THE REPUBLIC OF TAJIKISTAN

ONE HEALTH FOR PANDEMIC PREVENTION FOOD SYSTEMS RESILIENCE AND ECOSYSTEM HELTH IN CENTRAL ASIA

(P181459)

AS PHASE 1 OF THE MULTI-PHASE PROGRAMMATIC APPROACH

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

22 November 2024

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LIST OF ABBREVIATIONS

AAR - After Action Review
ACM - Asbestos-Containing Materials
ACCMP - Asbestos-Containing Materials Management Plan
AMR - Antimicrobial Resistance
AMS - Antimicrobial Stewardship
ARAP/RAP - Abbreviated Resettlement Action Plan/ Resettlement Action Plan
CAP - Corrective Action Plan
DED - Design Estimate Documentation
DRS - Districts of Republican Subordination
EHSMP - Environmental Health and Safety Management Plan
EAR - External Action Review
EIA - Environmental Impact Assessment
EMP - Environmental Management Plan
ESCP - Environmental and Social Commitment Plan
ESCOP - Environmental and Social Code of Practice
ESF - Environmental and Social Framework
ESIA - Environmental and Social Impact Assessment
ESMF - Environmental and Social Management Framework
ESS - Environmental and Social Standard
FAO - Food and Agriculture Organization
GBV - Gender-Based Violence
GIS - Geographic Information System
GBAR - Gorno-Badakhshan Autonomous Region
GRM - Grievance Redress Mechanism
HIV - Human Immunodeficiency Virus
HACCP - Hazard Analysis and Critical Control Point
IAR - Internal Action Review
IDA - International Development Association
ILO - International Labour Organization
IPC - Infection Prevention and Control
IUCN - International Union for Conservation of Nature
JEE - Joint External Evaluation
LBWMP - Laboratory Biosafety and Waste Management Plan
LIMS - Laboratory Information Management System
LMP - Labor Management Procedures
MPA - Multi-phase Programmatic Approach
MWM - Medical Waste Management
NAPHS - National Action Plan for Health Security
OHS - Occupational Health and Safety
OVOS - Environmental Impact Assessment
PF - Pandemic Fund
PMU - Project Management Unit
PVS - Performance on Veterinary Services
RPF - Resettlement Policy Framework
SEA/SH - Sexual Exploitation and Abuse/Sexual Harassment
SEE - State Environmental Expertise
SEP - Stakeholder Engagement Plan
SOP - Standard Operating Procedures
SPAR - State Party Self-Assessment Annual Reporting
TTL - Task Team Leader
WB - World Bank
WHO - World Health Organization

EXECUTIVE SUMMARY

Project Description

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. The approach mobilizes multiple sectors, disciplines, and communities to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, climate change action, and sustainable development.

This Phase 1 Project will help to develop the country's core capacities to implement a One Health approach at the national and regional levels, with a focus on establishing a governance mechanism and strengthening existing infrastructure and systems for improved prevention, detection, and response to zoonotic diseases, AMR and food safety challenges.

The World Bank will be supporting the State Institution "Agriculture Entrepreneurship Development" under the Government of the Republic of Tajikistan (PMU) in implementing One Health Project for Pandemic Prevention Food Systems Resilience and Ecosystem Health in Central Asia (P181459). The PMU will carry out activities in close coordination with other line ministries and agencies involved where multisectoral perspectives and investments are required.

PDO Statement

To strengthen the capacity to prevent, detect, and respond to priority zoonotic diseases, antimicrobial resistance, and food safety issues in the Republic of Tajikistan through a regional One Health approach.

Project Components (briefly)

Component 1: Strengthening One Health Governance

This component will establish and strengthen new and existing regional and national institutions to effectively plan, coordinate, monitor, and evaluate interventions that enable the region and countries to better prevent, prepare, and respond to key zoonotic diseases, AMR and food safety threats. Activities under this component will mainstream gender and climate change mitigation and adaptation objectives at the core of the One Health governance system. This component has three subcomponents: 1.1: Multisectoral Planning and Coordination; 1.2: Communication and Stakeholder Engagement; 1.3: One Health Legislative and Regulatory Frameworks.

Component 2: Enhancing One Health Knowledge and Workforce Capacity

This Component will generate One Health knowledge and strengthen relevant workforce capacity. The component is expected to help improve cross-sectoral collaboration, women engagement and climate outcomes on account by supporting the development and sharing of knowledge among decision makers, practitioners and community workers. This component has two subcomponents: 2.1: Knowledge Management and Development; 2.2: Education and Training.

Component 3: Improving One Health Prevention, Early Detection and Response Systems

This component will invest in the surveillance and response systems that are needed to prevent, monitor, detect, and respond to priority zoonotic and foodborne diseases, and AMR. Climate risks and vulnerable populations will receive attention in One Health prevention and response systems developed with support of the Component. This component has two subcomponents: 3.1: Laboratory Networks; 3.2: Surveillance, Prevention, and Response Systems.

Component 4: Project Management, M&E, and Learning

The component will finance expenditures relating to the implementation of project management frameworks, including M&E, communications, citizens engagement, compliance with environmental and social (E&S) risk management, and the Program learning agenda.

Project Areas

The project interventions will be carried out within Dushanbe city, Khatlon region (Jomi, Hissar, Shaartuz) and Hissar city, Sughd, Gorno-Badakhshan Autonomous Region (GBAR), Districts of Republican Subordination (DRS). According to the Project categorization, the environmental impacts of the regions are Substantial, and the social risk is considered as Moderate, but the level of environmental and social risks of the Project will be temporary and can be managed through specially developed E&S mitigation measures.

Dushanbe city is the capital city of the Republic of Tajikistan, is situated in the Hissar Valley at the foothills of the Hissar Mountains. Dushanbe is situated on the boundary of two large geologic structures, the Hercynian structure of the South Tien-Shan and the Alpine complex of the Tajik Depression. Dushanbe features a Mediterranean Climate with strong continental climate influences. Summers are hot and dry, and winters are chilly, but not very cold. The area of Dushanbe city is 203.18 km[21]. The population of Dushanbe is 1,242,600[2] people (2024).

Khatlon Region is an administrative region of the Republic of Tajikistan, located in the south of the country. One of the three regions of the country, it borders on the north with the districts of republican subordination, on the east with the Gorno-Badakhshan Autonomous Region, on the south with Afghanistan, and on the west with Uzbekistan. The administrative center is the city of Bokhtar. The area of the territory is 24,700 km²[3], the population is 3,697,800 people.

Hissar city is located in the central-western part of the Republic of Tajikistan, in the center of the Hissar Valley. The city is surrounded by mountains on all sides: from the north - by the Hissar Range, from the south - by the Gazimalik Mountains, from the southwest - by the Babatag Mountains. Hissar is a city of Republican Subordination in the Republic of Tajikistan at the intersection of the Khanaka River (a tributary of the Kafirnigan) with the Hissar canal. Until 2016, it was the administrative center of the Hissar District. The climate is sharply continental, the average annual precipitation is more than 230 mm. The population is 332,100 people, the area of the territory is 9.6 km².

Sughd Region occupies 25,200 km² of territory and is the third largest region in Republic of Tajikistan. The Sughd region borders the Republic of Uzbekistan in the north, northeast and west, the Kyrgyz Republic in the east, and the districts of republican subordination of Republic of Tajikistan in the south. The territory is mainly mountainous. The Kuramin Range and the Mogoltau Mountains are in the north, and the Turkestan Range and the Zerafshan Mountains are in the south. It borders Uzbekistan and Kyrgyz Republic. The population is 2,917,300 million people. The territory of the region includes 8 cities, 4 districts, and the administrative center is the city of Khujand.

Gorno-Badakhshan Autonomous Region (GBAR) is an autonomous region within the Republic of Tajikistan. It occupies the entire eastern part of Republic of Tajikistan, being the largest region in the country by area - 64,100 km² (45% of the total territory of Tajikistan). The territory includes 1 city, 7 districts. The administrative center of the region is the city of Khorog (about 30 thousand people live). The population of the GBAO 233,600 people. Since GBAO is a highland and border region, surrounded on three sides by other states, foreigners are required to obtain a special permit to visit it.

Districts of Republican Subordination (DRS) are in the central part of Republic of Tajikistan and cover various landscapes: from the foothills of the Gissar range to the foothills of the Pamirs. The climate here is quite diverse: from hot and dry summers in the valleys to cold winters in the mountains. The DRS occupy 28,400 km² of territory, and by this indicator are the second largest region of Republic of Tajikistan. The DRS borders on the Sughd Region and the Kyrgyz Republic in the north, the Gorno-Badakhshan Autonomous Region in the east and southeast, the Khatlon Region in the south, and the Republic of Uzbekistan in the west. The territory includes 13 districts, and the population is 2,197,000 people. The administrative center of the DRS is the city of Dushanbe.

[1] https://asiaplustj.info/ru/news/tajikistan/society/20190124/dushanbe-stal-bolshe-na-7-tis-gektarov
[2] https://www.stat.tj/wp-content/uploads/2024/09/machmuai-shumorai-aholi-to-1.01.2024.pdf
[3] http://portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=25768

Project Beneficiaries

The One Health Project aims to benefit various stakeholders in the country. The primary beneficiaries of the Program are people residing in the Republic of Tajikistan, as well as the extensive population of domesticated animals and wildlife at risk of, or already affected by, zoonotic diseases and AMR. The Program is expected to directly benefit a wide range of officials working withing the agrifood, public health, and environment sectors. This includes professionals working in various capacities such as policymakers, medical workers, (para-)veterinarians, rangers, border workers, biologists, pharmacists, researchers, extensionists, and various technicians. Specifically, for the domesticated animals and wildlife populations, various interventions to support disease surveillance and improve the veterinary and wildlife health services will significantly contribute to overall well-being, ultimately preventing species decline and extension.

Purpose and Objective of the ESMF

This Environmental and Social Management Framework (ESMF) has been prepared to identify the potential environmental and social risks and impacts of proposed Project activities and propose suitable mitigation measures to manage these risks and impacts. It maps out the laws and regulations of the Republic of Tajikistan and the World Bank policies appliable to the Project, and describes the principles, approaches, implementation arrangements, and environmental and social mitigation measures to be followed.

The primary goal of the ESMF is to define the measures, ways, and mechanism to avoid, minimize and/or mitigate potential negative environmental and related social impacts that may occur as a result of Project implementation. The ESMF provides guidelines for the development of appropriate mitigation measures for adverse impacts caused by Project activities. In this document the background/context, and policy and regulatory framework are described, as well as the environmental and social impacts of possible subprojects. The project's overall E&S risk rating classified as Substantial for both environmental and social risks. The World Bank's Environment and Social Standards 1, 2, 3, 4, 5, 6, 8, and 10 are considered relevant for the Program.

Potential Environmental and Social Risks

Environmental Risks: The substantial environmental risk rating considers the project's potential risks and impacts resulting from Component 2 and 3 activities that envisage constructing, renovating, and equipping laboratory facilities, including interventions aimed at strengthening surveillance and emergency response management systems to zoonotic, food safety, and AMR-related hazards through improved sample collection, handling, and transportation to laboratories. Potential environmental risks include: (i) risks and impacts of spreading zoonotic diseases and infections to people from inappropriate waste disposal and management, and worker and waste picker injuries from sharps (such as syringes, needles, and blades) disposed of by animal, antibiotics testing programs, and/or exposure to AMR; (ii) risks relating to construction waste, noise, dust, vibration, and occupational and health and safety (OHS) hazards for workers associated with constructing, renovating, and equipping laboratory facilities; (iii) risks relating to resource efficiency, waste management, and the use and handling of chemicals in laboratories; and (iv) public health risks relating to the handling, transportation and disposal of animal carcasses and other biological materials. The ESMF includes an Indicative Outline of Laboratory Biosafety and Waste Management Plan (LBWMP). The LBWMP will be prepared during the early stages of project implementation that is consistent with international best practices and WHO standards.

The environmental risks associated with the implementation of civil works will be mitigated by the application of the World Bank Environmental Health and Safety Guidelines and Good International Industrial Practices for civil works. These and all other potential environmental risks are reversible and are easily managed by the implementation of proper Environmental and Social tools and plans.

Social Risks: The Project will have long term positive social impacts as it contributes to reducing zoonotic diseases, AMR and food safety risks, and better coordination and use of resources. There could also be some construction related impacts to communities and workers, including OHS for workers associated with establishing laboratories and other health facilities. Further, the project scope (involving many sectors) and the outreach campaigns planned may involve misunderstandings and social tensions. There are also

risks for vulnerable and disadvantaged groups who could experience inequitable access to project supported facilities and services because of their qualifying characteristics, which could lead to social unrest and tensions and possible increase of their vulnerabilities. In addition, laboratory support may engage the handling of infectious products that present risks of contamination for workers in laboratories and medical health care centers, and then for the communities.

The Resettlement Policy Frameworks (RPF) has been prepared and will be implemented in accordance with Environmental and Social Standards (ESS) 5 and applicable national legislation, in the event of involuntary resettlement related to construction activities. Implementation of the project works in accordance with RPF will ensure compliance with the national regulation and the WB requirements.

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) Labor Management Procedures (LMP)
4) Resettlement Planning Framework (RPF).

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

1) ESIA -for new construction
2) Environmental and Social Management Plan (ESMP) for rehabilitation works, and checklist-based ESMPs for small-scale activities
3) Incident Reporting Toolkit
4) Chance Finds Procedure
5) Laboratory Biosafety and Waste Management Plan
6) Asbestos-Containing Materials Management Plan Template.

Legislatives and Regulatory Framework

The management of environmental and social issues is based on the requirements of prevailing legislation of the Republic of Tajikistan, the WB ESF (Environmental and Social Framework), and relevant environmental and social standards. The Republic of Tajikistan has a range of legislative and regulatory acts that are relevant to environmental management, including articles of the Constitution, laws, by-laws, resolutions of the Government of the Republic of Tajikistan, and international environmental conventions that the Government of the Republic of Tajikistan has ratified.

The relevant Environmental and Social Standards

This ESMF incorporates several key policies, regulations, and laws, aligning with World Bank Environmental and Social Framework (ESF) standards:

- ESS1 focuses on the Assessment and Management of Environmental and Social Risks and Impacts, ensuring a comprehensive approach to risk evaluation and management.
- ESS2 addresses Labor and Working Conditions, aiming to uphold fair labor practices.
- ESS3 focuses on Resource Efficiency and Pollution Prevention and Management, guides the project in promoting responsible resource use and pollution control.
- ESS4 encompasses two aspects: Community Health and Safety. This standard emphasizes the importance of safeguarding community well-being throughout the project lifecycle.

- ESS5 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.
- ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development and it recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also addresses sustainable management of primary production and harvesting of living natural resources and recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, whose access to, or use of, biodiversity or living natural resources may be affected by a project.
- ESS8 sets out general provisions on risks and impacts to cultural heritage from project activities.
- ESS10 emphasizes Stakeholder Engagement and Information Disclosure, highlighting the significance of involving and informing stakeholders throughout the project lifecycle.
- The World Bank Environmental, Health, and Safety (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.

Integration of the ESMPs into the Project Contractual 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.

Implementation Arrangements summarizes the proposed institutional and organizational arrangements and responsibilities for the Project, and to implement the ESMP in order to complete subproject screening for environmental and social impacts and risks, consultations to evaluate and recommend mitigation measures, evaluation and clearance of due diligence documentation, and ESMP monitoring and implementation.

The State Institution "Agriculture Entrepreneurship Development" under the Government of the Republic of Tajikistan will serve four implementing entities: the Ministry of Agriculture of the Republic of Tajikistan, the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan, the Committee for Food Security under the Government of the Republic of Tajikistan and the Committee for Environmental Protection under the Government of the Republic of Tajikistan, and will implement activities for the National One Health Coordination Structure (NOHCS). The PMU will coordinate with relevant ministries and institutions and serve as a single focal point for monitoring and reporting to the Government and World Bank. It will solely handle fiduciary management responsibilities, ensure compliance with ESF, and establish appropriate M&E systems to track results contributing to the overall PDO. PMU full-time Environmental Specialist will be responsible for implementation and monitoring of environmental, health and safety -related issues and Social Development Specialist will be responsible for labor grievances and SEA/SH issues.

The ESMF implementation requires special knowledge from the beneficiaries and all Project participants at each stage of the Project. To ensure the effective implementation of the Project and a clear understanding of the requirements for environmental and social risk management of the Project, a capacity-building program is proposed under this Project. PMU will hire short-term external Environmental Specialists who will assist/lead preparation of ESIA and ESMP in the beginning of the Project. These specialists with knowledge of the national environmental and social management requirements, as well as

substantial knowledge of the policies and requirements of the World Bank's Environmental and Social Standards will develop training materials and trainings themselves. The training will include basic WB requirements, national rules and procedures for specific aspects of environmental and social assessment, stakeholder mapping and engagement, biosafety awareness and infection control, handing and managing of medical wastes and chemicals, community health and safety, grievance mechanism, etc., as well as case studies in this regard. All developed training materials, after the first series of trainings by the Consultant will be transferred to the Implementation Agencies for further application.

