementation of the GRM will be posted on the websites of the implementing agencies of ALRI and MEWR, including the quantitative data of received and resolved complaints.

For broader awareness, the project will hire a consulting company for the entire period of the project implementation, which will conduct campaigns to transfer knowledge and raise awareness of the population, implement the GRM and record the appeals related to the project activities. In addition, their task will include familiarizing beneficiaries with the procedure for

filing appeals, issuing informational brochures, booklets and posters in Tajik, Russian and Uzbek languages, placing informational materials on stands/boards installed in each project jamoat. This technique is used for wider coverage and awareness of the local population about the work carried out by the project. Boxes for filing complaints, suggestions and other types of appeals will be installed.

The contact information is provided below, through which the project beneficiaries can appeal.

Contact information for filing appeals to the central office of the IA

Ministry of Energy and Water Resources of the Republic of Tajikistan:

5/1 Shamsi Str., Dushanbe, 734064.

E-mail: info@mewr.tj, Telephone: 235 35 66, 236 03 04, Fax: 236 03 04.

Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan:

5/1 Shamsi Str., Dushanbe, 734064, Telephone: 236-04-47, Fax: 235-35-54,

E-mail: info@alri.tj, ALRI web-site: <https://alri.tj/en/director>

Contact information for filing appeals to PMU

Project Management Unit of the Agency for Land Reclamation and Irrigation (PMU/ALRI):

5/1 Shamsi Str., Dushanbe, 734064,

e-mail: fvwrmp@mail.ru

Tel/fax: (+992 -372) 36-62-08

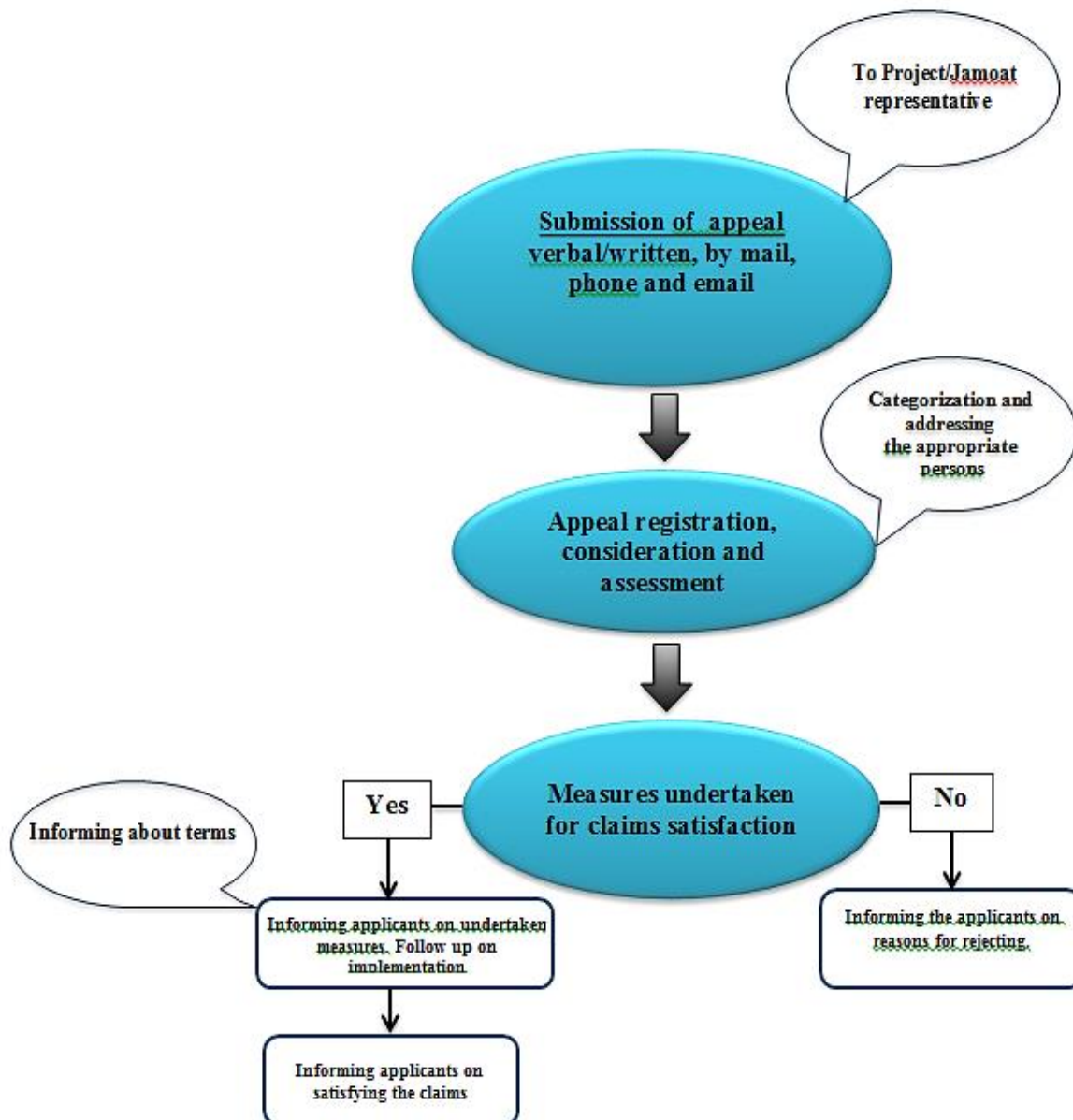
Grievance and suggestion review process

Level I (local). This level provides for the receipt of complaints and other types of appeals that can be received as part of the implementation of infrastructure measures, i.e. when carrying out construction and restoration work from the local community located in the project area and provides for the following steps:

Step 1. Getting about messages from the local community and water users begins with a contact local coordinator and/or NGO representative (it is possible that the appeal will be transmitted through a representative of local government bodies (jamoat/mahalla), who in turn informs social consultant about the received appeal. Further, on the part of NGOs, the appeal is registered and categorized. If the appeal has the nature of a complaint and cannot be resolved by the local coordinator and/or NGO representative within 10 days, then it is transferred to the next level. In the register of complaints and suggestions, a record is made about the solution of the problem or the decision to move to the next level.

Step 2. Further, the beneficiary shall submit his complaint in writing to the PMU. The complaint statement is signed and dated by the affected party. The Project Manager, Responsible Officer (Social Affairs Specialist) of the PMU will act as a contact person, which is the direct channel of communication with the beneficiary. The complaint must be reviewed and resolved within 15 days.

Step 3. If, after receiving a response from the PMU, the complaint is not resolved, the Project



will use the Conflict Resolution Commission (CRC) as an appeal mechanism. The CRC consists of at least 5 members, 2 of whom are employees of the PMU and the other three must be represented at the level of the ALRI representative and representatives of local government authorities. The Conflict Resolution Commission is created at the request of the applicant, from the PMU or the local Khukumat (in the districts of the Project implementation zone). The decisions taken by the Commission and agreed between all parties are legalized in the form of an order of the participating Khukumats.

If the beneficiary has any objections to the CRC’s decision, the case may be referred by the affected party to the court.

Level 2 (basin).

Provides for consideration of applications submitted by participants in water relations during the implementation of the project with the involvement of representatives of NGOs, representatives of the PMU/ALRI and/or PMU/MEWR (each according to its specifics of work). If complaints between the participants at the basin and sub-basin level are not resolved, they will be considered at the national level i.e. project implementing agencies MEWR and ALRI.

Level 3 (national).

This level will be based on the existing mechanism of MEWR and ALRI, where, according to the legislation of the Republic of Tajikistan, the legal provisions reflected in the "Law of the Republic of Tajikistan on applications of individuals and legal entities" are used. Within the framework of the Project implementation, information on the GRM for the Project will be posted on the websites of the executing agencies ALRI and MEWR. The online feedback mechanism will also function as the GRM, allowing users to submit comments or file complaints. Contact details of PMU/ALRI and PMU/MEWR representatives will also be available on the websites. The creation of an information and communication center of ALRI within the framework of the Project will strengthen work with the public and will allow communication remotely.

In the absence of technical components or its poor quality, the applicant can apply to through a number of procedures: verbally (by phone), in writing or on the established visiting days and hours. Information about the reception schedule is posted on the bulletin board and posted on the IA's websites. The appeals related to the implementation of project activities are subject to consideration. On the basis of the application, a working commission is created to consider complaints, which will be represented at the level of the responsible person of the ALRI and/or MEWR (each in its own specificity of work) and representatives of The PMU/MEWR and The PMU/ALRI. The terms for consideration and resolution of the complaint will be established in accordance with the provisions reflected in the Law on appeals of individuals and legal entities of the Republic of Tajikistan.