Monitoring. Environmental and social monitoring during the implementation of sub-projects should contain information on key environmental and social aspects of sub-projects, their impact on the environment, social consequences of impacts and the effectiveness of measures taken to mitigate the consequences. This information will allow the PMU to monitor the performance of project beneficiaries' obligations to implement environmental measures, assess the effectiveness of mitigation measures, and allow timely implementation of corrective action(s) that need to be observed how often, where and by whom monitoring should be carried out.

Monitoring of the implementation of environmental measures should be carried out by PMU's Environmental specialist. Representatives of the Committee on Environmental Protection (CEP) may also be involved in monitoring. The aim is to verify the main points of compliance with the ESMF, RFP, SEP and LMP, the progress of implementation, the scope of consultations, and the participation of local communities. The standard checklist prepared during the evaluation studies will be used for the activities report.

Monitoring of the social part will be implemented on a continuous basis by the PMU Social Development Specialist to ensure that there is not any unanticipated impact during construction works on land, productive assets, illegal users, people's livelihood etc. Monitoring will also cover health and labor issues. If issues are identified, the mitigated measures will be proposed in the progress reports or separate Corrective Action Plans (CAP). The monitoring methods will include site visits, cell phone and electronic mailing applications for real-time data collection, and written reporting as the result of site visits. PMU will carry out site visits during construction and commissioning phases of the subprojects.

GRM Mechanism

The Grievance Redressal Mechanism (GRM) aims to efficiently resolve complaints and grievances during project implementation, fostering transparency, credibility, and trust. It provides affected individuals with channels to voice concerns, ensuring the identification and implementation of mutually acceptable redress actions. The GRM, overseen by the PMU and led by the Social Development Specialist, covers the entire grievance redress chain, from registration to feedback. Sensitive issues like Gender-Based Violence (GBV) are addressed separately. The PMU M&E monitors the process and resolutions' implementation, ensuring management oversight. Accessible to diverse stakeholders, the GRM allows submissions through various means. The system aligns with ESS10-Stakeholder Engagement, complemented by a separate GRM for labor-related issues. Confidential complaints, especially regarding Sexual Exploitation and Abuse/Harassment (SEA/SH), adhere to World Bank guidelines. The project commits to non-retaliation against stakeholders expressing views on Bank-financed projects.

Public Consultation and Information Disclosure

Extensive consultations have been held with various stakeholders including the public communities, local/ district/ regional authorities, other departments and service providers. The draft ESMF and RPF in English and Russian languages were disclosed on November 2024 on the PMU State Institution "Agriculture Entrepreneurship Development" under the Government of the Republic of Tajikistan website. Consultation workshop was held in Dushanbe city on 14 November 2024. Representatives of various relevant authorities, specialists from the ministries (both national and regional levels) involved in the project, local administration (Hukumats) and NGOs attended the workshop.

Before the workshops, the project features, planning works and mitigations measures were discussed with specialists from relevant agencies. Based on suggestions received during the consultation workshops, the

ESMF, LMP, SEP and RPF documents have been updated, finalized and published on the website of the Executive/Implementing Agency. They will also be published on the external World Bank website.

A separate Stakeholder Engagement Plan (SEP) has been prepared for the Project, based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement. The SEP can be found here: https://aedpmu.tj/.

ESMF Implementation Budget

The budget for the implementation of the framework document includes the costs of paying the salaries of the PMU specialists on environmental issues and social development, purchasing personal protective equipment for the implementation of activities on working with asbestos-containing materials, installing acoustic screens and additional dust management measures. It is assumed that in the event of controversial issues on the quality of the environment: air quality, water and noise levels, the PMU will have to involve a third-party organization - a certified laboratory to carry out analytical work.

The general budget also includes the costs of hiring consultants on medical waste management, laboratory biosafety issues, International Specialist on National Emergency Response Plan for Foodborne Illness Outbreaks (NERPFIO) and SOPs under Component 2. These specialists will support the PMU in developing specific plans for medical waste management and biosafety. Costs associated with the capacity building program include the preparation and delivery of trainings on environmental and social instruments (ESIA, ESMP, Checklist based ESMP), Stakeholder Engagement Plans, regular trainings on environmental compliance and occupational safety requirements for Contractors.

The total preliminary budget for the implementation of the framework document is US$360,250.

1. INTRODUCTION

Republic of Tajikistan, a mountainous and landlocked lower-middle-income country of more than 10.3 million (2023), has experienced strong growth and social progress in recent years. Nevertheless, Republic of Tajikistan continues to face key sources of vulnerability including a lack of economic diversification, heavy reliance on remittances and exports, and susceptibility to climate change. Republic of Tajikistan ranked 140 out of 195 countries on the 2021 Global Health Security Index, making it the lowest-ranked country in Central Asia.

While steps have been taken to tackle the six priority zoonotic diseases, and a national action plan on Antimicrobial Resistance (AMR) was adopted in 2024, the country lacks cohesive surveillance and control systems, and drug-resistant pathogens threaten to undermine efforts. Six zoonoses have been identified by the government as priorities: rabies, anthrax, brucellosis, cystic and alveolar echinococcosis, and plague. Key risk factors for zoonosis, foodborne disease, and AMR include systemic weaknesses in surveillance systems, human and animal healthcare, food security management, livestock sector realities, environmental degradation, and climate change. Disease surveillance is limited by a lack of early warning systems, laboratory capacity for diagnostics and confirmatory testing, real-time and integrated data, remote testing capacity (including for sample transportation), and communication and coordination across human and animal health. Laboratories lack infrastructure and equipment, trained personnel, digital data management systems, external and other quality assurance programs (beyond ones for HIV, Tuberculosis, and food safety), and adequate density to cover the country. And the quality guidelines followed by the national reference laboratories are not widely applied by other laboratories.

In human healthcare, effective disease control is impeded by underfunding and insufficient infrastructure and AMR risk is heightened due to cultural factors, misaligned provider incentives, and lack of regulation, which lead to inefficient use of medicines, in particular antibiotics. Further undermining efficiency, prescription practices of public providers in the Republic of Tajikistan have been shown to often contradict established medical guidelines. Over-prescription of antibiotics and injectables is not only due to supply-side factors like lack of provider knowledge and pressures from the pharmaceutical industry: they may be requested by patients even in the absence of clinical indications, (Richardson, Sautenkova, and Bolokhovets 2015; Kaae et al. 2020). Antibiotics do not require a prescription in Tajikistan, and as a result, many people purchase them from retail pharmacies without prior consultation of a medical professional. It is also reported that for lack of money, some patients do not buy full courses of antibiotics, contributing to the rise of multi-drug-resistant bacteria (Kaae et al. 2020).

In the agricultural sector risk stems from inadequate veterinary services and low vaccination rates in smaller ruminants, as well as uncontrolled transboundary livestock migration and trade. With 75 percent of the population living in rural areas and a strong density of livestock, frequent human-animal interactions increase zoonosis transmission risk, particularly in areas with a high density of livestock like Khatlon oblast. Meanwhile, overgrazing and inadequate management of animal waste, and challenging (and changing) climate conditions featuring hot spells and aridity, affect disease emergence and host susceptibility. With respect to food safety, technical regulations are in place, but a lack of inter-ministerial coordination, laboratory capacity, and food product controls weaken implementation. Backyard slaughter also increases the risk of diseases like anthrax and brucellosis entering the food chain. Weaknesses revealed by Joint External Evaluation (JEE) and Performance on Veterinary Services (PVS) assessments (scores of 2/5) lie in surveillance and early detection systems, specimen referral and transportation, cross-sectoral biosafety and biosecurity management, points of entry (POEs), continuing and (para-)veterinary education, and capacity to manage veterinary antimicrobial use and resistance. The government has endorsed a One Health approach and is strongly committed to enabling regional and cross-sectoral cooperation around these issues.

The regional One Health Multi-phase Programmatic Approach (MPA) aims to strengthen capacity to prevent, detect, and respond to priority zoonotic diseases, AMR, and food safety issues in Central Asian countries through a regional One Health approach.

The MPA is built around four components, which will jointly contribute to the high-level objectives.

Program Component 1: Strengthening One Health Governance

This component will establish and strengthen new and existing regional and national institutions to effectively plan, coordinate, monitor, and evaluate interventions that enable the region and countries to better prevent, prepare, and respond to key zoonotic diseases, AMR and food safety threats. Activities under this component will mainstream gender and climate change mitigation and adaptation objectives at the core of the One Health governance system. This component has three subcomponents.

Subcomponent 1.1: Multisectoral Planning and Coordination. This subcomponent aims to enable the national- and regional-level coordination required to implement a regional One Health approach. It will finance: (a) the establishment, development, and strengthening of dedicated coordination structures at the regional and national levels; (b) strategic planning activities and the development of national action plans including the National One Health Action Plan (NOH-AP) and National Action Plan for Health Security (NAPHS); and (c) strategic consultations on regional issues including trade standards and regulations, public health systems, as well as national and transboundary wildlife conservation programs.

Subcomponent 1.2: Communication and Stakeholder Engagement. This subcomponent will enable information-sharing, and a foundation of cross-sectoral and cross-country cooperation. It will finance: (a) the design and implementation of activities such as campaigns; and (b) the design, development, and management of national One Health digital platforms and a Central Asia One Health Portal to facilitate cross-sectoral information sharing.[4] The national digital platforms and regional Portal will be leveraged by Component 4 for monitoring, evaluation, learning, and adaptive project management.

Subcomponent 1.3: One Health Regulatory Frameworks. This subcomponent will contribute to addressing regulatory bottlenecks and creating incentives for One Health implementation. It will finance: (a) reviews of legal and regulatory frameworks, including regional-level comparative assessments; and (b) policy consultations and the drafting of regulatory frameworks and other policies conducive to cross-sectoral and cross-country cooperation.[5]

Program Component 2: Enhancing One Health Knowledge and Workforce Capacity

This component will generate One Health knowledge and strengthen relevant workforce capacity. The component is expected to help improve cross-sectoral collaboration, women engagement and climate outcomes on account by supporting the development and sharing of knowledge among decision makers, practitioners and community workers. This component has two subcomponents.

Subcomponent 2.1: Knowledge Development. This subcomponent aims to expand One Health evidence and knowledge by developing research capacity and programs. It will finance: (a) the design and implementation of assessments (notably SPAR, JEE, PVS, and action reviews like EARs, IARs, and AARs[1]),[6] surveys, and other analytics relating to priority zoonotic and foodborne diseases, AMR[7] and One Health service delivery; (b) multisectoral hazard risk assessments and prioritization; and (c) the establishment of multidisciplinary partnerships involving national and international organizations to carry out scientific and action-oriented research, and handle the development and delivery of training.

Subcomponent 2.2: Education and Training. This subcomponent aims to institutionalize the One Health approach and its implementation by strengthening the relevant capacities of agricultural, veterinary, environmental, and public health professionals. It will finance activities that: (a) develop and subsequently update national multisectoral workforce development strategies and implementation plans; (b) develop curricula for training courses in relevant technical areas including antimicrobial stewardship (AMS), governance, surveillance, laboratory, monitoring and evaluation

4 Providing One Health practitioners access to relevant data such as disease incidence and related health indicators, international standards and guidance documents, research evidence, and training materials.

5 For example, on trade and connectivity, the harmonization of regional standards, and customs agency cooperation.

6 SPAR = State Party Self-Assessment Annual Reporting; JEE = Joint External Evaluation; PVS = Performance of Veterinary Services; EARs = Emergency After Action Reviews; IARs = Intra-Action Reviews; AARs = After Action Reviews.

7 For example, epidemiological studies on anthrax, brucellosis, echinococcosis, E-coli, rabies, and salmonellosis, and studies on antimicrobial stewardship programs and practices.

(M&E), and information systems; (c) establish a regional One Health learning platform; (d) conduct training for professionals across all relevant sectors;[8] and (e) carry out functional exercises such as simulation exercises to test and build the capacity to prepare and respond to priority zoonotic and foodborne pathogens and other threats to food safety.

Program Component 3: Improving One Health Prevention and Response Systems

This component will invest in the surveillance and response systems that are needed to prevent, monitor, detect, and respond to priority zoonotic and foodborne diseases, and AMR. Climate risks and vulnerable populations will receive attention in One Health prevention and response systems developed with support of the Component. This component has two subcomponents.

Subcomponent 3.1: Laboratory Networks. This subcomponent will strengthen laboratory systems to inform risk-based prevention, monitoring, and detection, and response measures at the national and regional levels. The subcomponent will: (a) construct, renovate, and equip laboratory facilities; (b) adapt and help laboratories adopt international Standard Operating Procedures (SOPs); (c) support quality control and assurance activities; (d) establish national and regional networks of accredited reference laboratories; (e) develop and update guidelines, plans, and SOPs for diagnostic and laboratory networks; and (f) develop laboratory information management systems that are interoperable with other information systems within and across relevant sectors.

Subcomponent 3.2: Surveillance and Control Systems. This subcomponent will strengthen pertinent surveillance and emergency response management systems. To this end, it will: (a) support and expand surveillance system coverage based on risk assessments; (b) develop or upgrade animal and food product identification and traceability systems; (c) improve sample collection, handling, and transportation to laboratories; (d) establish and strengthen interoperable information systems to exchange surveillance data within and across sectors; (e) support water, sanitation, and hygiene measures and infrastructure in a range of settings (including animal husbandry, food processing and marketing, healthcare, and residential); (g) establish or strengthen preparedness measures (for example, quarantine stations and zones, and cross-border surveillance) at designated points of entry (PoEs); (h) support the adoption of Hazard Analysis and Critical Control Points (HACCP) in food supply chains; (i) strengthen infection prevention and control procedures at health facilities; (j) establish or strengthen rapid response and surge teams and public health emergency operations centers; and (k) support emergency management and response activities (including investigations, inspections, surge response, and case management).

Program Component 4: Project Management, M&E, and Learning

The component will finance expenditures relating to M&E and the Program learning agenda, which, among other things, will build a body of evidence on gender in PPR, and Program implementation and coordination at the national and regional levels.

This phase of the Project is planned to be implemented in five countries of Central Asia, including Republic of Tajikistan. More detailed information regarding the project activities for the Republic of Tajikistan is provided in Chapter 2. Project Description.

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 by project appraisal, a framework approach is adopted. Respectively, in accordance with the ESS1, an Environmental and Social Management Framework (ESMF) has been prepared. which specifies rules and procedures for the activities and subprojects' Environmental and Social Impact Assessment (ESIA) and for preparing adequate Environmental and Social Management Plans (ESMPs). The main goal of the Environmental and Social Management Framework (ESMF) is to define the measures, ways and mechanism for avoiding, minimizing and/or mitigating potential negative environmental and related social impacts that may occur as the result of implementation of the project. The ESMF ensures that the identified subprojects are correctly assessed from environmental and social perspective to meet WB's Safeguards Policies alongside

[8] For example, policymakers, farmers, extensionists, (para-)veterinarians, wildlife rangers, clinical foresters, health workers, and pharmacists.

with Tajik Environmental and Social Laws and Regulations for adequate mitigation residual and unavoidable impacts (if any).

ESMF provides guidelines for the development of appropriate mitigation and compensation measures for adverse impact caused by project activities. In this document the background/context, the policy and regulatory framework are described as well as environmental and social impacts of possible subprojects. This includes Environmental and Social Impact Assessment (ESIA) procedures and guidelines, institutional arrangements, consultation and disclosure procedures.

The ESMF will guide the ESIA process and will cover the following:

(i) rules and procedures for environmental and social screening of project activities and subprojects to be supported under the project;

(ii) guidance for conducting subprojects ESIA and/or preparing simple ESMP or ESMP Checklist which would include the monitoring plans;

(iii) mitigation measures for possible impacts of proposed subprojects;

(iv) templates for Laboratory Biosafety and Waste Management Plan (LBWMP);

(v) implementation and monitoring arrangements for ESIA/ESMPs;

(vi) for E&S risk management and measures to fill any gaps in capacity.

The policy and regulatory framework consider the compliance with the national laws and WB requirements. ESA guidelines and procedures serve to define the responsibilities for sub-project preparation, screening, appraisal, implementing and monitoring. With the help of these guidelines the requirements for the sub project Environmental and Social Management Plans (ESMPs) will be outlined.

The ESMF serves also to provide details on procedures, criteria, and responsibilities for subproject environmental and social screening, preparing, implementing and monitoring of subproject specific ESIAs. Towards preparing a RAP, project preparation has developed a Resettlement Policy Framework (RPF). The key objective of the Resettlement Policy Framework is to provide a framework to appropriately identify, address and mitigate adverse socioeconomic impacts that may occur due to the implementation of subprojects that involve the involuntary acquisition of land and the subsequent resettlement of affected families.

There are four designated Project Beneficiaries in Republic of Tajikistan, which are:

- Ministry of Health and Social Protection of the Population of the Republic of Tajikistan;
- Ministry of Agriculture of the Republic of Tajikistan;
- Committee for Food Security under the Government of the Republic of Tajikistan;
- Committee for Environmental Protection under the Government of the Republic of Tajikistan.

2. PROJECT DESCRIPTION

The regional One Health Multi-Phase Programmatic Approach (MPA) aims to strengthen the capacity to prevent, detect, and respond to priority zoonotic diseases, antimicrobial resistance, and food safety issues in Central Asian countries through a regional One Health approach.

This Phase 1 project will help develop the country's core capacities to implement a One Health approach at the national and regional levels with a focus on establishing a governance mechanism and strengthening existing infrastructure and systems for improved prevention, detection, and response to zoonotic diseases, AMR, and food safety challenges.

The World Bank will be supporting the State Institution "Agriculture Entrepreneurship Development" (PMU) under the Government of the Republic of Tajikistan in implementing One Health Project for Pandemic Prevention Food Systems Resilience and Ecosystem Health in Central Asia (P181459). The PMU will carry out activities in close coordination with other line ministries and agencies involved where multisectoral perspectives and investments are required.

Project activities are listed below by implementing agency and subcomponent.

Component 1: Strengthening One Health Governance

Component 1 aims to establish foundational elements for effective One Health governance and cross-sectoral cooperation in Republic of Tajikistan. Specifically, activities will support establishing One Health multisectoral planning and coordination, regulatory frameworks, data sharing, and communication and stakeholder engagement.

- Activities implemented by the **Committee for Food Security under the Government of the Republic of Tajikistan:**

  1.1. *Updating laws and regulations related to the veterinary sectors, development of a law on the use and handling of laboratory animals.* The regulatory framework of the Committee for Food Security in the field of veterinary science needs to be updated in accordance with international standards. It is planned to update 2 laws, 1 strategy and 2 regulatory documents.

  1.2. *Strengthening the capacity of the Central Laboratory and the Anti-Epizootic Center of the Committee of Food Security in the field of food safety, prevention, detection and response to priority zoonotic diseases.* The Anti-Epizootic Center of the Committee for Food Security is mainly engaged in anti-epizootic measures. Within the project it is planned to conduct 68 seminars at the regional level.

- Activities implemented by the **Ministry of Agriculture of the Republic of Tajikistan:**

  1.1. *Revision of regulations in the field of livestock farming in the Dushanbe city.*

  1.2. *Raising stakeholder awareness of priority zoonotic diseases throughout the Republic of Tajikistan.* This sub-component will assess the state of development of biotechnical methods in modern genetics of farm animals – with an emphasis on genomic selection. It will also develop Nutrient Management Concepts for Livestock Development Regions; a practical course on the Priority Direction "Cattle Management"; specific recommendations for feeding and productivity management and important recommendations for creating a microclimate in a livestock building.

- Activities implemented by the **Ministry of Health and Social Protection of the Population (MOHSPP) of the Republic of Tajikistan:**

  1.1. *Establish a cross-sectoral data exchange on zoonotic diseases.*

  Current Situation. The MOHSPP currently collects data on confirmed and suspect zoonotic cases among humans through their regular surveillance activities. To prevent further spread of zoonotic diseases, the MOHSPP needs to strengthen its surveillance activities in high-risk spots (i.e., areas where zoonotic diseases had been detected among animal population, burial sites for dead animals).

  Gaps. However, the MOHSPP does not currently have or receive data on incidence of zoonotic diseases among animals from the Committee for Food Security (CFS).

Requested activity/investment. The MOHSPP will hire a firm/individual consultant(s) to conduct system checks of the existing surveillance systems in both human health and veterinary sectors and propose a data sharing mechanism for data exchange between the MOHSPP and CFS.

Expected Results. With the cross-sectoral data sharing on prevalence of zoonotic diseases among human and animal populations, the MOHSPP will be able to strengthen its surveillance capacity to improve detection (including risk modeling) of potential infections and timely response (including investigation) of zoonotic diseases from animals to humans.

1.2. *Develop multisectoral annual work plans for the implementation of the AMR National Action Plan, identifying prioritized, costed activities in line with the AMR Global Action Plan. Current Situation.* The MOHSPP developed and approved a multisectoral National Action Plan for Antimicrobial Resistance (AMR), containing costed and prioritized interventions for the period between 2023 to 2025. The Multisectoral Plan covers cross-sectoral projects in relevant sectors including health, agriculture, and environment. The plan includes prioritization and cost actions in line with the AMR Global Action Plan.

Gaps: The MOHSPP needs to develop feasible actions for implementing prioritized and costed interventions on annual basis, as well as the responsible department/unit and performance indicators to monitor progress and achievements.

Requested activity/investment: The MOHSPP needs to hire national experts (in fields of bacteriology, clinical medicine for infectious disease management, veterinary medicines, pharmaceuticals) to assist the MOHSPP in developing annual work plans in close coordination with relevant sectors (e.g., agriculture and environment). WHO will provide global guidance on designing the multisectoral annual workplans.

Expected outcomes: Multisectoral annual work plans for the implementation of the National Action Plan on AMR were developed and approved by the National One Health Coordination Structure.

1.3. *Organize information and education campaigns to improve awareness of International Health Regulations (IHR) and health security capacities among government staff, partners, media, and other community-level stakeholders.*

Current Situation. General public, particularly at-risk population groups (e.g., population living close to high-risk areas for infectious diseases, such as tick-borne diseases, endemic areas for anthrax), do not have adequate access to information and knowledge regarding prevention and early detection of infectious diseases, particularly related to AMR, zoonotic and food-borne diseases. The MOHSPP would like to conduct health information and education campaigns to raise awareness among field epidemiologists, veterinary specialists, environmental specialists, livestock and agricultural specialists, laboratory technicians on general IHR requirements and the government responsibilities for prevention, detection, and responses at national and subnational level. In addition, the MOHSPP would like to conduct health education campaigns for the general public on priority zoonotic diseases (i.e., CCHF, plague, anthrax, brucellosis, rabies, leishmaniasis, leptospirosis, Mpox) and priority food-borne disease pathogens (i.e., salmonella and botulism) about prevention and treatment options.

Gaps. However, the MOHSPP needs to develop national guidelines on risk communication and community engagement for priority diseases, update communication materials, and needs to engage with other public institution (e.g., Healthy Lifestyle Center) and civil society organizations to implement the communication campaigns.

Requested activity/investment. The MOHSPP needs experts to help develop the national guidelines, revise communication materials, and conduct the priority health information and education campaigns, using existing communication channels, including newspapers, TV, radio, social media, and hotlines (511).

Expected Results. The MOHSPP will be able to raise awareness among the government staff and reach the general population and at-risk population groups with evidenced-based, accurate

information.

1.4. *Develop a multimodal national operational plan for improving infection prevention and control, in line with Worldwide Governance Indicators multimodal improvement strategy (with five core elements, including systems change, training and education, monitoring and feedback, reminder and communication, and culture of safety).*

Current Situation. The MOHSPP currently has national guidelines and standard operating procedures (SOP) on infection prevention and control (IPC), requiring all health facilities to be compliant and improve clinical safety and prevent AMR and health care-acquired infections (HCAI). With the support from WHO, the MOHSPP recently conducted an assessment on IPC capacity in the Republic of Tajikistan in 2023. The IPC assessment highlighted key challenges in implementing and enforcing IPC at health facilities, including limited knowledge on IPC among IPC focal points at healthcare facilities, limited recording of HCAI cases, limited compliance on proper medical waste management. The MOHSPP needs to develop a multimodal national operational plan for IPC.

Gaps. To improve IPC capacity in the Republic of Tajikistan, the MOHSPP aims to develop a multimodal national operational plan. The plan will be developed in line with global recommendations to strengthen the system, training and education, monitoring and feedback, communications, and culture of safety.

Requested activity/investment. The MOHSPP needs to hire expert(s) to help the MOHSPP develop the multimodal national operational plan, which describes objectives, key gaps, priority activities, and feasible monitoring and evaluation mechanism to monitor the implementation progress.

Expected Results. The multimodal national operational plan for improving IPC developed and endorsed by all stakeholders in the health sector.

1.5. *Develop accreditation standards for infectious disease departments at hospitals, specialized infectious disease hospitals, and outpatient infectious disease units at PHC facilities.*

Current Situation. The MOHSPP established national accreditations standards for health facilities, particularly for maternal hospitals and clinics, multi-disciplinary facilities, and primary healthcare centers. The Center for Medical Accreditation under the MOHSPP assesses and accredits health facilities that meet the set standards for: (1) health facility management; (2) clinical safety (i.e., infection prevention and control, patient/provider safety, occupational hazard and safety); (3) clinical compliance; and (4) structural readiness for service delivery (i.e., building, equipment, and supplies).

Gaps: However, the Center for Medical Accreditation does not accredit infectious disease departments and hospitals due to the lack of specific standards for infectious disease management. The specific standards for infectious diseases management should include standards for clinical safety, clinical compliance for infectious disease management, and enhanced medical waste management.

Requested activity/investment. The MOHSPP needs to hire expert(s) to help establish a technical working group within the MOHSPP, develop standards for infectious disease management, in line with international standards, and design a pilot program at select health facilities.

Expected results. Accredited health facilities for infectious disease management can provide quality services based on the national accreditation standards for infectious disease management.

1.6. *Strengthen the activities of the Commission on the Quality and Safety of Medical Care in infectious disease departments at hospitals, specialized infectious disease hospitals, and outpatient infectious disease units at PHC facilities.*

Current Situation. The Commission on the Quality and Safety for Medical Care was established in 2014. The Commission is mandated to conduct quality assurance for all public services provided by the MOHSPP, including public health programs.

Gaps. However, the Commission has not been active to perform mandated tasks due to undefined

governance structure, including roles and responsibilities by stakeholders and limited technical and operational capacity of the Commission.

Requested activity/investment. The MOHSPP will hire local experts to establish a technical working group within the MOHSPP. The working group will review the existing legal and regulatory frameworks that govern functions of the infectious disease hospitals and units, develop TORs and SOPs for relevant stakeholders, develop training curriculum and materials for quality assurance tasks, and conduct literature review of other countries' systems and experience in accrediting infectious disease management hospitals and units.

Expected Results. The Commission will be able to perform mandated tasks and improve compliance with national quality standards for infectious disease management.

- Activities implemented by the **Committee for Environmental Protection under the Government of the Republic of Tajikistan:**

1.1. *Study and monitoring of migration routes of wild animals and migratory birds and study of the state of vulnerable wetland ecosystems for zoonotic diseases:* ***1.1.1.*** *Establishment of a working group to monitor the migration of wild animals and migratory birds and study the state of vulnerable wetland ecosystems for zoonotic diseases, consisting of 5 people (Hiring NGOs).* ***1.1.2*** *Purchase of laboratory equipment, inventory, special transport.* Target diseases for this sub-component are Bird flu, transboundary animal diseases (plague, goat pleuropneumonia) and other diseases. Republic of Tajikistan has a long border with Afghanistan - 1,340 km, Kyrgyz Republic - 970 km, with Uzbekistan - 1,332 km. Border areas of Republic of Tajikistan are the most vulnerable in terms of the transfer of zoonotic diseases from wild animals to domestic animals and vice versa. For example, in 2012, due to pneumonia of domestic goats on the Tajikistan and Afghanistan border were infected wild goats (markhor goats) because of which more than 100 individuals died, diseases are also observed among mountain sheep Argali in the Pamirs. Also, Republic of Tajikistan is a migration route for more than 40 species of migratory and migrating birds that annually fly in the spring and autumn for reproduction and breeding. For example, the Mountain Goose flies to India and reproduces in the territory of Zorkul in the Pamirs, the Bustard from the UAE and Europe lives in the northern regions of Republic of Tajikistan (Kayakum, Jazira) and there are risks of transmission of transboundary diseases.

1.2. *Creation of a database system for the identification and control of zoonotic diseases.* ***1.2.1.*** *Purchase of IT equipment, GPS navigators, database software (drone, radio collar, camera trap).* The creation of a database is a very important tool for monitoring and observing zoonotic diseases and allows identifying the most vulnerable areas susceptible to zoonotic diseases. To create a unified database, it is necessary to purchase software and equipment for monitoring animals.

1.3. *Deciphering, mapping and identifying risk zones for the spread of zoonotic diseases of domestic and wild animals, considering climate risks.* Mapping zones for the spread of zoonotic diseases of the Environment Protection Committee and Protected Areas located in the border regions of the Republic of Tajikistan. Deciphering and mapping risk zones allows to determine which areas and sites are most susceptible to zoonotic diseases and what measures need to be taken to eliminate them.

Component 2: Enhancing One Health Knowledge and Workforce Capacity

This component will establish multisectoral and sector-specific workforce strategies and design and implement capacity building activities for in-country stakeholders at both the national and subnational levels. In addition, it will finance the design and implementation of cross-sectoral and sectoral assessments to generate more evidence and foster scientific cooperation to build the country's capacities relating to One Health capacities. Specific activities are listed below by implementing agency and for the two subcomponents (2.1: Knowledge Management and Development; and 2.2: Education and Training).

- Activities implemented by the **Committee for Food Security under the Government of the Republic of Tajikistan:**

2.1. *To prepare (ToT) 15 personnel from among the staff of the Committee for Food Security under the Government of the Republic of Tajikistan, the Institute of Veterinary Medicine and the Institute of Biological Safety Problems, as well as the Tajik Agrarian University in the field of prevention, detection and response to priority zoonotic diseases for further training of FSC epizootiologists in the regions and districts of the republic, as well as to improve the level of knowledge on biosafety and biosecurity in the laboratory network of the Committee for Food Security under the Government of the Republic of Tajikistan.* Training for trainers in Dushanbe and trainings for epizootiologists (districts of republican subordination (DRS), Sughd, Bokhtar, Kulyab, GBAR)). The training will be conducted for 15 employees for 30 days, and 10-day courses will also be held in each region.

2.2. *Training of inspectors of the Food Security Committee on inspection according to the international standards Global Gap, GVP, ISO 22000 and the HACCP system, including the process of auditing and certification of food enterprises.* When monitoring the quality of products from the ground to the table, as well as processing of products, veterinary inspectors must know international food safety standards. The project plans to train 10 employees within 30 days (1 week with 2-day field visit for 50-60 staff).

2.3. *A study tour to countries where a system of prevention, detection and response to priority zoonotic diseases has been established*, organized for employees of the Central Office, subordinate organizations and regional structures of the Committee for Food Security (10 employees over 7 days).

2.4. *Establishment of the National Training and Resource Center for specialists of all levels of the Food Security Committee, the National Center for Food Security Diagnostics and its regional centers, as well as employees of the Institute of Veterinary Science of the Academy of Agricultural Sciences of the Republic of Tajikistan.* Within the framework of this sub-component, it is planned to prepare legal acts, obtain a license, construction work, goods.

- Activities implemented by the **Ministry of Agriculture:**

2.1. *Conducting seminars and training for employees of the State Unitary Enterprise "Poultry Farming"* (employees of the Ministry of Agriculture of the Republic of Tajikistan, district and regional departments of agriculture, subordinate organizations of the Ministry of Agriculture of the Republic of Tajikistan).

2.2. *Study tours on the best practice of other countries in the functioning of the laboratory in the field of fish farming for the State Unitary Enterprise "Poultry Farming"* (employees of the Ministry of Agriculture of the Republic of Tajikistan, district and regional departments of agriculture, subordinate organizations of the Ministry of Agriculture of the Republic of Tajikistan).

2.3. *Implementation and training of methods for determining disease priorities and risk assessment in the fight against zoonoses* for students of the Tajik Agrarian University named after Sh.Shohtemur and in educational programs throughout the RT.

2.4. *Updating the curriculum for veterinary students*.

2.5. *Equipping the educational laboratory of the Department of Animal Husbandry in the Tajik Agrarian University named after Sh.Shohtemur in Dushanbe.*

2.6. *Equipping the educational laboratory of the department of microbiology of the veterinary faculty in the Tajik Agrarian University named after Sh.Shohtemur in Dushanbe*.

- Activities implemented by the **Ministry of Health and Social Protection of the Population (MOHSPP):**

2.1. *Assess existing capacities for awareness, training, surveillance, infection prevention and control (IPC), and stewardship of antibiotic use in and by relevant sectors.*

Current Situation. The MOHSPP currently has the national guidelines for infection prevention and control (IPC). In 2023, the MOHSPP conducted IPC capacity assessments in the health sector, with

support from WHO. Regarding the antibiotic use in human health and veterinary sectors, the MOHSPP and CFS have clinical protocols to rationalize the use of antibiotics among humans and animals and monitor their use.