The basin and national level will deal with complaints and disputes related to water issues. Based on the activities planned by the project, the main participants in the complaints may be water users, WUAs, SDLRI/reformed operational sections and ALRI sub-basin management.

An excerpt from the Water Code of the Republic of Tajikistan, Chapter 11, Settlement of disputes in the field of water affairs Article 88. Settlement of disputes in the field of water affairs *"Disputes in the field of water affairs between parties of water affairs shall be resolved by means of negotiations of the parties, their review in the Government of the Republic of Tajikistan, the National Water Council, river basin councils, authorized state bodies in the field of regulation of use and protection of water resources, local executive bodies, bodies of self-government of settlements and villages, bodies established by citizens and water users associations, within their mandates or in the courts in accordance with the procedure established by the legislation of the Republic of Tajikistan"*.

The GRM at the basin and national levels will be finalized at the initial stage of the project implementation and adjusted throughout the project life cycle as required.

World Bank Grievance Redress Service

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

service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

One can also send a complaint directly to the World Bank Tajikistan Country Office in Dushanbe Address: 48 Ayni Str., Business Center “Sozidaniye”, 3rd floor, phone: 992 48 701-5810, e-mail: tajikistan@worldbank.org

11. INFORMATION DISCLOSURE AND PUBLIC CONSULTATIONS

During the project design preparation stage, consultations were held with key stakeholders in the proposed project regions to inform them about the proposed project activities, review the needs of potential beneficiaries and jointly identify the social and environmental risks and impacts that may arise during the implementation of project activities.

In order to mitigate the social and environmental risks of the proposed project, the PMU prepared draft framework documents, which were disclosed by their posting on the websites of the implementing agencies.

Key objectives:

- ➔ Inform key stakeholders about the planned activities under the TRIP and actions taken to ensure environmental and social safety of the project. Disclose the preliminary version of the social and environmental assessment reports.
- ➔ Seek comments and feedback from the stakeholders on the entire package of documents to be disclose.

The following project materials have been disclosed:

1. Brief summary about the project;
2. Environment and Social Management Environment (ESMF);
3. Stakeholder Engagement Plan (SEP);
4. Resettlement Policy Framework (RPF);
5. Labor Management Procedures (LMP).

The public hearings were held at the national level, on February 3, 2022 in Dushanbe for key stakeholders, i.e. representatives of ministries, their substructures, representatives of regional public authorities and NGO representatives. During the public hearings the project objectives, planned activities, expected environmental and social impacts, as well as mitigation measures, compensatory measures in case of any impacts and grievance redress mechanism were presented to the participants. The public hearings had very lively discussions with participants commenting on the presentations and providing their feedback. At the end of the public hearings, the participants were invited to provide their comments, in written format.

In addition, on March 17, 2022, public hearings were held at the regional level in the city of Bokhtar, where key stakeholders were represented at the level of representatives of Hukumats and Jamoats of Vakhsh, Kushoniyon, Jami and Khuroson districts, regional representatives of the departments of agriculture and environmental protection, structures involved in the management of water resources of the Vakhsh and Shurobad irrigation systems (regional DLRI, SDLRI, WUAs). It should be noted that the composition of the participants was represented by 3 women who are heads of the WUAs.

The minutes of the public consultations are enclosed in Annex 9.

In addition, for wider coverage of the project activities and seeking feedback, the project materials were shared with the local hukumats in the project districts and district committees for environmental protection.

After approval and agreement of the final ESF documents by the Government of the Republic of Tajikistan (GoT) and the World Bank (WB), the final versions will be made publicly available on the websites of the implementing agencies – ALRI and MEWR and submitted to the WB for disclosure.

Public communication strategy during project implementation

The public communication and consultation will be carried out throughout the project life cycle, during the planning, implementation and completion. A public awareness and communication strategy, earlier implemented in the previous PMU projects, based on the EU information dissemination policy, which will be expanded to include public awareness of the ongoing reforms in the water and irrigation sectors, is proposed for the project implementation phase.

The objectives of the strategy are to provide all stakeholders with wide access to information about the project, sources of financing, implementation arrangements and procedures, reforms, opportunities for participation in the project, establishment and maintenance of a feedback mechanism.

The public awareness and communication activities will be carried out by the PMU with the support of a consulting firm. At the initial stage of project implementation, the PMU will hold meetings dedicated to the project launch for all stakeholders. A consulting firm will develop a strategy for preparing and disseminating public information about the project in coordination with all stakeholders involved and will develop action plans for the implementation of the Strategy. The following dissemination approaches will be used:

- ✓ Information meetings and consultations, workshops, conferences;
- ✓ Publications in the print and electronic media;
- ✓ Communication on television and radio programs;
- ✓ Disclosure of information on the websites of the implementing agencies,
- ✓ Development and dissemination of communication materials.

In addition, all the information related to the project will be posted on information boards that will be installed in public places in each project jamoat.

The project achievements in the mid-term reviews and achievements in the closing period will be widely covered on the IA websites, television and social networks. The videos will be produced about project accomplishments.

Disclosure and consultation will use a range of methods appropriate to the specific type of stakeholder, such as:

- ✓ Local community - communication materials (brochures, booklets), visual media (posters, announcements on stands, etc.), limited group and individual meetings (using personal protective equipment and in open spaces according to the season);
- ✓ Authorities, decision makers and key stakeholders - meetings, interviews, written communication;
- ✓ Other stakeholders – meetings, written communications, project promotional materials, and other documents as needed.

The PMU will coordinate disclosure and consultation activities with the stakeholders and maintain records of all consultations conducted.

Communication channels when the situation with the COVID-19 gets worse. In case the epidemiological situation with the COVID-19 changes for the worse, the communication channels (Internet, video-conferencing, etc.) will be used as the best practice. In case of lack of appropriate mobile infrastructure or its poor quality, the consultation meetings will be organized with a limited number of participants, mandatory use of personal protective equipment/sanitizers and keeping social distancing.

ANNEXES

Annex 1. Indicative Outline of ESMP

The ESMP consists of a set of mitigation, monitoring and institutional measures to be taken during the project implementation and operation to eliminate adverse environmental and social risks and impacts, and to compensate for them or minimize them to acceptable levels. ESMP also includes arrangements and actions required to implement these measures. The Borrower will (a) identify a set of responses to potentially adverse impacts; (b) identify the requirements to ensure that these responses are made in an effective and timely manner; and (c) describe the means to meet these requirements.

Depending on the project, an ESMP may be prepared as a separate document. The ESMP content will include the following:

(a) *Mitigation measures*

ESMP identifies the measures and actions, according to the mitigation hierarchy, that minimize potentially adverse environmental and social impacts to acceptable levels.

In particular, ESMP:

(i) describes each mitigation measure with technical detail, including the type of impact to which it is applicable and the conditions that require it (for example, permanently or in case of unforeseen circumstances), along with structures, equipment descriptions and operating procedures, as appropriate;

This may be particularly relevant where the Borrower engages contractors and requirements that contractors must follow are outlined in ESMP. In this case, ESMP should be included as part of the contract between the Borrower and the Contractor, with appropriate provisions for monitoring and enforcement.

(ii) assesses any potential environmental and social consequences of these measures; and

(iii) takes into account and is consistent with other mitigation plans required for the project.

(b) *Monitoring*

ESMP identifies monitoring objectives and defines the type of monitoring with reference to the impacts evaluated in the environmental and social assessment and the mitigation measures described in ESMP.

In particular, the ESMP monitoring section contains (a) a specific description and technical details of monitoring measures, including measured parameters, methods used, sampling sites, frequency of measurement, detection limits (where appropriate), and identification of thresholds that would signal the need for corrective action; and (b) monitoring and reporting procedures to (i) ensure early identification of conditions that require specific mitigation measures and (ii) provide information on the progress and results of mitigation.

(c) *Capacity building and training:*

- to support the timely and effective implementation of the environmental and social project components and mitigation measures, ESMP draws on an environmental and social assessment of the existence, role and capacity of responsible parties in the field or at departmental and ministerial levels.
- in particular, ESMP provides a specific description of institutional arrangements to identify which party is responsible for conducting mitigation measures and monitoring the measure (e.g., operation, oversight, eligibility, implementation monitoring, corrective actions, funding, reporting and staff training).
- to build environmental and social management capacity in the agencies responsible for

implementation, ESMP recommends the creation or expansion of responsible parties, staff training and any additional measures that may be required to support the implementation of mitigation measures and any other recommendations for environmental and social assessment.