Gaps. While the above IPC assessment highlighted key gaps in the health sector (incl. lack of WASH facilities and services at health facilities, improper prescription of antibiotics), the MOHSPP needs to assess implementation progress of priority activities from the IPC assessment and National Action Plan on AMR, including health care providers' knowledge, attitudes and practice on IPC as well as antibiotic use. Regarding the rational use of antibiotics among humans, the MOHSPP is responsible for surveillance of antibiotic use/consumption and shall report to the global reporting platform (i.e., GLASS), but the MOHSPP does not currently have trained staff to collect, collate, and report such data to the global reporting platform.

Requested activity/investment. To address the above gaps, the MOHSPP needs to hire expert(s) to help design tool(s) to assess current capacities for awareness, training, surveillance, and stewardship of antibiotic use. The MOHSPP will closely coordinate with WHO to use readily available global guidance or reference tool(s) to design the country-specific tool(s). The experts will support the MOHSPP to design the assessment framework and implementation plan and analyze results.

Expected Results. The MOHSPP will be able to identify key gaps in awareness, training, surveillance, IPC, and stewardship of antibiotic use among humans and animals. The identified gaps will inform priority actions for the MOHSPP and relevant government institutions to address, as part of the National Action Plan on AMR (2023-2025).

2.2. *Develop and deliver training program on rational use of antimicrobials.*

Current Situation. The MOHSPP developed and approved a multisectoral National Action Plan for AMR (2023-2025), including prioritized and cost interventions. One of the priority areas is to develop and implement a training program for clinicians for the rational use of antibiotics among humans.

Gaps. Currently, the MOHSPP does not have a training program that raises awareness among clinicians on the rational use of antibiotics. Clinicians do not necessarily pay attention to negative outcomes of irrational antibiotic use and are not fully compliant with the current infection prevention and control programs or not familiar with restrictions imposed on prescription and use of antibiotics for certain clinical cases. In addition, clinicians do not order laboratory testing to determine the sensitivity and resistance of pathogens against the antibiotics.

Requested activity/investment. The MOHSPP needs to recruit experts to help the MOHSPP design the antimicrobial stewardship training curriculum, develop training materials (using existing WHO guidelines and materials), and train more than 3,500 clinicians who routinely prescribe antibiotics to patients.

Expected outcomes. The antimicrobial stewardship training curriculum is developed and adapted based on global guidelines and materials. Over 3,500 clinicians at all levels of care are trained with the national antimicrobials' stewardship training by 2027.

2.3. *Conduct or update annual multisectoral hazard risk assessments that establish what threats are national and subnational priorities, accounting for all biological and non-biological threats that could potentially lead to public health emergencies, and incorporating surveillance data, risk modeling, and other available analytics.*

Current Situation. The MOHSPP has been using the US-CDC Learning Resource Platform in Central Asia (Kazakhstan) for more than 20 years to increase the knowledge and capacity of epidemiologists and a limited number of veterinarians, by involving them in training in Field Epidemiology Training Programs (FETP) and other continuing professional development programs to increase surveillance capacity. However, these programs were developed from outdated manuals. For example, the residency- and master's-level FETP training programs for epidemiologists were developed by in 2020. However, the FETP guidelines were updated to include modules related to One Health and global health security initiatives in 2022 and 2023, respectively.

Gaps. FETP and other continuing professional development programs for Tajik participants focus only on epidemiology and lack laboratory components. To date, the country has not institutionalized training programs in applied epidemiology, including FETP, Intermediate, and Front Line (One Health Approach) in the postgraduate programs.

Requested activity/investment. The Project will hire experts to assist the MOHSPP to design curriculums and training materials for applied epidemiology, intermediate, and Front Line (One Health Approach) FETP programs based on the latest international guidelines and priority diseases in the Republic of Tajikistan.

Expected Results. The MOHSPP has introduced FETP residency courses in applied epidemiology, intermediate and Front Line (One Health) for epidemiologists, veterinarians, and ecologists to provide pre- and in-service training to improve preparedness and response capabilities.

2.4. *Update pre- and in-service curriculums for the Field Epidemiological Training Program and continuous professional development programs (related to laboratory and surveillance).*

Current Situation. The MOHSPP has been using the US-CDC Learning Resource Platform in Central Asia (Kazakhstan) for more than 20 years to increase the knowledge and capacity of epidemiologists and a limited number of veterinarians, by involving them in training in Field Epidemiology Training Programs (FETP) and other continuing professional development programs to increase surveillance capacity. However, these programs were developed from outdated manuals. For example, the residency- and master's-level FETP training programs for epidemiologists were developed by in 2020. However, the FETP guidelines were updated to include modules related to One Health and global health security initiatives in 2022 and 2023, respectively.

Gaps. FETP and other continuing professional development programs for Tajik participants focus only on epidemiology and lack laboratory components. To date, the country has not institutionalized training programs in applied epidemiology, including FETP, Intermediate, and Front Line (One Health Approach) in the postgraduate programs.

Requested activity/investment. The Project will hire experts to assist the MOHSPP to design curriculums and training materials for applied epidemiology, intermediate, and Front Line (One Health Approach) FETP programs based on the latest international guidelines and priority diseases in Tajikistan.

Expected Results. The MOHSPP has introduced FETP residency courses in applied epidemiology, intermediate and Front Line (One Health) for epidemiologists, veterinarians, and ecologists to provide pre- and in-service training to improve preparedness and response capabilities.

2.5. *Develop a contingency health sector workforce plan to ensure the availability of healthcare workers and other essential roles to cover IHR needs at national and subnational in both routine circumstances and health emergencies.*

Current Situation. The MOHSPP is a regulatory agency for health service delivery in the Republic of Tajikistan. In case of health emergencies, the MOHSPP is mandated to mobilize available human resources for health and foster partnerships with private service providers to maintain essential health service delivery.

Gaps. The MOHSPP currently does not have a contingency health sector workforce plan to ensure the availability of healthcare workers and other essential roles to address surge needs and maintain essential health service delivery in both routine circumstances and health emergencies.

Requested activity/investment. The MOHSPP will hire expert(s) to help assess the current health sector workforce (i.e., mapping) and design a contingency health sector workforce plan that: (1) address surge needs to prevent, detect, and respond to priority diseases; and (2) enables existing service providers to maintain essential health service delivery during health emergencies.

Expected Results. The MOHSPP has a contingency health sector workforce plan that they can use for functional assessments, training, and responses during health emergencies.

2.6. *Conduct or update annual multisectoral hazard risk assessments that establish what threats are national and subnational priorities, accounting for all biological and non-biological threats that could potentially lead to public health emergencies.*

Current Situation. The MOHSPP is currently providing training programs for epidemiologists in State Sanitary Epidemiological Surveillance Services and other centers for applied epidemiology, infectious disease diagnostic, and AMR laboratory specialists, with support from technical partners (US-CDC for epidemiologists, USAID and WHO for laboratories) to improve workforce capacity in prevention, detection, and response to priority diseases.

Gaps. However, the MOHSPP does not have enough financing to scale up training programs to more health sector workers, as well as veterinary and environmental sector staff, who will need to be equipped with adequate knowledge on field epidemiology and One Health.

Requested activity/investment. The Project will finance FETP courses, including basic, intermediate, and short-term courses, as well as laboratory trainings for practitioners. Specifically, the Project will finance operational costs to help implement such training programs. In addition, the Project will finance the participation of MOHSPP staff in FETP Master's courses for nine staff in Almaty, intermediate-level courses on One Health for 12 staff in Tashkent, and Front line (One Health) courses in Dushanbe for 45 specialists. In addition, 15 laboratory personnels are expected to participate annually in WHO courses on the diagnosis of AMR and other priority infections in the country and abroad.

Expected Results. The MOHSPP will be able to train nine health professionals at Master's level, 12 staff at intermediate FETP level, and 45 staff in field epidemiology for a period of three years. In addition, 15 laboratory staff will be trained in the application of One Health knowledge to core tasks related to prevention, detection, and response to priority diseases.

2.7. *Strengthen response capacity for priority diseases at designated points of entry*

Current Situation. Republic of Tajikistan faces boarders with Afghanistan, China, Kyrgyz Republic, and Uzbekistan and has 34 points of entry across Tajikistan's borders. The MOHSPP is responsible for public health surveillance and health emergency response at points of entry (POEs) to prevent, detect, and respond to communicable diseases. At each POE, border service agents who are stationed at checkpoints provide health services, including infection prevention and control, quarantine suspect cases in the event of an outbreak or importation of infection, reporting of suspect cases to relevant authorities, sample collection for diagnostics at laboratories, and referral of suspect cases to nearby health facilities for case management. The Millati Solim Project, funded by the International Development Association, will support procuring equipment and operational costs for a limited number of POEs.

Gaps. The assessments were conducted to assess capacities to prevent, detect, and respond to infectious diseases at POEs in 2021-22 in collaboration with the Central Asia Region IOM project. The evaluations identified key gaps, including lack of infrastructure and equipment, information technology for data collection and analysis, a warning system, SOPs, communication mechanism with neighboring POEs, bilateral agreements between countries/border health agencies, knowledge on PPE use, medical waste management.

Requested activity/investment. The Project will finance functional assessments to routinely test system capacities at POEs when performing required duties and provide needed training programs to officers at POEs to help improve their capacities in preventing, detecting, and responding to communicable diseases.

Expected Results. POEs will have improved capacities in preventing, detecting, and responding to potential communicable disease threats.

- Activities implemented by the **Committee for Environmental Protection under the Government of the Republic of Tajikistan:**

2.1. Building the capacity of specialists of the Environmental Protection Committee and its

subordinate institutions, conducting trainings and seminars on studying and monitoring wild animals and migratory birds, as well as zoonotic diseases and their transmission chain. 2.1.1. Conducting training events on emergencies involving zoonotic diseases. Organizing training courses for employees of environmental agencies and specialists on monitoring wild animals and migratory birds, as well as zoonotic diseases and their transmission chain. Organizing a special training event in case of an emergency involving an outbreak of zoonotic diseases in risky areas.

2.2. Strengthening the legal framework for regulating zoonotic diseases and developing recommendations and instructions for state inspectors on the rules for handling animals and birds on disease control measures. Improving legislation, developing recommendations and instructions for state inspectors and rangers of protected areas on the rules for handling animals and birds infected with zoonotic diseases.

Component 3: Improving One Health Prevention, Detection, and Response Systems

This component will design and develop or strengthen national and regional laboratory networks to support the implementation of risk-based surveillance and monitoring plans as well as response measures developed under Component 1, initially focusing on enabling implementation of the National One Health Action Plan. Specific activities are listed below by implementing agency and for the two subcomponents (3.1: Laboratory Networks; and 3.2: Surveillance and Control Systems).

- Activities implemented by the **Committee for Food Security under the Government of the Republic of Tajikistan:**

3.1. *Establishment of a single information center for electronic management for receiving and storing primary data of the Committee for Food Security.* The sub-component will provide technical assistance, attract an expert to create an information system for the digitalization of the Committee, train employees, and provide high-speed Internet for 5 years. The creation is planned based on the Committee for Food Security, its subordinate organizations in Dushanbe, Khatlon, Sughd regions, GBAR and DRS, in the National Center for Food Security Diagnostics and 22 Food Safety diagnostic centers in the republic (5 at the national level and 91 at the regional level). The central office of the Committee for Food Security should have a base for collecting information, analyzing and monitoring and timely reporting, and this Center will also serve in the future to collect and manage animal identification.

3.2. *Building, renovation and equipment of laboratories including Jomi, Hissar, Shaartuz and Central Labs (3 laboratories at the regional level Khatlon region and the city of Hissar).* Currently, there is a non-compliance of laboratory buildings with biosafety and biosecurity requirements.

3.3. *Purchasing of 4 mobile laboratories for work in remote areas and in emergency situations based on the National Center for Food Security Diagnostics and its 3 regional structures.* For timely detection and preliminary analysis of pathogenic materials on site, it is necessary to equip laboratory staff and the rapid response team with the necessary express analyzers.

3.4. *Preparation of a National Plan for the establishment of a system for identification, registration and tracking of animals in the Republic of Tajikistan based on the National Center for Food Security Diagnostics (1 at the national level and 4 at the regional level).* Within the framework of the sub-component, it is planned to strengthen the technical base of the Information Center for the CFS and create the basis for digitalization and automation of animal identification.

3.5. *Purchasing the necessary equipment for Centers for the implementation of a system for identification, registration and tracking of animals in the Republic of Tajikistan on the basis of the National Center for Food Security Diagnostics (2 at the national level and 4 at the regional level).* Within the framework of this sub-component, it is planned to strengthen the capacity of the Committee for Food Security, acquire the necessary IT equipment and train staff for the correct registration and tracking of the movement of animals and animal products.

3.6. *Establishment of buffer zones in border areas, especially in the Gorno-Badakhshan Autonomous Region (GBAR) and Khatlon Region (brucellosis), as well as in cities with animals most*

vulnerable to rabies on the basis of the Central Office, subordinate organizations and regional structures. Within the framework of the sub-component, it is planned to conduct oral vaccination of wild carnivores in the wild fauna environment in the territory of border areas; registration, registration and certification of dogs and cats in border areas; compilation of a register (list) of border settlements; improvement of regulatory legal acts (Resolution of the Government of the Republic of Tajikistan "On approval of the Regulations of the Quarantine Strip in the Republic of Tajikistan").

3.7. *Purchasing the necessary equipment and reagents for monitoring residues of veterinary and pharmaceutical drugs, pesticides and pesticides in agricultural products, animal products, feed and food products on the basis of regional structures (6 at the national level and 4 at the regional level).* Determination of antibiotic residues in products of animal origin is important for further monitoring of antibiotic use in livestock and poultry farms.

3.8. *Practical training of laboratory specialists based on accredited laboratories, revision and updating of methods for testing residual quantities of veterinary and pharmaceutical drugs, antimicrobial agents, heavy metal salts, radionuclides based on the National Center for Food Safety Diagnostics (7 at the national level and 4 at the regional level).* It is necessary to update the methodology for analysis and create a new standard operating procedure (SOP) for the analysis of antibiotics, which were carried out according to GOST.

- Activities implemented by the **Ministry of Agriculture of the Republic of Tajikistan:**

3.1. *Improving the material and technical base and equipping laboratories for:*

For the surveillance of immunogenetics for DNA tests DTL for the State Institution "Republican Laboratory of Immunogenetic Control", as well as a set of IT equipment for the development of digitalization and the creation of databases for the State Institution "Republican Laboratory of Immunogenetic Control"

Equipment and reagents for the State Unitary Enterprise "Poultry Farming of the Republic of Tajikistan" and a set of IT equipment for the development of digitalization and the creation of databases for the State Unitary Enterprise "Poultry Farming".

Institute of Biological Safety and Biotechnology Problems of the Tajik Academy of Agricultural Sciences (TAAS) and a set of IT equipment for the development of digitalization and the creation of databases for the TAAS Institute of Biological Safety and Biotechnology Problems.

Laboratory equipment for the TAAS Institute of Veterinary Medicine and a set of IT equipment for the development of digitalization and creation of databases for the TAAS Institute of Veterinary Medicine.

- Activities implemented by the **Ministry of Health and Social Protection of the Population (MOHSPP) of the Republic of Tajikistan:**

3.1. *Strengthen laboratory diagnostics capacity priority diseases (zoonotic diseases, AMR, and food-borne diseases).*

Current Situation. The MOHSPP currently has 68 public health laboratories throughout the country at different levels (e.g., national, provincial, and district). The public health laboratories are mandated to perform confirmatory and reference testing for all laboratories (for both public and private) in the Republic of Tajikistan. Based on the last JEE and the recent outbreak of Mpox in Africa, the MOHSPP has identified 21 priority diseases (i.e., COVID, CCHF, plague, influenza, anthrax, brucellosis, rabies, hepatitis A, B, C, E, polio, leishmaniasis, diphtheria, avian and swine influenza, meningitis, cholera, typhoid fever, salmonella, TB, and HIV) which the public health laboratories should be able to perform needed diagnostics.

Gaps: Laboratory capacity assessments were conducted between 2020-2021, with WHO's support. The assessments highlighted structural challenges and their urgent needs to construct/rehabilitate public health laboratories and equip them with diagnostic equipment, reagents, and supplies for the

public health laboratories to conduct quality diagnostics. However, the MOHSPP does not have adequate financing, and other partners do not currently provide external financing to help improve laboratory infrastructure.

Requested activity/investment. The Project will construct five public health laboratories at regional and district level, specifically in Districts of Republican Subordination and Khatlon (Province). In addition, the Project will finance procurement of goods (e.g., equipment, furniture, reagents, supplies) for the public health laboratories to perform needed diagnostic testing for priority diseases. Both detailed design for laboratory infrastructure and technical specifications for goods are available. Lands for new construction sites belong to the Government of the Republic of Tajikistan and does not require resettlement.

Expected results: The MOHSPP will be able to provide quality diagnostics for priority diseases by improving diagnostic capacity at subnational level.

3.2. *Strengthen surveillance capacity, particularly sample collection and transportation.*

Current Situation. The MOHSPP has established surveillance programs for priority and vaccine-preventable diseases. The surveillance programs start with sample collection at the district level and transportation to regional and central public health laboratories for diagnostics. The MOHSPP has a national guideline for safe sample collection and transportation. All surveillance officers have been trained with national guidelines/SOP.

Gaps. However, the surveillance teams/officers do not have adequate means of traveling from sample collection sites and laboratories due to lack of vehicles.

Requested activity/investment. The Project will purchase 17 vehicles that will be used to transport the samples. The purchased vehicles will be primarily stationed at Sanitary Epidemiological Service offices in select provinces, districts, and cities and used by surveillance and laboratory staff. The MOHSPP will be able to finance operating costs and maintenance of vehicles from their own budgets.

Expected Results. The MOHSPP will be able to improve its capacity in surveillance with faster and safer transportation of samples.

3.3. *Enhance biosafety and biosecurity capacities in laboratories handling priority diseases.*

Current Situation. Public health laboratories in the Republic of Tajikistan handles highlight infectious pathogens that require adequate biosafety and biosecurity capacities in place. The MOHSPP has developed biosafety and biosecurity protocols/guidelines for the public health laboratories to comply with in 2016.

Gaps. However, the MOHSPP does not have a dedicated unit to assess and certify public health laboratories with the biosafety and biosecurity protocols. In addition, the laboratory capacity assessments in 2023 revealed that many public health laboratories do not have adequate infrastructure and staff trained with biosafety and biosecurity protocols.

Requested activity/investment. The Project will hire expert(s) to help the MOHSPP establish SOPs for a dedicated unit to assess and certify the public health laboratories with the national biosafety and biosecurity protocols at laboratories. In addition, the Project will purchase equipment (including biosafety cabinets) to improve structural capacity at the public health laboratories. The Project will also train laboratory specialists on topics related to "Safe environment in microbiological laboratories", "Protecting the health of laboratory personnel", "Registration of emergency situations in laboratories when working with dangerous pathogens", "Readiness of laboratories for certification", and "The importance of certification of biological safety cabinets in practice". The MOHSPP will use existing materials to conduct the above training.

Expected Results. The public health laboratories are compliant with national biosafety and biosecurity protocols to prevent intentional/unintentional incidents at laboratories.

3.4. *Strengthen response capacity for priority diseases at designated points of entry.*

Current Situation. Republic of Tajikistan faces boarders with Afghanistan, China, Kyrgyz Republic, and Republic of Uzbekistan and has 34 points of entry across the Republic of Tajikistan's borders. The MOHSPP is responsible for public health surveillance and health emergency response at POEs to prevent, detect, and respond to communicable diseases. At each POE, border service agents who are stationed at checkpoints provide health services, including infection prevention and control, quarantine suspect cases in the event of an outbreak or importation of infection, reporting of suspect cases to relevant authorities, sample collection for diagnostics at laboratories, and referral of suspect cases to nearby health facilities for case management.

Gaps. POEs do not have designated vehicles to transport suspected or confirmed cases to quarantine/treatment facilities. Currently, MOHSPP uses available vehicles from nearby primary healthcare facilities, when necessary. However, renting cars during health emergencies is not adequate or sustainable to meet the demands.

Requested activity/investment. The Project will purchase five vehicles that will safely transport suspect/confirmed cases from POEs to quarantine/case management facilities. The purchased vehicles will be primarily stationed at POEs and used by Sanitary Epidemiological Services staff. The MOHSPP will be able to finance operating costs and maintenance of vehicles from their own budgets.

Expected Results. The MOHSPP will improve case management capacity to safely handle suspect/confirmed cases in a timely manner.

- Activities implemented by the **Committee for Environmental Protection under the Government of the Republic of Tajikistan:**

  3.1. Establishment of quarantine enclosures for the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection for wild animals and birds – 3.1.1. Establishment of 10 quarantine enclosures; 3.1.2. Establishment of veterinary points in 10 institutions of the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection, purchase of medicines and vaccines for wild animals, establishment of a cold chain. The location of the planned activities within the framework of this sub-component is expected to be on the territory of Sughd, Khatlon, GBAR, DRS and Dushanbe. The establishment of specialized enclosures and quarantine points in 10 specially protected areas will allow for the timely identification, treatment and rehabilitation of wild animals infected with zoonotic diseases.

  3.2. Purchase of special transport for detection and delivery of carcasses of wild animals and birds to veterinary laboratories for examination in the territory of Sughd, Khatlon, GBAR, DRS, Dushanbe. 3.2.1. Purchase of special transport for delivery of carcasses of wild animals for 10 State Protected Areas, purchase of vehicle boxes and mobile refrigeration chambers. Technical equipment of 10 specially protected natural areas (with transport vehicles and mobile refrigeration chambers) for timely delivery of animal carcasses to specialized laboratories to determine zoonotic diseases.

  3.3. Development of mechanisms for regulation, monitoring and control of medical waste (syringes, vaccines, veterinary, medical waste, burial grounds for cattle) to preserve the environment. Within the framework of this sub-component, it is planned to conduct trainings and create guidelines for the Ministry and department of the Republic of Tajikistan in the territory of Sughd, Khatlon, GBAR, DRS, and Dushanbe. It is planned to improve regulatory and legal acts on monitoring and control over medical waste, vaccines and burial grounds for eliminating threats to the environment and human health.

Component 4: Project Management, M&E, and Learning. Component 4 will support project management, M&E and activities related to enhancing learning from this project. Project management and M&E will be implemented by the Project Management Unit (PMU).

Environmental impacts are anticipated primarily in Project Components 2 and 3, where civil works are included in the activities. Social impacts will be addressed throughout the entire project. Component 1 focuses entirely on capacity building and awareness-raising programs.

Table 1 outlines the main project activities of Components 2 and 3 that may have potential environmental and social impacts.

Table 1: List of the project activities that may have social and environmental impacts

Component	Activities
Component 2	**Committee for Food Security under the Government of the Republic of Tajikistan:** Establishment of the National Training and Resource Center for specialists of all levels of the Food Security Committee, the National Center for Food Security Diagnostics and its regional centers, as well as employees of the Institute of Veterinary Science of the Academy of Agricultural Sciences of the Republic of Tajikistan - construction of partially completed building in Dushanbe city
Component 3	**Committee for Food Security under the Government of the Republic of Tajikistan**
	Building, renovation and equipment of laboratories including Jomi, Hissar, Shaartuz and Central Labs (3 laboratories at the regional level Khatlon region and the city of Hissar). Currently, there is a non-compliance of laboratory buildings with biosafety and biosecurity requirements.
	Purchasing of 4 mobile laboratories for work in remote areas and in emergency situations based on the National Center for Food Security Diagnostics and its 3 regional structures.
	Establishment of buffer zones in border areas, especially in the Gorno-Badakhshan Autonomous Region (GBAR) and Khatlon Region (brucellosis), as well as in cities with animals most vulnerable to rabies on the basis of the Central Office, subordinate organizations and regional structures. Creation on map with buffer zones
	Ministry of Health and Social Protection of the Population (MOHSPP) of the Republic of Tajikistan
	The Project will construct five public health laboratories at regional and district level, specifically in Districts of Republican Subordination (DRS) and Khatlon (Province). In addition, the Project will finance procurement of goods (e.g., equipment, furniture, reagents, supplies) for the public health laboratories to perform needed diagnostic testing for the priority diseases. Both detailed design for laboratory infrastructure and technical specifications for goods are available. Lands for new construction sites belong to the Government of the Republic of Tajikistan and does not require resettlement.
	Committee for Environmental Protection under the Government of the Republic of Tajikistan
	Establishment of quarantine enclosures for the State Institution "Specially Protected Natural Areas" (SPNA) under the Committee on Environmental Protection for wild animals and birds: • Establishment of 10 quarantine enclosures (on the territory of SPNA); • Establishment of veterinary points in 10 institutions of the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection, purchase of medicines and vaccines for wild animals, establishment of a cold chain.
	Purchase of special transport for detection and delivery of carcasses of wild animals and birds to veterinary laboratories for examination in the territory of Sughd, Khatlon, GBAR, DRS, Dushanbe. Purchase of special transport for delivery of carcasses of wild animals for 10 State Protected Areas, purchase of vehicle boxes and mobile refrigeration chambers.

3. LEGAL AND REGULATORY COMPLIANCE CONSIDERATION

3.1. Tajikistan National Regulatory Framework

3.1.1. Institutional Framework for Environmental Assessment

Committee for Environmental Protection under the Government of Republic of Tajikistan[9] 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.

Sector of Specially Protected Natural Areas. The State Institution "Specially Protected Natural Areas" was established by the Resolution of the former Council of Ministers of the Republic of Tajikistan in accordance with No. 267 of July 20, 1992 in order to ensure the stability of the biological balance of nature, the protection of rare species of flora and fauna, specific natural ecosystems, biological monitoring, ecotourism, mountaineering and the implementation of research work on the analysis and assessment of processes.

In accordance with the Decree of the Government of the Republic of Tajikistan dated March 30, 2020, No. 195, the State Institution "Specially Protected Natural Areas" was transferred from the jurisdiction of the Forestry Agency under the Government of the Republic of Tajikistan to the jurisdiction of the Environmental Protection Committee under the Government of the Republic of Tajikistan.

There are 5 main departments of environmental protection under the Sector of Specially Protected Natural Areas:

- Main Department of Environmental Protection of the Gorno-Badakhshan Autonomous Region
- Main Department of Environmental Protection of the Sughd Region
- Main Department of Environmental Protection of the Khatlon Region
- Main Department of Environmental Protection of the Dushanbe city
- Main Department of Environmental Protection of the Areas of Republican Subordination.

Ministry of Agriculture of the Republic of Tajikistan[10] is the central executive authority responsible for the development and implementation of a unified state policy in the field of agriculture. The Ministry performs the tasks as follows: development and implementation of a unified state policy in the field of agriculture, including in the field of crop production, animal husbandry and other branches of agricultural production; development of draft legislative and other regulatory legal acts, standards, regulations, instructions, norms, necessary regulations on agriculture; development of proposals for the development of breeding work, seed production in the fields of plant and animal husbandry, fishing and beekeeping, plant protection, the use of pesticides and other pesticides in the fight against agricultural pests, mechanization, ensuring the growth of agricultural production, including cotton, the development of agricultural infrastructure; within its competence, coordination and fulfillment of obligations assumed by the Republic of Tajikistan under international conventions and international treaties and agreements; and others.

The State Veterinary Supervision Service[11] is an authorized veterinary body under the Ministry of Agriculture of the Republic of Tajikistan. The main powers of the Service are the development and approval of standards, regulations, instructions and recommendations on veterinary issues; protection of the territory of the republic from the introduction of pathogens of quarantine animal diseases; determination of the procedure for conducting veterinary and sanitary examinations, certification of products and raw materials of animal origin, biological agents and veterinary drugs; control of the veterinary and sanitary

[9] http://tajnature.tj
[10] https://moa.tj/
[11] https://moa.tj/vazorat/33-nashai-idorakun.html

condition of animal trade points; control over import, export - production, use, processing, storage, purchase and sale, transit of products and raw materials of animal origin; etc[12].

State veterinary control at checkpoints across the state border of the Republic of Tajikistan and protection of the territory of the Republic of Tajikistan from the import of infectious and other animal diseases from foreign countries are carried out by:

- **The Main Veterinary Department** of the Ministry of Agriculture of the Republic of Tajikistan;
- **The Department of State Veterinary Supervision** at the state border, transport and airports with its subdivisions - border veterinary control points and posts;
- **The Republican Epizootic Expedition**;
- **The Tajik Research Veterinary Institute, the Central Asian Research Foot-and-Mouth Disease Institute**, the republican, regional and district (border) veterinary laboratories[13].

The Committee for Food Security under the Government of the Republic of Tajikistan[14] is the central executive body of the government which is carrying out the special executive, controlling, allowing and other functions established in the field of veterinary science, phytosanitation and quarantine of plants, protection of plants, seed farming and breeding case. The Committee was created based on 4 organizations of the Ministry of Agriculture of the Republic of Tajikistan: State Veterinary Supervision Service; State Phytosanitary Supervision and Plant Quarantine Service; State Breeding Supervision Service; State Seed Supervision Inspectorate.

Ministry of Health and Social Protection of the Population of the Republic of Tajikistan [15] is the central executive body of the Republic of Tajikistan responsible for the development and implementation of a unified state policy and regulation of legal norms in health and social protection sector of the population. The Ministry develops and implements state policy in healthcare, regulatory and legal regulation in the field of healthcare, insurance medicine, circulation of medicines and medical products, sanitary and epidemiological well-being of the population, conducting medical examinations, organizing medical and pharmaceutical education.

The State Sanitary and Epidemiological Surveillance Service under the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan[16] is a state executive body authorized to implement state supervision in the field of ensuring sanitary and epidemiological safety of the population of the Republic of Tajikistan. The Service carries out the following activities: state sanitary and epidemiological supervision of compliance with sanitary legislation; participates in the development of draft laws and other regulatory legal acts of the Republic of Tajikistan in the field of health protection, social protection and ensuring sanitary and epidemiological safety of the population; carries out social and hygienic monitoring; participates in the elimination of epidemics, accidents, natural disasters, and other emergency situations dangerous to human life and health; and other activities aimed at ensuring sanitary and epidemiological well-being in the country[17].

Agency for Hydrometeorology of the Committee for Environmental Protection under the Government of the Republic of Tajikistan[18] implements a unified state policy, controls and monitors environmental pollution, actively influences meteorological and other geophysical processes in the field of hydrometeorology[19], and carries out activities in the field of meteorology, climatology, hydrology, glaciology, agrometeorology, environmental pollution monitoring and the provision of information on the state of the environment.

[12] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=7877
[13] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=3288
[14] https://cis-legislation.com/document.fwx?rgn=103497
[15] https://moh.tj/en/
[16] https://moh.tj/ru/shema-upravleniya/
[17] http://portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=7896
[18] https://www.meteo.tj/en
[19] http://portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=17616

The Main Department of Geology under the Government of the Republic of Tajikistan[20] is the central executive body that carries out state policy and carries out management and coordination of work in the field of geological study of subsoil, rational use, reproduction of mineral resources, as well as the State Geological Information about the subsoil of the Republic of Tajikistan.

3.1.2. National Environmental Assessment Requirements

There are 3 laws in the country that stipulate all aspects of the EA:

1) Law on Environment Protection;

2) Law on Ecological Expertise;

3) Law on the Environmental Impact Assessment.

The mentioned laws stipulate the mandatory cross-sectoral nature of State Ecological Expertise (SEE), which should be scientifically justified, comprehensive, and objective and which should lead to conclusions in accordance with the law.

SEE precedes decision-making about activities that may have a negative impact on the environment. Financing of programs and projects is allowed only after a positive SEE finding, or conclusion, has been issued.

The *Law on State Environmental Expertise* includes provisions about the process of Environmental Impact Assessment (EIA) in the Republic of 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, considering the legislative and regulatory framework of the Republic of Tajikistan.

A list of activities for which the Environmental Impact Assessment is mandatory provided in *Appendix 1* to the *Resolution No. 532 on the Procedure for Environmental Impact Assessment (EIA) of the Government of the Republic of Tajikistan dated November 1, 2018*[21]. This List contains 180 types of activities, grouped according to four environmental impact categories (from (A) "high risk" to (G) "local impact").

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 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

[20] https://www.adlia.tj/show_doc.fwx?rgn=10673
[21] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=21481#A5C70W6SRT

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 a 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 project implementation.

The *Law on Environmental Impact Assessment of the Republic of Tajikistan (2017)* 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 the Republic of 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", "V" and "G".

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;

V. 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 "V" category facilities;

G. Facilities that have a minor negative impact on the environment and under condition of insignificant emissions and discharges are classified as category “G” facilities.

An environmental expertise for categories “A”, “B”, “V” facilities shall be assigned to the national authorized body, and the assessment for category “G” 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.

Criteria determining the hazard categories of planned activity facilities for the environment. According to *Appendix 3 to the Resolution of the Government of the Republic of Tajikistan dated November 1, 2018, No. 532*, all facilities that have a negative impact on the environment, depending on the level of such impact in accordance with paragraph 1 of Article 12 of the Law of the Republic of Tajikistan "On Environmental Impact Assessment" are divided into 4 categories as mentioned above.

The division of objects into categories is aimed at solving a number of problems, including increasing the level of control over hazardous production facilities and, conversely, reducing the level of control over objects that have a minimal negative impact on the environment, reducing unjustified economic costs of enterprises, reducing the burden on regulatory authorities, etc.