(d) Implementation schedule and cost estimate

For all three aspects (mitigation, monitoring and capacity building), ESMP provides (a) an implementation schedule to be carried out under the project, showing phasing and coordination with the overall project implementation plans; and (b) capital and operating costs of the assessment and funding sources for ESMP implementation. These figures will also be included in the total project cost tables.

(e) Integration of ESMP with the Project

The Borrower's decision to proceed with the project and the Bank's decision to support it are partly based on the expectation that ESMP will be effectively implemented. Consequently, each of the measures and actions required to be implemented will be clearly defined, including the individual mitigation and monitoring measures and actions, as well as the institutional responsibilities associated with each of them, and the costs of these will be integrated into the overall planning, design, budget and implementation of the project.

ESMP should fully reflect the Environmental and Social Commitment Plan (ESCP) for the specific subproject. ESCP provides an accurate overview of key measures and actions to manage the project's potential socio-environmental risks and impacts, in accordance with the risk and impact mitigation scheme. It underlies the monitoring of the project's socio-environmental performance. All timing requirements and conditions should be clearly outlined to avoid any ambiguity about compliance.

Depending on the specific subproject, ESCP may include the provision of funding to complete a particular measure or action, as well as other points related to such completion.

ESMP/ESCP should also include a process that enables adaptive management of proposed changes or unforeseen circumstances within the project. It should show how such changes or circumstances will be managed and reported, and how necessary changes will be made to ESMP/ESCP and associated management tools.

ESMP/ESCP should also provide a brief overview of the organizational structure that the Borrower plans to establish and maintain to carry out coordinated activities, i.e., to take into account the different roles and responsibilities of the Borrower, and the organizations and individuals responsible for the project implementation, and to define the scope and powers of key personnel.

ESMP must provide a brief overview of the training that the Borrower will conduct to ensure implementation of the outlined specific actions. This overview must identify the training participants and the required resources.

The content of ESMP/ESCP may differ from subproject to subproject. In some projects, ESMP may reflect all relevant obligations and will not include requirements for the development of additional plans. In other cases, ESMP may refer to other plans, already existing or under preparation, which will formulate the subproject detailed requirements (e.g., resettlement plan, hazardous waste management plan, transportation management plan, etc.). In such cases, ESMP should contain a brief description of the main aspects of such plans. If the plans have yet to be developed, the deadlines should be specified.

The Contractor and PMU shall jointly ensure that the persons directly responsible for the implementation of ESMP/ESCP have sufficient qualifications and training, as well as that they have the necessary knowledge and skills.

The Contractor shall notify IA and PMU in a timely manner, which in turn notify the Bank of any proposed changes in the project's scope, design, implementation or management that could materially exacerbate the environmental or social risks or impacts of the project. If necessary, the PMU conducts additional assessment and consultations with the stakeholders in accordance with the ESMF and proposes changes to the ESMP and related management arrangements for Bank's approval, if deemed appropriate based on the results of such assessments and consultations. An updated ESMP is disclosed to the public.

Annex 2. ESMP Checklist

ESMP Checklist (draft)

(For small-scale construction/rehabilitation subprojects)

Part 1. Project background

INSTITUTIONAL AND ADMINISTRATIVE ARRANGEMENTS				
Country				
Project title				
Project scope and activities				
Institutional arrangements (names and contact persons)	WB (Task Team Leader)	Project management	Local partner and/or beneficiary	
Implementation arrangements (names and contact persons)	Safeguards monitoring	Local partner oversight	Local supervisory inspection	Contractor
SITE DESCRIPTION				
Name of site				
Describe site location			<i>Attachment 1: Site map</i> [] Yes / [] No	
Who owns the land?				
Description of geographic context				
LEGISLATION				
Identify national and local legislation and permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when/where the public consultation process took place				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building? (Yes/No)	[], if Yes, <i>Attachment 2</i> includes the capacity building program			

ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following:	Activity	Status	Additional references
	Building rehabilitation	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section B below
	New construction	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section B below
	Individual wastewater treatment system	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section C below
	Historic building(s) and districts	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section D below
	Acquisition of land or loss of assets ¹⁰	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section E below
	Hazardous or toxic materials ¹¹	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section F below
	Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section G below
	Handling / management of medical waste	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section H below
Traffic and Pedestrian Safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section I below	
	Labor Conditions and OHS	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section J below
	Occupational Health and Safety of Workers	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section K below
	Community outreach and GRM	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section L below
	Community health and safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section M below
ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST	
A. General	Notification and	The local construction and environment inspectorates and communities have been notified of	

¹⁰ The project will support construction of new buildings only when the construction will not result in the taking of land resulting in: involuntary land acquisition or displacement of third parties using land; loss of assets or access to assets; or loss of income sources or means of livelihood, whether or not the affected persons must move to another location. Investors will be required to have landownership title as well as has to prove the land at the moment of subprojects application is not occupied or used even illegally.

¹¹ Toxic / hazardous material includes and is not limited to asbestos, toxic paints, removal of lead paint, etc.

Conditions	Worker Safety	<p>upcoming activities</p> <p>The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works)</p> <p>All legally required permits have been acquired for construction and/or rehabilitation</p> <p>All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment.</p> <p>Workers will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots)</p> <p>Appropriate signposting of the sites will inform workers of key rules and regulations to follow.</p>
B. General Rehabilitation and /or Construction Activities	Air Quality	<p>During interior demolition use debris-chutes above the first floor</p> <p>Keep demolition debris in controlled area and spray with water mist to reduce debris dust</p> <p>Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site</p> <p>Keep surrounding environment (sidewalks, roads) free of debris to minimize dust</p> <p>There will be no open burning of construction / waste material at the site</p> <p>There will be no excessive idling of construction vehicles at sites</p>
	Noise	<p>Construction noise will be limited to restricted times agreed to in the permit</p> <p>During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible</p>
	Water Quality	<p>The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.</p>
	Waste management	<p>Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.</p> <p>Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers.</p> <p>Construction waste will be collected and disposed properly by licensed collectors</p> <p>The records of waste disposal will be maintained as proof for proper management as designed.</p> <p>Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)</p>
C. Individual wastewater	Water Quality	<p>The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities</p> <p>Before being discharged into receiving waters, effluents from individual wastewater systems must be</p>

treatment system		treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment Monitoring of new wastewater systems (before/after) will be carried out
D. Historic building(s)	Cultural Heritage	If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notify and obtain approval/permits from local authorities and address all construction activities in line with local and national legislation Ensure that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted, officials contacted, and works activities delayed or modified to account for such finds.
E. Acquisition of land or loss of assets	Activity will not eligible	If the activity will result in the taking of land resulting in: involuntary land acquisition or displacement of third parties using land; loss of assets or access to assets; or loss of income sources or means of livelihood, whether or not the affected persons must move to another location it will not be financed.
F. Toxic Materials	Asbestos management	If asbestos is located on the project site, mark clearly as hazardous material When possible the asbestos will be appropriately contained and sealed to minimize exposure The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust Asbestos will be handled and disposed by skilled & experienced professionals If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately The removed asbestos will not be reused
	Toxic / hazardous waste management	Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching The wastes are transported by specially licensed carriers and disposed in a licensed facility. Paints with toxic ingredients or solvents or lead-based paints will not be used
G. Affects forests and/or protected areas	Protection	All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect root system and avoid any damage to the trees Adjacent wetlands and streams will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences

		There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
H. Disposal of medical waste	Infrastructure for medical waste management	In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal; and Appropriate storage facilities for medical waste are in place; and If the activity includes facility-based treatment, appropriate disposal options are in place and operational
I Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activity	In compliance with national regulations, the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

ENVIRONMENTAL AND SOCIAL MONITORING PLAN

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Is the parameter to be monitored?)	Why (Is the parameter to be monitored?)	Cost (Is the parameter to be monitored?)	Who (Is the parameter to be monitored?)
During the preparation of the activity							
During implementation of the activity							
During the supervision of the activity							

Annex 3. Environmental and social criteria for selection of subprojects

Environmental and social criteria for selection (eligibility) of subprojects are:

- When choosing collector-drainage systems, preference will be given to those collectors and drainage canals where cleaning works will help reduce the level of groundwater, both in irrigated areas and in settlements (townships) and improve the reclamation state of lands. In addition, among such collectors and drainage canals, the focus will be on collectors serving two or more jamoats, i.e. covering a large area and drainage area, depending on their location along the entire length of the collector;
- When selecting irrigation canals, preference will be given to systems/or subsystems that are provided with gravity irrigation water, mainly located within the project WUAs. Project activities will improve the quality and uniformity of water distribution, reduce water losses, reduce maintenance costs, increase productivity and profitability of farms and households;
- Regarding the pumping stations the minimum energy costs, the stability of the electricity supply and the expected economic viability, including additional profit, i.e. putting abandoned irrigated lands into agricultural circulation after their rehabilitation will be taken into account. In addition, preference will be given to those pumping stations of socio-economic importance, i.e. where the population lives and their activities are connected with irrigated agriculture.
- When choosing vertical wells for rehabilitation, preference will be given to those wells that have a stable energy supply and are intended for irrigation.
- For sections of the flood protection system, the following aspects will be taken into account:
 - *condition and frequency of exposure to floods and mudflows,*
 - *proximity to residential areas;*
 - *the presence of arable land located near the destroyed site and other infrastructure facilities;*
 - *the presence of erosion processes on the territory of lands located near the destroyed sections of river bank lines .*

Rehabilitation of flood control facilities helps to prevent further destruction of river bank lines by flood waters, reduce the risk of floods and flooding of irrigated lands, improve the agricultural productivity of arable lands, increase their area, increase crop yields, respectively, increase the income of farms and households, reduce poverty in rural areas.

Anti-flood measures will be carried out on the existing destroyed sections of embankments with a height of 3 to 5 meters. In addition, it is planned to build a new embankment to protect the main head works water intake structure (HWIS);

- Priority in the selection of HWIS will be given to those facilities that provide a greater number of irrigation canals for the required volume of water intake. Rehabilitation work will contribute to the regulation of water consumption and its uniform distribution. Proper functioning of the HWIS will allow carrying out autumn-winter activities on irrigation canals and timely carrying out repair and rehabilitation work in case of emergencies, which prevents the risk of flooding of the territory of settlements and irrigated lands.

Activities not eligible for selection

- The Project does not support sites that have issues of resettlement and land acquisition;
- If the Project is supposed to irrigate lands on slopes, then such irrigation systems should exclude soil erosion; and such systems will be prohibited by this document in the event of a risk of severe erosion;
- If, as a result of irrigation, there is a danger of groundwater rise and, moreover, soil salinization in adjacent territories, then such systems should also be prohibited or appropriate operational measures should be provided, and are clearly described in the

technical design specifications: additional drainage, flushing, water-saving technologies and washing out.

- The Project may be implemented in areas close to or even within protected natural areas. Execution of works on the territory of protected areas should be prohibited, and the execution of works in adjacent territories should be prohibited without conducting a risk assessment for protected species of animals and plants and ecosystems;
- Since the Project includes an operational policy on international waters, and is likely to be subject to the Bank's exception to this policy, since new systems will not be constructed, subprojects that change the balance of water entering international rivers or their quality will be excluded.

Environmental and social screening forms to be completed before subproject selection will be developed as part of the Project Operational Manual.

Annex 4. Indicative COVID-19 Prevention Action Plan for a Contractor

Indicative Action Plan for a Contractor on prevention of not spreading and in case of COVID-19 at construction sites

#	Activity	Timeline	Responsibility
1.	Contractors shall organize the prompt purchase of means of prevention: non-contact temperature meters, personal respiratory protection, soap, disposable paper towels, gloves, hand sanitizers, surface and room disinfectants in sufficient quantities to provide all employees and the implementation of these activities.		
Activities to organize the delivery of workers.			
2.	<ul style="list-style-type: none"> – To arrange transportation of workers from their dwelling to the site and back, ensuring a distance inside the vehicle of at least 1-2 meters and the use of personal protective equipment; – To disinfect the vehicle twice a week. 		
Activities to ensure access to the construction site. Workflow organization.			
3.	<ul style="list-style-type: none"> – To introduce a permit regime at the construction site; – To restrict access to the construction site for persons not involved in construction work and maintenance of construction; – To revise the schedule to avoid the mass accumulation and crowding of workers; – To ensure the organization of the workflow to isolate work teams from each other when performing work, to ensure minimal contact between workers; – To cancel temporarily optional work requiring physical contact of workers. Where it is necessary to perform work that requires physical contact, wear gloves and personal respiratory protection; – To arrange the disinfection of reusable work tools before they are used by another worker; – To organize the regime for the use of locker rooms, showers, drying rooms by the workers, which does not allow the accumulation of people; – To arrange regular emptying of trash cans with used disposable hand towels and to utilize them. 		
Activities to monitor the workers' health status.			
	<ul style="list-style-type: none"> – Employer shall establish contact with local health facility representatives and local CES representatives to conduct necessary consultations and arrange for emergency measures in the event of workers' illness symptoms; 		

	<ul style="list-style-type: none"> – To ensure that workers' body temperature is measured when they enter a construction site and at the end of their shift; – To measure the body temperature on a daily basis, preferably using the non-contact measuring device. When measuring the body temperature with contact method, ensure that the thermometer is disinfected before handing it over to another person; – To ensure that a log on the workers' health status is kept; – If an employee (who lives near workers) has an elevated body temperature (37.0 degrees Celsius or higher) and/or signs of respiratory illness, to disallow the employee from work and take the employee home to be self-isolated for a period of 14 days. To notify the employee of the need to immediately call for medical assistance at home. Otherwise, to ensure that separate rooms are available to isolate workers until an ambulance arrives; – To require employees to conduct self-monitoring of their state of health. To forbid employees to go to work if they themselves detect elevated body temperature (37.0 degrees Celsius or higher) and (or) respiratory symptoms. In this case, the employee must be isolated for a period of 14 days, and immediately ask for medical help at home; – The employer must ensure that benefits are paid during the period of illness. 		
Activities to ensure personal hygiene of employees			
	<ul style="list-style-type: none"> – To instruct employees on how to prevent the spread of a new coronavirus infection (COVID-19); – To post information materials on stands/leaflets about symptoms of new coronavirus infection (COVID-19) and measures to prevent infection; – To provide employees with personal protective equipment (masks, gloves, etc.); – To arrange places for hand washing and disinfection when entering the construction site, in eating areas, toilets and common areas; – To require workers to wash or disinfect their hands when entering and exiting the construction site, before eating, before and after using the toilet, and after touching items that have been in use by others; – To prohibit the workers from shaking hands, hugging, and other forms of contact. 		
Disinfection of premises, transport and construction equipment			
	<ul style="list-style-type: none"> – To organize disinfection of the workplace and common areas with the use of sanitizers; – To arrange regular cleaning of contact surfaces using sanitizers; – To ensure regular (every 2 hours) ventilation of the workplace and common areas; – To arrange disinfection of the inner cabin of vehicles and construction equipment 		

	between the use of different workers.		
Activities related to the organization of nutrition for employees			
	<ul style="list-style-type: none"> - To organize a feeding regime for employees that does not allow crowding of people in the eating room. To change the eating schedule and ensure a distance of 1 to 2 meters; - To make disinfection of the tables after each use by employees. 		

Annex-5 Training and Capacity Building plan

Training & Capacity Matrix

Objectives	Issues for engagement	Method of engagement	Stakeholders/Target Audiences	Responsible person	Time frame
ESMF	Training of all Technical Leads in the ESMF	Training	Relevant staff responsible for the implementation of E&S instruments.		
GBV Action Plan	Training of all Technical Leads in the ESMF	Training	Relevant staff responsible for the implementation of E&S instruments.		
Project GRM	Consultation on different GRMS mechanisms in place, development of overall GRM, and Training with all Technical Leads	Consultations and Training	Relevant staff responsible for the implementation of E&S instruments.		
GBV Procedures for Reporting and Prevention	Training and monitoring during project implementation to prevent GBV and support reporting of cases	Training, monitoring,	Community members / vulnerable groups		
Mitigate impact of workers on local communities (LMP and GBV Action Plan)	Implement training of contracted Project Workers designed to heighten awareness of risks and to mitigate impacts on local communities and on their rights	Training	Contracted workers and community workers in Project locations		

H&S standards	H&S Standards for workers	Training	Contracted workers and community workers in Project locations		
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This schedule will be updated once site-specific ESMPs have been developed.