Assignment of the appropriate category to an object that has a negative impact on the environment is carried out when it is registered with the state register of objects that have a negative impact on the environment. The category of the object can be changed when updating the accounting information about the object that has a negative impact on the environment. The degree of danger of the planned activity objects for the environment is determined by the below listed criteria for the emergence of the risk of impact on the environment when classifying the planned economic activity objects as a hazard class:

- by the area of the impact zone;
- impact on specially protected areas;
- especially hazardous production;
- intensity of impact (input of pollutants per unit of time);
- specific impact power (input of pollutants per unit of area);
- frequency of impact in time (discrete, continuous, one-time impact);
- duration of impact (year, month, etc.);
- spatial boundaries of impact (depth, size and shape of the impact zone).

The main indicators for determining the category:

- analysis and environmental characteristics of design solutions in the context of the existing environmental situation in the territory under consideration;
- information on the state of the environment in the area of the proposed implementation of the planned activity;
- restrictions on nature management;
- standardization of the projected anthropogenic and technogenic load.

When establishing criteria, the following shall be taken into account:

- levels of environmental impact of types of economic and (or) other activities (industry, part of the industry, production);
- level of toxicity, carcinogenic and mutagenic properties of pollutants contained in emissions, discharges of pollutants, as well as hazard classes of production and consumption waste;
- classification of industrial facilities and production facilities.

Criteria for assessing the impact of the state of atmospheric air, aquatic environment and waste:

- values of background concentrations of pollutants in the atmospheric air and in the aquatic environment;
- development prospects of the enterprise, adjacent residential area and industrial zone;
- location of existing residential areas, sanatoriums, recreation areas of the city;
- location of industrial sites;
- physical, geographical and climatic features of the area;
- inventory of pollution sources at the designed facilities.

EA administrative framework. The Environmental Protection Law states that a SEE should be conducted by the CEP, which is designated as a duly authorized state environmental protection body. It has a comprehensive mandate that includes policy formulation and inspection duties. The CEP has divisions at oblast (region), city and rayon (district) level, in the form of Departments of Environmental Protection (DEPs), within the Hukumat (local administration) at each city or rayon. A small unit in the ministry is entrusted with guiding and managing both EIA and SEE. EIA preparation is the responsibility of the proponents of public- and private-sector projects, who, in addition to complying with various environmental standards, procedures, and norms, shall meet the standards of other sectors and environmental media line agencies, such as sanitary-epidemiological, geological, water, etc.

Public participation. Article 12 of the Environment Protection Law proclaims the right of citizens to live in a favorable environment and to be protected from negative environmental impacts. Citizens also have the right to environmental information (Article 13), as well as to participate in developing, adopting, and implementing decisions related to environmental impacts (Article 13). The latter is assured by public discussion of drafts of environmentally important decisions and public ecological reviews. Public representative bodies have an obligation to take into consideration citizens' comments and suggestions. The public has the right to request public hearings to be carried out. For category "A" and "B" projects, the authorized state body should develop a stakeholder engagement plan with the possibility of conducting consultations and taking into account the opinions of citizens.

In the Republic of Tajikistan disagreements are resolved through Jamoats' (Hukumats') grievance mechanism or appeal to court. A grievance redress mechanism (GRM) capable of receiving and facilitating the resolution of affected persons' concerns and grievances related to the project is required as a formalized way for the PMU to identify and resolve concerns and grievances.

Environmental norms and standards. Norms are set for air and water pollution, noise, vibration, magnetic fields and other physical factors, as well as residual traces of chemicals and biologically harmful microbes in food. The exceeding of their thresholds results in administrative action, including financial sanctions. Several ministries determine environmental quality standards, each in its field of responsibility.

3.1.3. National Environmental, Agriculture and Health Requirements

Environmental legislation in the Republic of Tajikistan includes the Constitution, Codes and laws on environmental management.

Law on Environmental Protection (2011; last amended in 2022) defines the state principles of environmental protection and sustainable social and economic development, guarantees of human rights for healthy and friendly environment, law enforcement strengthening, prevention of negative impact of business and other operations on the environment, management of rational use of nature resource and securing environmental safety. Chapter 6 requires an Environmental Impact Assessment and Chapter 7 specifies requirements for the location, design, construction, reconstruction and commissioning of enterprises, buildings, and other facilities.

Law on Environmental Monitoring (2011, last amended 2014) defines the organizational, legal, economic and social bases for ensuring environmental monitoring in the Republic of Tajikistan and regulates relations

between state authorities, self-government bodies of settlements and villages, public associations and citizens in this area.

Law on Environmental Information (2011) defines the legal, organizational, economic, and social basis for providing environmental information in the Republic of Tajikistan, promotes the right of legal entities to receive complete, reliable and timely environmental information, and regulates relations in this area.

Land Code of the Republic of Tajikistan (1996, last amended 2022) - Land legislation governs the relations of land use and protection, land use and property relations, which arise from getting (acquisition) or conveying land use rights.

Law on Protection and Use of Flora (2004, last amended in 2008) establishes the state policy on the protection and efficient use of plants; defines legal, economic, and social principles governing the preservation and reproduction of plants.

Law on Conservation and Usage of Historical and Cultural Heritage (2006, last amended 2017) provides the legal framework for conservation and use of historical and cultural heritage objects in the Republic of Tajikistan as being national property of the people.

Law on Soil Conservation (2009, last amended 2024) defines main principles of state policy, legal framework of public authorities, individual and legal entities for the efficient and safe use of soils, preservation of quality, fertility and soil protection from negative impacts and regulates the variety of relationship related to soil protection.

Water Code (2000 Code was replaced by 2020) - The aims of the Water Code are: (i) protection of state water fund and state water fund lands for the improvement of the population's social condition and environment; (ii) water pollution control, impurity, depletion, prevention, and control of water adverse effects; (iii) enhancement and protection of water objects; (iv) strengthening legality and rights protection of individuals and legal entities in the water management field.

Law on Protection of Atmospheric Air (1995, amended in 2012) regulates the relations of individuals and legal entities, irrespective of ownership form, with the aim of conservation, rehabilitation of atmospheric air, and securing environmental safety.

Law on Production and Consumption of Waste (2002, last amended in 2011) regulates the relations arising from the process of waste generation, collection, storage, utilization, transport, and deactivation and landfilling of wastes and state management, supervision and control of waste management. It aims to prevent the negative impact of production and consumption wastes on the environment and human health, and when handling these, their involvement in economic and production turnover as an additional stock source.

Protection of Population and Territories from Natural and human-made Emergencies (2004) defines the organizational and legal framework for the protection of the population and persons without citizenship in the territory of the Republic of Tajikistan, as well as the lands, interiors, water, airspace, animals and plants, and other natural resources of the Republic of Tajikistan; objects of industrial and social purpose; and environment from natural and man-made emergencies. It regulates public relations on prevention, occurrence and development of emergencies, reduction of damages and losses, elimination of emergency situations and timely notification of populations in danger zones during natural and man-made emergencies.

Public Health Code (2017, last amended in 2024). The Code regulates public health relations and aims to implement constitutional rights and health protection of citizens. Chapter 17 of the Code secures sanitary and epidemiological safety.

Medical insurance in the Republic of Tajikistan (2008, last amended in 2023) defines the legal, social, organizational and financial bases of compulsory and voluntary medical insurance of citizens in the Republic of Tajikistan.

Medicine, medical products, and pharmaceutical activities (2003 Law was replaced by 2022) regulates public relations in the field of public administration of circulation, quality control, provision of medicines,

medical products and parapharmaceuticals and defines the rights and obligations of pharmaceutical entities, principles, powers, the process of development, provision of information in this area.

The National Guide on Prevention of Infections in Medical Institutions was also approved by the Ministry of Health (2014). This document includes key provisions on prevention of infections in medical institutions, covering modern evidence-based information and CDC recommendations, and it is aimed at improving the quality of services in medical institutions in the country.

Sanitarian Rules on Safe Handling of Healthcare Waste set the sanitary and epidemiological requirements and norms for the healthcare facilities generating medical wastes, as well as the organizations engaged in transportation, disposal and treatment of healthcare waste. It describes the healthcare waste classification, segregated collection methods, temporary storage and removal of medical wastes at the healthcare facilities, as well as sanitary and epidemiological requirements on off-site medical waste management. The implementation of these sanitary rules is controlled by the subdivisions and bodies of the State Sanitary and Epidemiological Service of the Republic of Tajikistan and the State Service on State Control of Medical Activities and Social Protection of Population.

Specially protected natural Areas in Republic of Tajikistan

The Law of the Republic of Tajikistan "On specially protected natural areas" (as amended by the Law of the Republic of Tajikistan dated 27.11.2014 No. 1159, dated 22.06.2023 No. 1975) defines the legal, organizational and economic foundations of specially protected natural areas, establishes their objectives, operating mode and zoning.

In accordance with Article 3 on the categories of specially protected natural areas, depending on the purposes of creation, features of the protection regime and use, the following categories of specially protected natural areas are established:

- state nature reserves;
- state nature parks;
- nature reserves;
- state zoological parks;
- state natural monuments;
- ecological and ethnographic zones;
- dendrological parks and botanical gardens;
- natural health and recreational areas (as amended by the Law of the Republic of Tajikistan dated 22.06.2023 No. 1975).

Considering the ecological value, specially protected natural areas may have international, republican and local significance.

The management of specially protected natural areas is carried out by the Government of the Republic of Tajikistan, the authorized state body in the field of specially protected natural areas, local government bodies, ministries, departments and organizations in whose jurisdiction these areas are located. State control over the condition and compliance with the regime of specially protected natural areas is carried out by the authorized state body.

The *Committee for Environmental Protection under the Government of the Republic of Tajikistan*[22] (with the right of the Service) is the central executive body of the Republic of Tajikistan, participates in the implementation of a unified state policy in the field of environmental protection, specially protected natural areas, hydrometeorology, rational use of natural resources and carries out state control over

[22] http://tajnature.tj

environmental protection and nature management (as amended by the Government of the Republic of Tajikistan Resolution of 03.03.2014 No. 162, of 30.03.2020 No. 195).

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, and coordinates its activities with other ministries and departments, local executive bodies of the state power, public and other organizations.

The *State Institution "Specially Protected Natural Areas"* was established by the Resolution of the former Council of Ministers of the Republic of Tajikistan in accordance with No. 267 of July 20, 1992 in order to ensure the stability of the biological balance of nature, the protection of rare species of flora and fauna, specific natural ecosystems, biological monitoring, ecotourism, mountaineering and the implementation of research work on the analysis and assessment of processes.

In accordance with the Decree of the Government of the Republic of Tajikistan dated March 30, 2020, No. 195, the State Institution "Specially Protected Natural Areas" was transferred from the jurisdiction of the Forestry Agency under the Government of the Republic of Tajikistan to the jurisdiction of the Environmental Protection Committee under the Government of the Republic of Tajikistan.

There are 5 main departments of environmental protection under the *Sector of Specially Protected Natural Areas*:

- Main Department of Environmental Protection of the Gorno-Badakhshan Autonomous Region
- Main Department of Environmental Protection of the Sughd Region
- Main Department of Environmental Protection of the Khatlon Region
- Main Department of Environmental Protection of the Dushanbe city
- Main Department of Environmental Protection of the Areas of Republican Subordination.

The Natural Protected Areas of Tajikistan listed by regions is presented below:

#	Name of region of RT	Name of Natural Protected Area
1	Sughd	Sayvotinsky Reserve (botanical)
		Daray "Sabz" Reserve (botanical)
		Zeravshansky Reserve (complex)
		Iskanderkulsky Reserve (complex)
		Aktashsky Reserve (complex)
		Yagnobsky National Park
2	Khatlon	Tigrovaya Balka State Nature Reserve
		Dashti Jum State Nature Reserve
		Dashti Jum Wildlife Reserve (zoological)
		Nurek Wildlife Reserve (complex)
		Childukhtaron Wildlife Reserve (complex)
		Karatau Wildlife Reserve (complex)
		Sari-Khosor National Nature Park
3	Gorno-Badakhshan Autonomous Region (GBAR)	Zorkul State Nature Reserve
		Muzkol Wildlife Reserve (complex)

#	Name of region of RT	Name of Natural Protected Area
		Tajik National Park
4	Districts of Republican Subordination (DRS) – 13 DRSs	Ramit State Nature Reserve
		Komarou Wildlife Reserve (zoological)
		Sangvor Wildlife Reserve (complex)
		Shirkent Historical and Natural Park

The state cadastre of specially protected natural areas is maintained for the purpose of assessing the state of the natural fund, reserves, determining development prospects and ensuring their protection, conducting scientific research, state control over the preservation of the gene pool and compliance with the relevant regime, as well as taking these territories into account when planning socio-economic development and the placement of productive forces in the region (as amended by the Law of the Republic of Tajikistan dated 22.06.2023 No. 1975).

The state cadastre of specially protected natural areas is maintained according to a unified system developed by the authorized state body with the participation of other interested departments. The procedure for maintaining the State cadastre of specially protected natural areas is established by the Government of the Republic of Tajikistan.

Specially protected natural areas are created by decisions of the Government of the Republic of Tajikistan and local government bodies at the suggestion of the authorized state body in accordance with this Law and other regulatory legal acts of the Republic of Tajikistan.

In case of necessity to prevent or mitigate harmful impacts on natural complexes of specially protected natural areas, *protected (buffer) zones* with limited economic activity may be established around these areas. In protected (buffer) zones, types of economic activity and nature management that have a negative impact on specially protected natural areas are prohibited. The sizes of protected (buffer) zones and their regime are established by the authorized state body.

Ecological corridors are formed to ensure spatial connections between specially protected and other protected natural areas of the ecological system in order to preserve objects of the natural reserve fund, biological diversity, protect natural migration routes of animals and the distribution of plants living and growing in these protected natural areas (as amended by the Law of the Republic of Tajikistan dated 22.06.2023 No. 1975). A regulated land use regime is established on the sections of ecological corridors to ensure the safety of wild animals in their temporary habitats and places of migration, as well as the safety of wild plant habitats. The boundaries, area and protection regime of ecological corridors are determined by local government bodies jointly with the authorized government body.

The lands of specially protected natural areas belong to the category of lands of the state forest fund and environmental, health, recreational and historical and cultural purposes. Activities that contradict their intended purpose are prohibited on the lands of specially protected natural areas.

Specially protected natural areas, except for areas with a strict protection regime, are generally *accessible and are used by citizens for recreational, health, cultural purposes and for ecotourism purposes*.

Historically established residence of the local population at a low density in specially protected natural areas is permitted, except for areas with strict protection, subject to the preservation of the ecological balance of this area.

Ecotourism is carried out at a set time, along pre-established routes in accordance with the rules for visiting specially protected natural areas determined by the authorized state body.

Regime of state nature reserves. On the territory of state nature reserves, economic and other activities that disrupt the natural development of natural processes, threaten the state of natural complexes and objects, and are not related to the implementation of the tasks assigned to the reserve are prohibited.

In state nature reserves it is permitted (as amended by the *Law of the Republic of Tajikistan dated 22.06.2023 No. 1975*):

- carrying out measures to preserve, restore and prevent changes in natural complexes as a result of anthropogenic impact, as well as to perform scientific research tasks assigned to the reserve;
- carrying out fire-fighting and sanitary measures, as well as other types of limited economic activities and nature management necessary to perform the tasks of the state reserve.

The presence of citizens on the territory of state nature reserves, except for reserve employees and persons exercising state control, is permitted only with the permission of the reserve administration.

Construction of new economic facilities and other activities in the territories adjacent to state nature reserves that pose a threat to the reserve regime, leading to an increase in background concentrations of pollutants or a change in the hydrological regime within the reserves, are carried out only in agreement with the authorized state body.

Regime of national natural parks. On the territory of national natural parks, in accordance with the zoning of their territory and considering the state of natural complexes and objects, their recreational opportunities, a differentiated regime of protection and use is established.

The territories of national natural parks are divided into the following zones:

- a protected zone - a zone in which a regime is provided for prohibiting any economic and other activities that violate the natural state of natural complexes and objects;
- a reserved zone - a zone whose regime provides for economic and other activities in certain seasons, for a certain period to the extent that does not threaten the state of natural complexes and does not impair their natural development. In the reserved zone, it is permitted to create conditions for short-term recreation for citizens by constructing paths, small shelters and observation points;
- an economic activity zone - a zone in which limited use of natural resources is provided, as well as land use that does not harm protected natural objects and complexes.

The following *activities are prohibited on the territory of national natural parks*:

- cutting of trees and shrubs, with the exception of sanitary felling and felling for care purposes;
- activities of enterprises that pose an environmental hazard;
- placing living organisms for the purpose of acclimatization.
- burial of all types of waste.

The provisions of national natural parks may prohibit or restrict other types of activities that entail a decrease in the natural, scientific, aesthetic and cultural value of their territory.