Create awareness of LMP and H&S Standards for community workers	LMP and H&S Standards	Training			
Support Emergency Response Measures	Communication of Emergency Response Measure (ERM) to communities	Information, training			
Community Health & Safety	Overall Safety Awareness	Training			
Community Health & Safety	Sensitization on preventing common diseases (planning) like cholera	Training, information disclosure			
Community Health & Safety	Water-born diseases	Training			
Community Health & Safety	GBV, as per Action Plan	Training and awareness raising			

GRM	Project GRM as described in the SEP	Information disclosure and training			
Waste management procedures World Bank Group Environmental, Health, and Safety General Guidelines)	Waste Management Procedures – Hazardous Waste	Training			

Annex 6. OHS Recommended Actions and Measures

Recommended actions and measures for occupational health and safety to perform mechanized construction and rehabilitation works

If hazardous working conditions arise on the construction site, people are immediately evacuated and dangerous areas are fenced off.

When approaching buried lines; excavation work is carried out under supervision of the work manager or foreman, and in the immediate vicinity of energized cables, moreover, under the supervision of electricians.

For excavations with slopes steeper than the natural ones of the given soil, maximum distance of the excavated soil from the edges must be specified by calculating.

During mechanized management of excavation work, it is necessary to check the serviceability of vehicles and machinery, availability of protective barriers and safety devices. It is not allowed to work with defective machinery.

To avoid injuries, members of the mechanized crews must clearly know and strictly adhere to safety rules when working with excavators, as well as during maintenance and repair.

Workers maintaining and operating the machinery must be provided with an instruction manual that includes:

- rules of operating the machine and maintaining the workplace;
- safety requirements;
- signal system instructions;
- maximum loads and machine speeds;
- measures to be taken by the worker in case of an accident or machine malfunction.

Persons who have received special training and have valid driving licenses are allowed to operate the machines.

Before starting work, the machine operator must check:

- working site condition;
- serviceability of the engine and mechanisms;
- cable stock and serviceability;
- operating elements status;
- availability of firefighting equipment and first aid kit.

Oil pump hydraulic system and hoses are checked on hydraulically controlled machines, and serviceability of reels, friction clutch couplings or winch brake belts is checked on cable-controlled machines.

Before starting work, the operator must correctly set the ignition timing to match the conditions for starting the engine. Early ignition generally kicks back the engine crankshaft and handle, which can injure the driver's hand. Before starting the engine, the operator must make sure there are no foreign objects on the rotating parts (fan, water pump, etc.).

When starting the engine with the crank, it is not allowed to grasp the crank: all fingers must be on one side of the crank, and the thumb must be pressed against the index finger. Avoid turning the crank in a circular motion. The starter motor shaft must be turned in short jerks. It is not permitted to start an overheated engine, as this could cause a backfire.

During start-up the mechanisms are switched on only after 2-3 minutes of engine idling. Faults detected in this case shall be eliminated immediately.

All rotating parts of the digging machine such as spur gears, chain and timing gears, fans, flywheels, etc. must be covered with enclosures. It is forbidden to operate mechanisms when the shields are removed.

Inspection, adjustment, bolt tightening, lubrication and preventive maintenance of excavating machines during operation is prohibited.

It is forbidden to carry out any other work or have people in the path of the excavating machines in the area where they are operating. If large stones, stumps or other objects are found in the

excavated soil, the machine must be stopped and everything that can cause an accident must be removed.

It is forbidden to activate the undercarriage when the digging machines travel on steep, downhill or uphill slopes. It is prohibited to move the machines on slopes steeper than allowed. Workers maintaining the machines and mechanisms must wear clothes without dangling ends.

Excavators are installed and secured in a stable position that prevents them from tipping over or spontaneous displacement, both by their own weight and by the engine.

When not in use, as well as during cleaning and repair work, the digging machines must be in a position that makes it impossible for unauthorized persons to start them, so the starting devices must be protected against unauthorized access.

The excavator operator is prohibited from:

- leaving the workplace or letting another person operate the machine while it is running or moving; allowing other people or auxiliary workers to start the engine; sitting on the tracks; or placing clothes or other objects on them;
- stopping the digging machine under the overhead power lines or closer than 15 m to the power lines. The operation and movement of excavating machines near power lines shall be carried out under the direct supervision of engineering and technical personnel. Engineering personnel must always be present with the digging machines during operation and when moving the units.

When operating excavators, the following fire prevention and fire suppression measures must be observed:

- fire extinguishers must be kept in good working order at all times in the excavator operator's cabins;
- it is prohibited to store petrol, kerosene and other flammable materials in machinery cabs. Fuel and lubricants should be stored in specially equipped places at a distance of at least 20 m from the machines;
- it is not permitted to use an open flame (torches, fires, blast lamps, etc.) when refueling machines with fuel and lubricants, during inspection of fuel tanks, and for heating internal combustion engines in winter;
- it is prohibited to open gasoline barrels by hitting the cork with a metal object;
- in case of fuel ignition, it is only necessary to extinguish the flames with fire extinguisher foam, sand, tarpaulin or clothes. It is forbidden to pour water on the fire;
- when refueling machines it is not allowed to smoke and to bring a fire close; the engine is refueled in the daytime, avoiding refueling in the light. After refueling carefully wipe down the tanks. To start the engine in winter, heated water is poured into the radiator and heated oil into the crankcase. It is forbidden to heat the engine with a torch.

Excavators must be placed on a leveled area during operation and secured with portable mountings to prevent accidental movement. It is prohibited to put planks, logs, stones or other things under the crawler belts or track rollers to prevent the excavator from shifting during operation.

If the work is temporarily interrupted or the excavator is repaired, it must be moved at least 2 meters from the slope edge.

During the movement of the single-bucket excavator, its shovel boom is set strictly in the direction of motion, and the bucket is lifted from the ground by 0.5-0.7 m.

The excavator operator is strictly forbidden:

- to change the boom angle when the bucket is lifted;
- to turn on the swivel mechanism until the bucket is filled and detached from the ground;
- to use the excavator rotation and movement mechanisms to cut the ground.

During the transverse excavation of the canal, the berm width between the canal edge and waste-pile toe (earth-deposits) should be equal to half the width of the crawler movement to the cabin tail radius and plus 1 m, and in case of excavator movement on top of the dam, its width should be equal to the width of the crawler movement plus 2 m.

It is not allowed to move soil with the bulldozer on uphill or downhill slopes more than 30 degrees. To avoid overturning and sliding, when working on steep slopes, high embankments and when spoil disposal is buried, one should not turn the bulldozer sharply.

Bulldozer operation within the range of the hoisting devices is not allowed. The bulldozer operator can start working near the excavator once the excavator bucket has been lowered to the ground and when the crane arm has been turned to the opposite side in relation to the area where the work is to be carried out. When stopping the bulldozer, the blade must be lowered to the ground.

Assembly and disassembly of the bulldozer device on the tractor should be carried out under the supervision of a mechanic.

When operating the hydraulically controlled bulldozer, oil temperature in the hydraulic system should not rise by more than 60 degrees Celsius, and the oil should be absolutely clean.

The pressure relief valve of the hydraulic system must be adjusted by a mechanic using a pressure gauge to the highest pressure value and then sealed.

During operation, the bulldozer operator continuously monitors the blade; if the blades hit an obstacle, it is required to stop.

If the bulldozer stops for a short time, the clutch should be activated, the diesel engine should be switched to low speed, and the change-gear levers should be put in neutral position. The bulldozer should be driven downhill only on the first speed. When stopping on a slope, the bulldozer should be braked.

When operating the cable-controlled bulldozer, the serviceability of the winch and cable system must be checked regularly. During operation, the winch is monitored to prevent overheating of its drums, brake belts and frictions.

It is forbidden to work without winch drum protective shroud and protective shroud (pipe) for cable, as well as if 10% or more of the total number of broken wires per 1 m rope are available. Lubrication, adjustment and repair of the bulldozer is performed with the engine off and the blade lowered.

Recommended actions, occupational health and safety measures to carry out manual excavation work

A) General safety requirements:

1. Excavation work should be carried out only taking into account the safety requirements.

When approaching communication lines, excavation work must be carried out under the supervision of the contractor or foreman, and in the protection zone of existing lines of communication the work is to be carried out under the supervision of representatives of the organizations that operate these structures.

2. All organizations having facilities located in the work area must be notified in writing no later than 5 days before the start of excavation work and their representatives must be summoned to the site the day before to clarify the location of their facilities and agree on measures to avoid damage to the facilities.

3. When excavating on the roadway or street, the organization that carries out the work must draw up and coordinate with the State Automobile Inspectorate authorities a layout of road barriers and placement of road signs.

4. Persons under 18 years of age who have been instructed, trained in safe work methods, tested for safety rules in accordance with the Regulation on the procedure for training and testing knowledge of the occupational safety of managers, professionals and workers of enterprises, institutions and communication organizations are allowed to work in the excavation.

5. Employees must be instructed in the workplace. Results of the briefing, name, date and signature of the instructed employee are recorded in a special log.

6. The work is performed by a team of at least two people.

7. The following hazardous and harmful production factors can occur during soil excavation:

Danger of being buried by soil;

Electrocution;

Adverse weather conditions (low temperature, high humidity).

8. Each employee must be warned of the need to adhere to the rules of internal code of conduct.

9. The workers must be provided with protective clothing, personal protective equipment at their own expense.

10. Employees must be trained in the first aid techniques.

11. Safety requirements before starting work:

1. To receive a job assignment from a foreman or supervisor.

12. Contractor conducts briefings at the workplace, taking into account the special nature of the work to be done (The foreman of the site conducts briefings).

B) Safety requirements during work:

1. When excavating, workers should know and remember that digging in vertical walled excavations without anchoring is allowed to a depth of not more than, m:

1 - in bulk sandy and coarse clastic rocks;

1,25 - in sandy loams;

1,5 - in loams and clays.

2. Excavations should be carried out in layers, it is not allowed to carry out these works “digging”, with the formation of “canopies”.

C) Safety requirements in emergency situations:

1. In situations that could lead to accidents, the following should be done:

To stop work immediately and notify his/her supervisor;

To take prompt action to eliminate the causes of the accident or causes that could lead to accidents.

2. In the case of detection of buried communication lines not marked on the drawings, excavation work must be stopped until the nature of the discovered lines is clarified and permission to continue the work is obtained from the relevant organizations.

3. In the case of detection of ammunition and other explosive materials, it is necessary to immediately report to the local authorities of the Ministry of Internal Affairs.

4. In the event of accidental damage to any underground facility, the worker must immediately stop working, take measures to ensure the safety of workers, and report the incident to his supervisor and the emergency service of the relevant organization.

5. If the excavation slopes show signs of soil sliding or slipping, the workers must immediately stop the work and leave the danger zone until measures to ensure the stability of the slopes are taken.

6. It is necessary to notify the direct supervisor of the area or the head of the organization about the injured persons, to report to the medical station and take urgent measures to provide the necessary first aid.

D) Safety requirements at the end of work:

1. To clean and put in order the workplace.

2. To clean the tools, equipment and other devices used in the work from the soil and deliver them to the main place of work.

3. Upon arrival at the main place of work, to take off protective clothing, footwear and other personal protective equipment, clean it and put it away in a place designed for their storage.

4. To report any shortcomings or malfunctions during the work to the foreman or supervisor.

Annex 7. Chance Find Procedures Guidelines Note in Complying with ESS8

Contracts for civil works involving excavations should normally incorporate procedures for dealing with situations in which buried Physical Cultural Resources (PCR) are unexpectedly encountered. The final form of these procedures will depend upon the local regulatory environment, including any chance find procedures already incorporated in legislation dealing with antiquities or archaeology.

The case provided below general guidance would apply where an archaeologist would be on call rather than on site. In exceptional situations where excavations are being carried out within PCR-rich areas, there will often be an archaeologist on site to monitor the excavations and make decisions on-site. Such cases would require a modified version of these procedures to be agreed with the cultural heritage authorities in the host countries.

Chance find procedure commonly contain the following elements;

1- PCR Definition

This section should define the types of PCR covered by the procedures. In some cases, the chance finds procedure is confined to archaeological finds; more commonly it covers all types of PCR. In the absence of any other definition from the local cultural authorities, the following definition could be used: “movable or immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.”

2- Ownership

This paragraph should state the identity of the owner of the artifacts found. Depending on the circumstances, the owner could typically be, for example. The state, the government, a religious institution, the landowner, or could be left for later determination by the concerned authorities.

3- Recognition

This is the most difficult aspect to cover. As noted above, in PCR-sensitive areas, the procedure may require the contractor to be accompanied by a specialist. In other cases, the procedure may not specify how the contractor will recognize PCR. Bidding documents for construction works should refer to the laws and regulations of the host country regarding chance finds and require that the contractor comply. It is advisable to conduct training for construction personnel to inform them about the types of PCR that may be found during works, and to provide them with the contact information for relevant cultural authorities who are to be notified upon the discovery of PCR during construction.

4- Procedure upon Discovery

Suspension of Work

This paragraph may state that if PCR come to light during execution of the works, the contractor shall stop the works. However, it should specify whether all the works should be stopped, or only the works immediately involved in the discovery, or, in some cases where large buried structure may be expected, all works may be stopped within a specified distance (for example 50 meters) of the discovery. The decision should be made by a qualified archaeologist in adherence with the host country’s law and regulations governing the chance find.

After stopping the work, the contractor must immediately report the discovery to the resident Engineer. The contractor may not be entitled to claim compensation for work suspension during this period. The resident engineer may be entitled to suspend work and to request from the contractor some excavation at the contractor’s expense if he thinks that discovery was made and not reported.

Demarcation of the Discovery Site

With the approval of the Resident Engineer, the contractor is then required to temporarily demarcate and limit access to the site.

Non-Suspension of Work

The procedure may empower the Resident Engineer to decide whether the PCR can be removed and the work to continue, for example in cases where the single isolated objects is discovered.

Chance Find Report

The contractor should at the request of the Resident Engineer and within a specified time period make a Chance Find Report, recording;

- Date and time of discovery;
- Location of the discovery;
- Description of the PCR;
- Estimated weight and dimensions of the PCR;
- Temporary protection implemented.
- The Chance Find Report should be submitted to the E&S STAFF.

The Chance Find Report should be submitted to the Resident Engineer, and other concerned parties as agreed with the cultural authority, and in accordance with national laws and regulations. The resident engineer, or other party as agreed, is required to inform the Cultural Authority according.

Arrival and Actions of Cultural Authority

Depend on prevailing laws and procedure the authorities should ensure that a representative will arrive at the discovery site within and agreed time and determine the actions to be taken. Such actions may include, but not be limited to:

- Removal of PCR deemed to be of significance;
- Execution of further excavation within a specified distance of the discovery point;
- Extension or reduction of the area demarcated by the contractor

These actions should be taken within a specified period (for example 7 days); the contractor may or may not be entitled to claim compensation for the work suspension during this period.

Further Suspension of works

The cultural authority may be entitled to request temporary suspension of works at or in the vicinity of the discovery site, if deemed necessary for proper treatment of the PCR.

The contractor may or may not be entitled to claim compensation for work suspension during this period. However, the contractor will be entitled to establish an agreement with the cultural authority for additional service or resources during this further

Annex 8. ACM Management

Collection, storage, transportation and delivery of asbestos containing waste material.

Transportation of asbestos containing materials will be carried out in accordance with the legislation of the Republic of Tajikistan, building standards, occupational safety requirements; requirements for the release of harmful substances into the air and disposal of harmful waste. The maximum proportion of dust particles in the air is 0.1 fiber/cm³; Also, the use of Notes from recommended standards: Asbestos: Workplace and Community Health Issues; the World Bank. Asbestos containing materials are subject to immediate disposal/burial in special conditions and according to the Law of the Republic of Tajikistan “On industrial and household waste” No. 44 dated May 10, 2002 disposal of asbestos containing materials should be carried out as follows.

Hazardous waste management processes (waste life cycle) include the following stages: generation, accumulation (collection, temporary storage, stockpiling), transportation, neutralization, recycling, use as secondary raw materials, burial.

If asbestos is found in the project area, it must be clearly marked as hazardous material. Asbestos containing materials should not be broken or cut. Dust is created by doing so. Regarding reconstruction work, the workers should avoid crushing/destruction of asbestos waste and should dispose them in an organized manner at construction sites, with subsequent removal to designated sites or to landfill.

If asbestos material is to be stored temporarily, its waste must be securely isolated in closed containers and labeled as hazardous material. Safety measures should be taken against its unauthorized removal from the site.

Collection and temporary storage of waste.

Asbestos waste generation should be minimized by using the most efficient production technologies.

Asbestos will be handled and disposed by qualified and experienced specialists using proper protective equipment (masks, gloves and overalls). It is permitted to store waste in the waste collection area in quantities not exceeding the applicable standards. It is not allowed to obstruct industrial waste collection sites and their access points.