Construction of highways, pipelines, power lines and other communications not related to the activities of national natural parks is carried out only with the permission of the Government of the Republic of Tajikistan and in agreement with the authorized state body.

Regime of state nature preserves. Nature preserves can be state and private. State nature preserves can be of national and local significance. Private nature preserves have only local significance.

On the territory of state nature preserves, any activities that contradict the objectives of the preserves are prohibited or restricted. Specific objectives and features of the regime of each state nature preserve are determined by its regulations. Enterprises, institutions and organizations on whose lands a state nature preserve has been created are required to comply with the regime established in the preserve.

The regime of private nature preserves is determined by their regulations, approved by local government bodies in agreement with the local structure of the authorized government body. The regime of a private nature preserve must provide for the protection and restoration of flora and fauna, natural complexes, as

well as the creation of conditions for their study. The placement and distribution of alien species of flora and fauna on the territory of preserves is prohibited.

Regime of state zoological parks. State zoological parks are used for scientific, cultural and educational purposes. Scientific research on the maintenance and breeding of animals in captivity or semi-free conditions is conducted in state zoological parks.

State zoological parks may create funds, museums, libraries and archives, publish scientific, popular science and other literature related to their activities, and also provide the population with paid services in the field of veterinary medicine, work on selection and breeding of pedigree animals.

In state zoological parks, in accordance with the profile of these institutions, subsidiary farms, workshops, pet stores and other facilities necessary for their economic activities may be created.

Regime of state natural monuments and ecological-ethnographic zones. Any activity that threatens the safety of state natural monuments, as well as in relation to the monuments themselves, is prohibited on the territory of state natural monuments.

Individuals and legal entities using land plots on which state natural monuments are located are obliged to ensure their protection. The body that made the decision to declare a natural object a state natural monument transfers it under protection, issues a protection obligation and a passport, which determines the protection regime of the natural monument (as amended by the Law of the Republic of Tajikistan dated 22.06.2023 No. 1975).

Economic activity within the ecological-ethnographic zone must exclude activities that lead to the destruction of the habitat of residents and its biological resources. In places of permanent residence of residents of ecological-ethnographic zones, only traditional limited economic activity is allowed (as amended by the Law of the Republic of Tajikistan dated 22.06.2023 No. 1975).

3.1.4. National Medical Waste Management System

The MOHSPP in Tajikistan recognizes the importance of HCWM and emphasizes that the practice of medical waste management is aimed at implementing the environmentally sound management of hazardous waste, as well as the implementation of the best environmental practices and best available technologies in accordance with the Basel and Stockholm conventions and relevant national regulations and requirements.

The Republic of Tajikistan has signed various international conventions related to the management of medical waste, such as the Rotterdam, Vienna and Stockholm conventions, as well as the agreement on the transport of hazardous waste. "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal".

In 2021, the "Health Protection Strategy of the Republic of Tajikistan until 2030" was developed. It defines the strategic directions for the reform of the health sector, further ways of developing the health sector to protect the health of the population and establishes the national priorities of the country, reflected in the Constitution, the National Development Strategy.

The strategy defines the strategic / program goals and objectives. Effective healthcare management is defined as one of the strategic goals. The Public Health and Healthy Lifestyle Development strategy focuses on disease prevention, health promotion and longevity, and defines specific goals and activities to achieve these goals. One of the goals is to “strengthen the leadership and training role of the Ministry of Health and Social Protection in improving health and waste management in healthcare facilities, both in the healthcare sector and abroad.

To achieve this goal, the following waste management activities are planned:

Development of epidemiological surveillance standards for effective waste management in health care facilities in line with WHO guidelines. It is important to note that in this context, in 2021, with the participation of WHO experts, the “Sanitary norms and rules for the collection, neutralization, transportation, storage and disposal of waste in medical institutions” were developed and by order of the

Ministry of Health and Social Protection of the Republic of Tajikistan dated May 14, 2021, No. 410. The Ministry approved this document as “as (“SanPiN 190.010.090 - Sanitary norms and rules for the collection, neutralization, transportation, storage and disposal of waste in medical institutions").

This SanPiN was developed considering international requirements and principles established in the direction of medical waste management. Currently in the Republic of Tajikistan SanPiN 190.010.090 defines the rules for the collection, neutralization, transportation, storage and disposal of all types of medical waste in medical institutions. More detailed information on medical wastes management in Tajikistan is provided in **Appendix 6**: Medical Waste Management Procedure in Tajikistan (SanPiN 190.010.090)**.**

3.1.5. National Social Requirements

The Public Health Code (2017, last amended in 2024) governs the public relations in the field of health care and is directed to realization of constitutional rights of citizens and health protection. The Code includes sections on responsibilities of the healthcare system and sanitary and epidemiological protection. **Law on Targeted Social Assistance** (2017) provides a legal, financial and institutional basis for targeted social assistance delivery to low-income citizens (households). Article 4 of the Law underlines the accessibility of the targeted social assistance to vulnerable households. Article 10 describes the targeted social assistance application forms and assignment procedures. Article 11 identifies two forms of the targeted social assistance, including monetary aid and in-kind support (food products, cloths, medicine etc.)

Law on Occupational Safety at Hazardous Production Facilities (2004, last amended in 2020) regulates the legal, economic and social basis for the safe operation of hazardous production facilities and is aimed at preventing accidents and accidents at hazardous production facilities and ensuring the readiness of organizations operating hazardous production facilities to localize and eliminate the consequences of these accidents, guaranteed compensation for losses caused by accidents to natural and legal persons, the environment and the state.

Law on State Social Insurance of the Republic of Tajikistan (1997, last amended in 2021) defines the legal, economic and organizational foundations of state social insurance for citizens and does not apply to voluntary social insurance.

Law on protection and use of historical and cultural heritage of the Republic of Tajikistan (2006, 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, last amended in 2024) 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 considered by the project-based Grievance mechanism.

Law on Physical and Legal Entity Addresses of the Republic of Tajikistan 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 30 days from the date of receipt.

Law on Local Public Authorities of Republic of Tajikistan (2004, last amended in 2022) 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. Public assemblies are allowed only if the local authority (district hukumat) is notified in advance.

Civil Code of Republic of Tajikistan (1999 Code replaced by 2022) 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, last amended in 2022) 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.

According to the **Law on Public Associations of the Republic of Tajikistan** (2007, last amended in 2021), 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 Meetings, Marches and Rallies of the Republic of Tajikistan (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 the organizer of a mass gathering must obtain permission from a local administration fifteen days prior to organizing a mass gathering.

3.2. International Regulatory Framework

3.2.1. World Bank Group's Environment, Health and Safety Guidelines

In this project, the following EHS Guidelines have been considered:

- *General Environmental, Health and Safety Guidelines (EHSGs) (2007)* – (i) provides prevention and control measures for each source of pollution applicable to this type of industry Environmental

Monitoring Programs; and (ii) provides occupational health and safety sources of threats, prevention and control measures and monitoring;

- *WBG Environmental, Health, and Safety Guidelines for Healthcare Facilities (April 30, 2007)* include information relevant to the management of EHS issues associated with health care facilities (HCF) which includes a diverse range of facilities and activities involving general hospitals and small inpatient primary care hospitals, as well as outpatient, assisted living, and hospice facilities.
- *World Health Organization, Fourth Edition: Laboratory Biosafety Manual, 2020*[23]*,*
- *World Health Organization, Decontamination and Waste Management Monograph*[24]*, 2020;*
- *World Health Organization, Laboratory Design and Maintenance, 2020.*
- *World Health Organization Guidance on regulations for the transport of infectious substances 2021-2022*. The document provides information for classifying, identifying, packaging, marking, labelling, documenting and refrigerating infectious substances for transportation and ensuring their safe delivery[25].

3.2.2. World Bank Environmental and Social Framework

The World Bank Environmental and Social Framework (WB ESF) sets out the World Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity. In August 2016, the World Bank's Board of Executive Directors approved the Environmental and Social Framework (ESF); the ESF became effective on October 1, 2018.

The Environmental and Social Standards set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing.

The ten Environmental and Social Standards establish the standards that the Borrower and the project will meet through the project life cycle, as follows:

- **Environmental and Social Standard 1:** Assessment and Management of Environmental and Social Risks and Impacts;
- **Environmental and Social Standard 2:** Labor and Working Conditions;
- **Environmental and Social Standard 3:** Resource Efficiency and Pollution Prevention and Management;
- **Environmental and Social Standard 4:** Community Health and Safety;
- **Environmental and Social Standard 5:** Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
- **Environmental and Social Standard 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- **Environmental and Social Standard 7:** Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities;
- **Environmental and Social Standard 8:** Cultural Heritage;
- **Environmental and Social Standard 9:** Financial Intermediaries; and
- **Environmental and Social Standard 10:** Stakeholder Engagement and Information Disclosure.

[23] https://www.who.int/publications/i/item/9789240011359?sequence=1&isAllowed=y#cms
[24] https://iris.who.int/bitstream/handle/10665/337958/9789240011359-eng.pdf?sequence=1
[25] https://www.who.int/publications/i/item/9789240019720

Out of the ten Environmental and Social Standards, the following eight WB ESSs, 1, 2, 3, 4, 5, 6, 8, 10 are considered relevant to the Project.

The requirements of these ESSs and their implications for the current project are presented in **Table 2** below.

Table 2: WB ESS Requirements and Project Implications

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
<u>ESS 1.</u> Assessment and Management of Environmental and Social Risks and Impacts	**Relevant**	ESS1 sets out the Client'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 disproportionally 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	The conducted project environmental and social assessment shows that, overall, the project will provide a series of positive social and environmental impacts. The project will strengthen the capacity to prevent, detect, and respond to priority zoonotic diseases, antimicrobial resistance, and food safety issues in the Republic of Tajikistan through a regional One Health approach. The project may also generate some adverse environmental impacts associated with construction of the Regional Public Health Laboratories and reconstruction of District Public Health Laboratories. These activities might cause a series of direct environmental risks such as: increased environmental pollution with waste, noise, dust, air pollution, health hazards and labor safety issues due to civil works. They can be mitigated easily by applying good construction practices and following the provisions of the ***Environmental and Social Management Plans.*** By this design, the project is not likely to generate adverse social impacts. Labor influx is likely to be low as most workers will be contracted locally and where it occurs is expected to be of workers from other parts of the country. It is essential to develop strong and inclusive stakeholder engagement mechanisms to ensure that all potential beneficiaries are being reached by the project, and that affected persons have effective mechanisms for grievance and redress. Furthermore, strong labor management procedures are required especially in view of prior concerns with forced and child labor in the country. Strong screening and risk management procedures need to be introduced to manage risks under the credit line component of the project.

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
		and seek opportunities to enhance the positive impacts of the project.	
ESS 2. Labor and Working Conditions	**Relevant**	ESS2 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. ESS2 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 ESS2.	Given the type of project activities, no major labor risks are envisaged. The type of work to be carried out by direct and contracted workers does not entail high vulnerability to abuse of labor rights or Operational Health and Safety (OHS) risks. Persons under the age of 18 will not be allowed by the Project. All contractors will be required to have a written contract with their workers materially consistent with objective of ESS2. The Project is assessed as Low on labor risks including Labor influx, forced and child labor (CFL) and associated Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) risks. If other labor risks arise during project implementation, PMU will develop procedures to prevent further impacts. Nonetheless, the contractors will be required in the contract to sign codes of conducts and commit to ensure prevention of SEA/SH/ Forced and child labor. PMU staff in charge of contractor supervision will monitor and report compliance. The Labor Management Procedures (LMP) will be prepared to describe main labor requirements and risks associated with project implementation. All workers will have access to the project specific Grievance Mechanism (GM) with a dedicated window for workers' complaints.

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
ESS 3. Resource Efficiency and Pollution Prevention and Management	**Relevant**	ESS3 recognizes that economic activity and urbanization often generate pollution of 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 achievable. This ESS sets out the requirements to address resource efficiency and pollution1 prevention and management throughout the project life cycle consistent with GIIP.	The ESMF includes sections on pollution prevention and management measures with a focus on those issues which might arise while conducting construction and rehabilitation activities. Assessment of associated with civil works risks and impacts and proposed mitigation measures related to relevant requirements of ESS3, including raw materials, water use, air pollution, hazardous materials, and hazardous waste included ESMPs as relevant. Also, within the ESMF, a Template to the Laboratory Biosafety and Waste Management Plan (LBWMP) (**Appendix 7**: Laboratory Biosafety and Waste Management Plan) is provided for different work areas of laboratory facilities to be constructed/renovated/equipped under the One Health project and propose adequate measures for segregation, treatment and disposal of the construction and medical waste from lab facilities to avoid any direct and indirect health effects in the community and impact the environment during the project implementation and operation. Biomedical waste, if improperly disposed of, is a pertinent health risk to hospital staff, patients, attendants and the general population.
ESS 4. Community Health and Safety	**Relevant**	ESS4 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.	To address environmental risks and impacts that might affect community health and safety, the ESMF includes *risks for community health and safety.* These issues will be included into the site specific ESMPs. ESMPs required that fencing should be installed around all construction sites and areas where there is a risk to community health and safety. All contractors will be developed and adhered to Codes of Conduct, including requirements for respectful behavior and interaction with local

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
		ESS4 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 circumstances, may be vulnerable.	communities and within work sites, prohibition from engaging in illicit activities, sexual exploitation and abuse, or sexual harassment (SEA/SH), forced or child labor. Furthermore, site specific ESMPs will include the necessary measures to ensure efficient waste management and prevent inadvertent spread of animal diseases along with training requirements in this regard. The Stakeholder Engagement Plan includes the public awareness and educational campaign.
ESS 5. Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	**Relevant**	ESS5 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. Experience and research indicate that physical and economic displacement, if unmitigated, may give rise to severe economic, social and environmental risks: production systems may be dismantled; people face impoverishment if their productive resources or other income	Resettlement Policy Framework (RPF) and Environmental and Social Management Framework (ESMF) has been developed in this project. The RPF has been prepared in order to appropriately identify, address and mitigate adverse socioeconomic impacts that may occur in relation to land acquisition, restrictions on land use, or resettlement or economic resettlement. Impacts on trees and buildings of local people were found in public consultation period with local stakeholders and local people.

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
		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.	
ESS 6. Biodiversity Conservation and Sustainable Management of Living Natural Resources	**Relevant**	ESS6 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. ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also provides requirements for Legally protected and internationally recognized areas of high biodiversity value. In	Most part of the project will be implemented in populated areas, which are represented by modified habitats. Some trees and bushes could be cutted for new constructions. To minimize impact on such modified habitats, ESMP includes necessary mitigations measures. The ESMP for the sub-component of establishment of 10 quarantine enclosures (on the territory of SPNA) will be developed in accordance with the national legislation of the Republic of Tajikistan in terms of specially protected natural areas (*Law of the Republic of Tajikistan "On specially protected natural areas"*[26]).

[26] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=13446

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
		additional to general requirements on biodiversity conservation, the Borrower will: (a) Demonstrate that the proposed development in such areas is legally permitted; (b) Act in a manner consistent with any government recognized management plans for such areas; (c) Consult and involve protected area sponsors and managers, project-affected parties including Indigenous Peoples, and other interested parties on planning, designing, implementing, monitoring, and evaluating the proposed project, as appropriate; and (d) Implement additional programs, as appropriate, to promote and enhance the conservation aims and effective management of the area.	ESMP for the construction of quarantine enclosures provides necessary requirements (**Appendix 3**: Indicative Outline of ESIA).
ESS 7. Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	**Not relevant**		The Republic of Tajikistan ***does not have such groups of people/communities*** and thus this ESS is not relevant.

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
ESS 8. Cultural Heritage	**Relevant**	ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. It sets out measures designed to protect cultural heritage throughout the project life cycle. The requirements of ESS8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified or disturbed - 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.	As shown by the preliminary environmental and social assessment, some cultural heritage sites could be located in the immediate vicinity of the construction work area in some areas of the project areas. The Chance Find Procedure is included in the ESMF (**Appendix 9**: Chance Finds Procedure) and will be part of mitigation measures to be provided in site-specific ESMPs.

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
ESS 9. Financial Intermediaries	**Not relevant**	ESS9 recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. FIs 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. FIs 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 ESS is not relevant to the current project
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	Mapping of all interested parties such as government agencies, institutions, NGOs, etc., will be conducted as part of the preparation of the Stakeholder Engagement Plan. A Stakeholder Engagement Plan (SEP) has been developed, which includes a mapping of stakeholders, defines activities and timelines for interaction with various stakeholder groups

Environmental and Social Standards (ESS)	Relevance Rate	Main Requirements	Addressing ESS
		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. In consultation with the Bank, the Borrower will develop and implement a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of the project and its potential risks and impacts.	throughout the life of the project, and defines the roles and responsibilities, human resources, and budget required to implement the activities of SEP. The SEP is prepared with the participation of stakeholders and reflects the methods of engagement that they consider most effective.