During work with asbestos waste, the builders are required to wear special protective clothing, gloves and respirators. Asbestos will be treated with a wetting agent before removal (if removal is necessary) to minimize asbestos dust formation. Removed asbestos must not be reused.

No foreign objects, personal clothing, overalls, personal protective equipment, or food are allowed to store in the industrial waste collection areas.

Hazardous waste movement and transportation

The requirements for loading and unloading operations and general safety requirements must be adhered to when performing loading and unloading operations. The work should be carried out in a mechanized manner with the help of small lifting and transport means of mechanization.

Hazardous waste is transported to landfills by specially equipped company's own vehicles or specialized transport companies.

The design and operating conditions of specialized transport should exclude the possibility of accidents, losses and environmental pollution on the way and during the reloading of waste from one type of transport to another. All types of work associated with the loading, transportation and unloading of waste at the main and auxiliary production facilities should be mechanized and sealed. Evaporation of hazardous waste during its transportation is not allowed.

An independent device or a container with grasping jaws for unloading by crane trucks is required to transport solid and dusty waste.

It is not allowed to transport unpacked asbestos in open cars and on railway platforms.

During loading and unloading operations, the use of hooks and other sharp devices is not allowed.

The presence of unauthorized persons is not allowed, except for the driver and personnel of the industrial enterprise accompanying the cargo during the transportation of hazardous waste. The driver of a vehicle transporting asbestos containing waste must be instructed on the rules for transporting cargo.

The works related to the loading and transportation, unloading and burial of waste must be mechanized. Transportation of waste should exclude the possibility of losses along the route and environmental pollution.

Asbestos containing waste material burial

The burial of asbestos containing waste material should be carried out in accordance with the requirements of the Law of the Republic of Tajikistan “On industrial and household waste” No.44 dated May 10, 2002, and Resolution of the Government of the Republic of Tajikistan “On approval of the procedure, terms and conditions for the collection, use, disinfection, transportation, storage and disposal of industrial and household waste in the Republic of Tajikistan” No. 279 dated June 2, 2011.

Annex 9. Minutes of Public Consultations

TAJIKISTAN STRENGTHENING WATER AND IRRIGATION MANAGEMENT PROJECT

MINUTES

Public hearings

with key stakeholders at the national level
(joint format: round table + video conference)

Organizers: PMU FVWRMP
Date: February 3, 2022
Location: Dushanbe, hotel "Serena", conference hall "Millat", 2nd floor
Number of participants: 33 people

Target:

- ➔ Inform key stakeholders about the planned activities of the SWIM Project and the measures taken to ensure environmental and social safeguard. Disclosure of preliminary version of social and environmental assessment reports.
- ➔ Obtaining comments and feedback from stakeholders on the entire package of documents to be disclosed.

Event program:

- 1) Welcoming remarks, senior staff of ALRI, WB, and MEWR.
- 2) Providing basic information about the proposed activities of the SWIM Project. (Speech by Arbobov);
- 3) Presentation of the document: "Stakeholder Engagement Plan", (presenter Fayazova Z.);
- 4) Presentation: "Framework Document on Environmental and Social Management", (presenter Odinaeva Sh.);
- 5) Presentation of the document: "Procedures for the regulation of labor relations" (presenter Fayazova Z.);
- 6) Presentation: «Resettlement Framework Procedure" (presenter Fayazova Z.);
- 7) Analysis and discussion of the presented materials;
- 8) Summarizing.

Public consultations were organized for key stakeholders and were presented at the level of representatives of ministries, subordinate institutions, representatives of project district hukumats and representatives of NGOs. Representatives of the World Bank were invited to the event of the Project and connected online.

The event was opened by **Mr. Dzhumazoda S., the Deputy Director of the Agency for Land Reclamation and Irrigation**, he welcomed all participants, and expressed gratitude to the WB for the support provided to the irrigation sector of Tajikistan and briefly informed those present about the activities of the Government of the Republic of Tajikistan carried out in this sector. It was further said that the purpose of the public consultations is to provide basic information about the planned activities of the **"Strengthening Water and Irrigation Management" (SWIM) ("Sustainable Irrigation Project in Tajikistan" (TRIP))** and review key project documents prepared as the main guarantees of the socio-environmental safety of the project. At the end of the speech, a welcoming speech was given to **Ms. Farzona Mukhitdinova, the WB representative, SWIM TTL.**

In her speech, **Ms. Mukhitdinova F.** noted the WB's environmental and social principles for investment and project financing, the project's capabilities for managing water resources and managing the irrigation system, and the construction and institutional focus of the project. Particular attention was paid to risks and risk prevention/management tools within the project. She invited the participants of the hearings to take an active part and provide their proposals on the presented project materials. At the end of the speech, the floor was given to the presenters.

Then the floor was given to **the PMU consultant, Mr. Arbobov S.**, who provided the audience with basic information about the proposed activities of the SWIM Project, the goals, objectives and components of the project, the phased WB support for the irrigation sector of Tajikistan, the main beneficiaries of the project and the pilot areas that will be supported under the Project.

Ms. Fayazova Z., the consultant of the PMU for social development, presented information on the environmental and social aspects of the Project and noted the WB requirements for the identification and assessment of environmental and social risks and impacts associated with projects. It was said that the specialists of the PMU, as part of the preparation of the design of the Project, developed documents that will be used as tools for prevention and management of risks and negative impacts on the environment and social environment during the implementation of the project. It was noted that the main purpose of this event is to inform the public about the planned activities of the project, to receive comments and suggestions on the presented project materials.

Further, in accordance with the program of the event, the **“Stakeholder Engagement Plan”** was presented. From the side of the presenter, Fayazova Z., it was noted that this document was prepared in order to identify all parties interested in the project, establish close and constructive interaction with them and develop an appropriate program of interaction, taking into account the opinion and needs of interested parties. Particular attention was paid to three-level implementation of the GRM at the local, basin and national levels with the participation of water users. It was noted that the introduction of this mechanism within the framework of the project, as well as the feedback mechanism, will help increase the level of transparency and accountability in the sector.

The PMU consultant on environmental issues has presented **the “Environmental and Social Management Framework”**. The presenter provided brief information on the requirements of the WB and the regulatory and legal provisions of the Republic of Tajikistan, requiring an environmental and social assessment. It was said that the document was developed in a framework form; sets out the expected environmental and social risks and impacts associated with the project, defines measures to prevent risks and manage negative impacts throughout the life cycle of the project, and also defines the institutional arrangements and capacity for implementing the framework.

As part of the presentation of the next document **“Labor Management Procedure”**, it was noted that this document was developed as a tool for management of risks that may arise in relation to the employment and working conditions of project workers. The presenter has said that the document was developed in accordance with the requirements of ESS 2. "Labor and working conditions" and defines the main requirements in the field of labor legislation and the risks associated with them. Identifies the resources needed to address issues related to labor and working conditions.

Lastly, the **“Resettlement Framework Document”** was presented with an overview of WB and RT policies and procedures related to the issues of land acquisition, restriction of land use rights and involuntary resettlement.

It should be noted that all the materials presented to the participants of the event were presented as slides in Power Point format in a compressed form, and their full versions were published on the IA websites.

Consultations with Stakeholders were held in a lively format. Particular interest was shown by representatives of the State Committee for Land Management and Geodesy of the Republic of Tajikistan, which was presented as follows:

- 1) Deputy Chairman of the Committee, Imomzoda: “According to official data, in Tajikistan, 21 thousand hectares of land are not irrigated. In this regard, the question arises: Does the project provide for the construction of new irrigation canals?”
- 2) Answer, Arbobov S.: “The project does not provide for the development of new lands. Measures are planned to restore existing canals.”
- 3) Proposal: *Within the framework of one of the sub-components of the project, activities are planned to restore the lost canals. Some canals cannot be restored due to the fact that the territories of some of them are already inhabited by the local population or some kind of structure has been built, in which case it will be necessary to change the direction of the canal. We propose, within the framework of the SWIM Project, to plan activities for monitoring the lands suspended from the lost canals. Under the State Land Committee, there are institutes for the design of land "Tajikzaminsoz" and "Fazo", the experience of which can be used within the framework of the project.*
- 4) Answer, Mr. Arbobov S.: “Very good suggestion. But, unfortunately, project investments are aimed at restoring existing canals and their structures in order to reach their former capacity and thereby improve the level of life support for the population.”
- 5) Answer, Ms. Farzona Mukhitdinova: “There is a need to obtain reliable information on irrigated, actually irrigated and effectively irrigated lands. Within the framework of the irrigation management system to be established under the ALRI, we want to link agricultural, WUA and water availability data in order to identify the most priority areas for investment and maximum impact. It is necessary within the framework of the project to link the hydraulic and agricultural focus. Of course, your offer to take part in the project is welcome and we will consider options for cooperation.”
- 6) Fazo Institute, Mr. Mirzoev, provided information on the status of the WUA and the capacity of the State Land Committee and its subordinate organizations that could make a significant contribution to the implementation of the project objectives.
- 7) Answer, Mr. Sabur Jumazoda: *“The project provides for measures for the inventory of irrigation systems, so you need to submit your proposals for cooperation in writing.”*
- 8) In addition, Farzona Mukhitdinova noted the WUA's weak capacity to manage the automated process, the unavailability of structures for information exchange, planning, within the framework of the project, inventory activities, and the introduction of a billing system for WUAs. Particular attention was paid to the use of the mechanism of subsidizing selected WUAs within the framework of this project. Also, it was noted about the planning of a seminar on the management of the irrigation system on February 15-16 of this year, and invited representatives of the committee to take part in its work.
- 9) Question, Mr. Obid Islomov-State Institute for Land Design "Tajikzaminsoz":
 - *How will cooperation be established between the structures, participants in the implementation of the project within the framework of institutional development for the development of legal documents?*
 - *As part of the learning process, how will you use the cadastral maps?*
- 10) Additional question, Director of the Institute "Tajikzaminsoz": “Does the Project provide for soil testing? This is a very important point. These studies help to determine the composition and condition of the soil, the rate of water consumption and prevent land erosion”;

Proposal: “In order to prevent conflicts between participants in water relations, we suggest using the experience of our organization in conducting an inventory of branch lines. Our institute is engaged in the development of cadastral maps by types of land use. We also offer our services for soil research.

- 11) Answer, Mr. Jumazoda S.: “The main goal of ALRI is to provide irrigation water. At the on-farm level, WUAs are organized, with which capacity building activities are carried out. As part of the implementation of projects, GIS maps are being developed. We welcome your proposals for cooperation and will take them into account in the development of the Project.”
- 12) Question for representatives of the State Committee for Land Resources by Mr. Khoshaev D., WUA support unit under ALRI: “Is the work carried out by the State Land Committee on the annual updating of the map and data on land categories, as well as the digitization of land contours so that we can use your data?”
- 13) The answer of the representative of the State Committee: “The transfer from one category to another is the prerogative of the Government, based on the recommendation of local authorities, and it was advisable to provide for land inventory activities within the project.”

At the end of the event, the participants were asked to provide their comments on the presented materials in writing.

All parties involved were satisfied with the course of the public hearings and expressed their hope that the project implementation will make a positive contribution to the creation of sustainable efficient irrigation and will provide significant support in the reform of the water sector in Tajikistan.

MINUTES

Public hearings with key stakeholders at the regional level

(Format: round table)

March 17, 2022, Bokhtar

Time and venue: 09:30, Levakand Hotel
Event organizers: State Institution "Project Management Unit, Fergana Valley Water Resources Management»
Number of participants: 60 people

Objectives:

- *Inform key stakeholders about the planned activities of the SWIM Project and the measures taken to ensure social and environmental safety. Disclosure of the preliminary version of social and environmental assessment reports;*

9:00-09:30	Registration of participants.
09:30-09:35	Welcoming speech. (Nazifov Sh., Head of the ALRI Basin Department).
09:35-09:40	Greeting. (Karimzoda S., Director of the PMU, FVWRMP).

09:40-09:45	Opening of the meeting. Greeting. (<i>I. Kholov, PMU manager, FVWRMP, moderator</i>).
09:45-10:10	Providing basic information about the SWIM Project (presentation). (<i>Arbobov S., PMU, FVWRMP</i>)
10:10-10:30	Presentation: Stakeholder Engagement Plan. (<i>Fayazova Z. - consultant of the PMU FVWRMP</i>).
10:30-10:55	Presentation: "Framework Document on Environmental and Social Management". (<i>Odinaeva Sh. - consultant of the PMU, FVWRMP</i>).
10:55-11:20	Presentation: "Procedures for the settlement of labor relations." (<i>Fayazova Z. - consultant of the PMU FVWRMP</i>).
11:20-11:45	Presentation: Resettlement Framework Document. (<i>Odinaeva Sh. - consultant of the PMU FVWRMP</i>).
11:45-12:00	Questions and answers.
12:00-12:15	Summarizing.
12:30	Lunch

Obtaining comments and feedback from stakeholders on the entire package of documents to be disclosed.

Workshop program

Invitation written notifications were sent to the target parties in advance. During the event, the participants were provided with handouts.

The event was held for stakeholders at the regional level. The participants of the event were represented at the level of representatives of hukumats and jamoats of Vakhsh, Kushoniyon, Jami and Khuroson districts, regional representatives of the departments of agriculture and environmental protection, structures involved in the management of water resources of the Vakhsh and Shurobad irrigation systems (regional DLRI, SDLRI, WUAs).

Nazifov Sh., head of the ALRI Basin Department, made a welcoming speech, briefly noted the activities of ALRI and wished the participants successful and fruitful work.

Karimzoda S., Director of the PMU, FVWRMP, welcomed and congratulated all those present on the upcoming Navruz holiday.

Then the floor was given to Kholov I., the manager of the PMU FVWRMP, who informed the participants about the goals and objectives of the event. On his part, it was said that the main purpose of this event is to inform the public about the planned activities of the project, to receive comments and suggestions on the presented project materials.

The main information about the planned activities of the Project was delivered by the PMU consultant, Arbobov S., who presented to the audience about the goals and objectives of the project, a brief overview of the project activities by components, phased WB support for the irrigation sector of Tajikistan, the main beneficiaries of the project and pilot districts that will be supported in within the framework of the Project. At the end of his speech, on the part of the moderator, the participants were asked to express their views on the material presented, where it was decided by common opinion to hold discussions after hearing all the presentations.

Fayazova Z., the consultant of the PMU for social development, presented information on the environmental and social aspects of the Project and noted the WB requirements for the identification and assessment of environmental and social risks and impacts associated with

projects. Further, four documents specially developed for the SWIM Project were presented for consideration by the participants:

1. *Stakeholder Engagement Plan. (Fayazova Z.).*
2. *Framework Document on Environmental and Social Management. (Odinaeva Sh.).*
3. *Labor Management Procedures. (Fayazova Z.).*
4. *Resettlement Framework Document. (Odinaeva Sh.).*

The documents were presented in a short form, in the form of presentation material. Fayazova Z. has noted that everyone, for more detailed information, can refer to the websites of ALRI and MEWR, where full versions of the presented materials are posted or to get their electronic versions on portable devices (flash drive).

The event was held in a lively format. Particular interest was shown by the WUA representatives, who asked that the Project provide for measures to support WUAs with technical and office facilities. WUA "Dusti-13" said that the building of the WUA needs major repairs. Mahmadiyrov I., a representative of WUA "Uyali", paid special attention to the "Khoja Kal'a" canal, which needs repair and restoration. Saidkhujayev M., a representative of the WUA "Khalifa", noted that the association does not have any office space and asked to include the WUA in the project support area.

In response to questions and suggestions from WUA representatives, S. Arbobov and I. Kholov said that WUAs are the main beneficiaries and the project provides for measures to support them, and detailed measures for each project WUA will be determined during the project implementation.

In addition, other participants of the event asked the following questions:

- Question: Musozoda, deputy chairman of the district A. Jomi :*“Jomi district is located at 17m. below the level of the Vakhsh River. In this regard, does the project plan to clean up the collector and drainage networks of the district?”*
- Answer: Arbobov S.: *“As part of the implementation of PAMP II, measures have already been taken to clean up the CDN in the Jami district. As part of the implementation of the SWIM Project, mainly construction and rehabilitation works will be carried out.”*
- Proposal: Mirzozoda A., Deputy Chairman of Khuroson District: *“The Khoja-Kal'a canal is often filled due to mudflows. We would be grateful if the Project would support the construction of overchutes on this canal.”*
- Proposal, Saidali Asoev, USAID, Food for the Future: *“We have the same target districts. It is necessary to establish a relationship between development partners to coordinate joint actions in order to avoid duplication of work in identical project districts. Also, it is necessary to focus on the environmental activities of our projects.”*

All the parties involved were satisfied with the course of the public hearings and expressed their hope that the project implementation would make a positive contribution to the creation of sustainable efficient irrigation and would provide significant support to the activities of the WUAs.