The gap analysis between WB environmental and social safeguard requirements and national legislation is provided in **Table 3.**

Table 3: Gap analysis between WB ESF requirements and Tajik national environmental legislation

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
1	ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Law on Environmental Protection; Law on Environmental Impact Assessment; Law on Environmental Monitoring; Law on Environmental Expertise; Law on Environmental Information	• No provision for alternative requirements except that international standards take precedence if agreements are in place; • ESIA law has much less emphasis on social conditions and impacts, but other laws partly fill gaps, but with less specificity concerning community impacts; • No distinction between international and Tajikistan experts; • No reference to EHSGs or GIIP; • No equivalent provision for offsets; • No equivalent provisions for vulnerable and disadvantaged people; • No coverage of primary suppliers • No provision in permits/approvals for delayed compliance; • Monitoring required but less emphasis	ESS 1 is applicable for all projects, sub-projects. Gaps exist regarding assessments, consultations, monitoring and ESCP. The following additional measures are required: • The proposed subprojects activities described in the Exclusion List as provided in **Appendix 2**: The Exclusion List. **Appendix 2**: The Exclusion List of the ESMF shall be ineligible to receive financing under the Project. • Ensure symmetric coverage of environmental and social aspects of activity in the ESIA process. • Assess a need for conducting a full-scale environmental and social impact assessment (ESIA) for each individual activity of the proposed project where expected impacts are not well-known upfront, complex, spread beyond immediate area of activity, or may require unconventional mitigation

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
				measures tailored for given circumstances. Conduct E&S technical screening to assess environmental and social risks and potential impacts and to determine the site-specific E&S instruments to be prepared for relevant activities of the Project, based on the guidance for E&S screening, as provided in **Appendix 1**: Environmental and Social Screening Form of the ESMF. Prepare, consult upon, finalize, adopt, and implement respective site-specific Environmental and Social Impact Assessment (ESIA), including Environmental and Social management Plan (ESMP), and/or a standalone ESMP/checklist-based ESMP, as set out in the ESMF. Prepare, consult on, disclose, adopt and site-specific implement the subprojects Environmental and Social Impact Assessment (ESIA) and/or Environmental and Social Management Plan (ESMP), as set out in the ESMF. The proposed subprojects activities described in the exclusion list set out in the

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
				ESMF shall be ineligible to receive financing under the Project. Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; Conduct regular E&S monitoring and reporting on the environmental and social performance of the project against the ESSs and ESMPs.
2	ESS 2: Labour and Working Conditions	Labor Code of the Republic of Tajikistan Public Health Code	The National legal provisions almost cover all requirements in ESS 2 except: • Minimum employment age is 14, with other limits consistent with ILO, but no work that could "cause health or moral damage" if under 18 • Labor Code applies to employers and employees, not volunteers • No specific requirement for grievance mechanism for workers • No requirements for accommodations • Safety requirements apply to all employers, including contractors, but no obligation for developers to verify compliance • No requirements for prime contractor	Hence, an overall project level Labor Management Procedure (LMP) was prepared to cover above requirements. The project OHS management plan will use appropriate good international practices/standards (such as WB EHG guidelines, ILO standards) which will be followed in conjunction with requirements defined under various legislations of Republic of Tajikistan. PIU shall cause contractors to adopt their own LMP aligned with the Project LMP. Obligate Contractors to adopt and adhere to the Code of Conduct.

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
				Require Contactors to establish and operate GRM for workers. Include OHS requirements in all works contracts and ensure OHS qualifications (EHS and OHS) are in place for overseeing project implementation. Undertake regular OHS monitoring and record results. Instruct work contractors on good OHS practices and provide them with proper set of PPE.
3	ESS 3: Resource Efficiency, Pollution Prevention and Management	Law on Environmental Protection; Law on Protection and Use of flora; Law on Soil Conservation; Water Code; Law on Production and Consumption of Waste	No specific limits to energy usage; Permits required for water usage; Resource usage requires permits; Emissions limits. Project will have only minor emissions; Detailed requirements for hazardous and other wastes; Signatory to international conventions; No requirements to verify haulers/contractors	The majority of ESS 3 requirements are addressed by existing regulations and indirectly for resource efficiency, pollution prevention and management aspects. Further, provisions need to be made to commensurate mitigation measures as: • Follow WBG EHS Guidelines in addition to complying with national legislation. • To assess the resource requirement and implement technically and financially feasible measures for improving efficient consumption of energy,

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
				water and raw materials, as well as other resources. • Preparation of Resource Efficiency and Pollution Prevention Plan as part of Contractors ESMP to assess and minimize/control the concentration of release of pollutants to air, water and soil. Prepare and implement a General Waste Management Plan (WMP) for construction sites, as part of the ESMP prepared for the Project, to manage hazardous and non-hazardous wastes, consistent with ESS3. In addition to the general WMP, PMU will prepare, consult on, and disclose a LBWMP using the annexed Template (**Appendix 7**: Laboratory Biosafety and Waste Management Plan) Cause Contractors and subcontractors to prepare and implement WMP, including LBWMP as part of their own Contractor ESMPs (C-ESMP).

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
				Prepare and implement Site Reinstatement Plan for all disturbed lands as a result of the project activities.
4	ESS 4: Community Health and Safety	Public Health Code; Protection of Population and Territories from Natural and human-made Emergencies; Law on Protection of Atmospheric Air; Medical insurance in the Republic of Tajikistan; Medicine, medical pro	General requirements to minimize risk, no specific requirements for services, ecosystem services, emergencies, etc	While laws cover for all of ESS 2 and ESS 4 requirements, gaps exist for community-community exposure to health issues. The gaps need to be addressed through suitable provisions in ESMP. Assess risks of negative impacts on local communities and apply mitigation hierarchy to risk management. Incorporate measures to manage traffic and road safety risks as required in the ESMP, if/when required for individual activity. Prepare and implement a Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) Action Plan as part of the LMP or ESMP, to assess and manage the risks of SEA and SH.
5	ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Land Code of the Republic of Tajikistan; Civil Code of the Republic of Tajikistan; Law on Land Valuation	All land in state ownership; Rights to use land granted with legal certificates; May be used only as authorized;	The gaps are addressed with suitable provisions in RPF. Informal land users will be entitled for compensation for impact on

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
			Legal users may lease land for authorized uses; Only those with legal rights eligible for replacement land or compensation Replacement land preferred option; No requirement for assistance; Detailed requirements for committee memberships and actions; Compensation based on established rates for trees or other items lost; Replacement with equivalent land and houses preferred over compensation; Compensation for lost profits required, but not livelihood restoration; Committee membership and responsibilities defined in Land Code	structures/ assets . and improvements and for rehabilitation assistance. Draft RPF and site-specific RAP will be disclosed to PAPs/PAHs and other project stakeholders as per WB policy and procedure. Consultations with PAHs to be conducted during RAP preparation and implementation process. If there is loss of livelihood due to the project, support for livelihood restoration needs to be provided to the PAPs.
	Displaced Persons with no legal rights on land that they occupy/use are entitled to compensation for non-land assets/improvements and are provided with rehabilitation assistance.	Informal land users (without right to use land) are not entitled to any compensation (for land or non-land assets)	ESS 5 offers compensation to displaced persons for non-land assets and improvements regardless of land rights, while the Republic of Tajikistan's law denies compensation to informal land users without legal rights.	WB practice to be applied Informal land users will be entitled to compensation for non-land assets and improvements and for rehabilitation assistance
	In regards of information disclosure, RAP documents should be disclosed in a timely manner and in a	RAP decisions should be published in national media in Russian and Tajik languages within 5 days from approval.	ESS 5 requires RAP documents to be disclosed in a timely manner and in a language accessible to the local population, the Republic of Tajikistan's law specifically mandates publication of RAP decisions in national media in Russian and	**WB practice to be applied** Draft RPF and site-specific RAP will be disclosed to PAPs/PAHs and other project stakeholders as per WB policy and procedure.

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
	language accessible to local population.		Tajik within 5 days of approval, focusing only on the finalised document rather than the draft documents.	
	Meaningful public consultations are to be held with the PAPs. PAPs should be informed about the entitlements and options, as well as resettlement alternatives.	There are no requirements to directly inform the PAPs about their entitlements and resettlement options as such.	ESS 5 mandates meaningful consultations with PAPs, including informing them about entitlements, options, and resettlement alternatives, the Republic of Tajikistan's regulations do not require direct communication with PAPs about their entitlements and resettlement options.	**WB practice to be applied** Consultations with PAHs to be conducted during RAP preparation and implementation process.
	GRM should be established for each project and information on GRM should be communicated to PAPS.	No project specific GRM exists.	ESS 5 requires a project-specific GRM to be established and communicated to affected people, the Republic of Tajikistan's regulations do not mandate the creation of a project-specific GRM.	**WB practice to be applied** GRM should be established for each project and information on GRM should be communicated to PAPS.
	RAP Preparation includes compensation entitlements, income /livelihood restoration strategy, monitoring plan, budget and implementation schedule, based on sound impact/valuation surveys.	It is not required to prepare RAP or pursue measures to restore the livelihoods of APs to the pre-project level.	ESS 5 requires RAP preparation to include compensation, livelihood restoration, monitoring, budget, and a schedule based on impact surveys, the Republic of Tajikistan's regulations do not mandate RAP preparation or measures to restore PAPs' livelihoods to pre-project levels.	**WB practice to be applied** RAP will be prepared following WB policy and procedures. The RAP will be based on detailed design.
	Socio-economic survey is carried out which collects information on	No comparable requirements exist.	ESS 5 requires a Socio-economic survey that collects disaggregated data on PAPs, including vulnerable groups, the Republic	**WB practice to be applied**

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
	PAP's disaggregated by age, sex, family size, education, occupation, income source and identifies vulnerable groups.		of Tajikistan's regulations do not have comparable requirements.	Socio-economic survey will be carried out following WB policy and procedures
	In the presence of market data and records of land transactions, the land valuation survey is conducted based on that information. In the absence of market data, the valuation is determined using land productivity and income potential.	Mechanisms for land valuation to be defined.	ESS 5 specifies that land valuation should be based on market data or, in its absence, on land productivity and income potential, the Republic of Tajikistan's regulations do not define specific mechanisms for land valuation.	**WB practice to be applied** Land valuation method will be applied as per WB standard.
	Buildings replacement cost of materials, labor and transport and special features of the building/ structure without discounting for depreciation, salvaged materials and transaction costs.	The market value should account for materials, labor, transportation, and special building features, but it should be adjusted for depreciation, salvageable materials, and transaction costs.	ESS 5 requires building replacement costs to be calculated without discounting for depreciation, salvaged materials, or transaction costs, while the Republic of Tajikistan's legislation adjusts market value for these factors.	WB practice to be applied The project will apply the WB's replacement cost principle, ensuring that the cost of replacing assets is calculated without discounting for depreciation, salvageable materials, or transaction cost
	Vulnerable PAPs should be identified, and special assistance	No special consideration is required for vulnerable PAPs; no	ESS 5 requires special assistance for vulnerable PAPs, while the Republic of Tajikistan's regulations do not distinguish	**WB practice to be applied**

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
	should be provided to help their restoration or improvement of pre-project level of livelihoods.	distinction is made between PAPs when deciding on the compensation or rehabilitation package.	between PAPs in compensation or rehabilitation.	Vulnerable households will be (i) provided with additional cash allowance, (ii) enrolled in government assistance program, and (iii) prioritized in project related employment.
	PAPs subject to resettlement receive relocation assistance covering transport and transitional period livelihood costs.	No special consideration is required for resettled PAPs. However, the package depends on Government's decision regarding transitional period allowance.	ESS 5 requires comprehensive relocation assistance, including transport and livelihood support during the transitional period, while the Republic of Tajikistan's regulations provide no specific provisions for resettled PAPs, with assistance varying based on government decisions.	**WB Practice to be applied** Relocating PAPs will be provided with allowance to cover transportation cost and rental fee (up to 6 months) and communal/site preparation for the alternative land plot, in case of land-for land compensation.
6	ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Law on Environmental Protection Law on Protection and Use of Flora Law on Specially protected natural areas"	ESS 6 requires for protected area *Consult and involve protected area sponsors and managers, project-affected parties including Indigenous Peoples, and other interested parties on planning, designing, implementing, monitoring, and evaluating the proposed project, as appropriate.* National legislation does not require such consultations among stakeholders and affected parties.	PMU is required to map and classify habitats within project impact area in line with the relevant requirements in ESS6. If significant risks and impacts are identified on biodiversity based on the E&S screening results for certain subprojects, prepare and implement a Biodiversity Management Plan (BMP) as part of the ESMP, consistent with ESS6 and in accordance with the guidelines of the ESMF.

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
				ESMP included in the ESMF requires conduction of consultations with stakeholder and affected people prior construction activities inside protected areas.
7	ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not applicable for the project		
8	ESS 8: Cultural Heritage (relevant if any cultural heritage is found during the construction process of one of the subprojects);	Law On the protection and use of objects of historical and cultural heritage	Less detailed requirements but generally consistent • Law covers non-material (language, customs, ceremonies and celebrations, knowledge and skills, traditional crafts, dancing, music, art, etc.) and material cultural heritage; • Some legal limits on weddings, funerals, and other activities; • General requirements to protect cultural heritage and not to disturb sites of interest; • No specific requirement for chance find procedure; • No requirement for consultations except with Ministry of Culture representatives	Describe and implement the Chance finds procedures as part of the ESMPs in the event of chance finds, in accordance with the guidelines of the ESMF prepared for the Project, and consistent with ESS8.
9	ESS 9: Financial Intermediaries	Not applicable for the project		
10	ESS 10: Stakeholder Engagement and	Law on Environmental Protection; Law on Environmental Information;	<u>Stakeholder analysis and planning</u> • Tajikistan National legislation does not mandate a detailed and continuous	The principles of ESS10 must be followed, and a SEP should be prepared, including stakeholder

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
	Information Disclosure	Law On Freedom of Information; Law On appeals of individuals and legal entities; Law On Local Government Bodies; Civil Code	engagement process across the entire project lifecycle. Public consultations are required mainly during project approval stages (as part of EIA), and follow-up engagement is limited. • ESS10 requires more proactive and structured engagement, including the development of an SEP, which is generally absent in national legislation. <u>Disclosure information</u> • National laws, particularly under the EIA framework, require the disclosure of environmental information to the public. However, the timeliness and accessibility of such information, especially for vulnerable stakeholders, are not always guaranteed. • Information disclosure is often limited to the early stages of a project <u>Consultation</u> • Tajikistan legislation does not mandate a detailed and continuous engagement process across the entire project lifecycle. • Public consultations are required mainly during project approval stages (as part of EIA), and follow-up engagement is limited	mapping, analysis, and an engagement plan. The SEP must be regularly updated throughout the project lifecycle to ensure continued relevance and inclusivity. The principles of ESS10 must be adhered to, ensuring that stakeholders are provided with timely information regarding the project, including any associated risks, potential impacts, and mitigation measures Consultations must align with the potential project impacts and follow ESS10 requirements, including early initiation, continuous engagement, prior information disclosure, focus on directly affected parties, independence from external

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
			<u>External communications</u> • No such requirement in local legislation • Resolve concerns promptly • Use a transparent and culturally appropriate consultative process <u>GRM</u> Establish a Grievance Mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the Project. The Grievance Mechanism should: • Resolve concerns promptly • Use a transparent and culturally appropriate consultative process <u>Ongoing reporting to affected communities</u> ▪ Provide periodic progress updates, specifically with regard to issues or grievances communities have raised. • Communicate any updates of the management program. • Report to the community with frequency that is proportionate to the	influence, meaningful participation, and proper documentation The principles of ESS10 must be followed implementing and maintaining a procedure for external communications The principles of ESS10 must be followed, including the establishment of a GRM accessible to all stakeholders Following ESS10 principles periodic progress updates, communication of management program changes, and community reporting must be provided regularly, with a frequency that addresses community concerns, but no less

No	ESSs	National Environmental Policy and Regulations	Policy Gaps vs ESS	Gap filling (redressal) Measures
			concerns of affected communities but not less than annually.	than once per year.

3.3. International Agreements

Participation of the Republic of Tajikistan in international conventions related to the environment, pollution and health (by year of adoption) is presented in the **Table 4** below.

Table 4: Participation of Tajikistan in International Conventions Relevant to the Project

No	International Convention	Year of Accession
1	UN Convention on Biological Diversity, 1997 Related updates to the Convention on Biological Diversity are: Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2004; Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, signed in 2011and ratified in 2013	1997
2	UN Framework Convention on ClimateChange, 1998; Related update is the: Kyoto Protocol accessed on 29 December 2008 and entered in to force on 29 March 2009	1998
3	UN Convention on Combating Desertification	1997
4	Vienna Convention for the Protection of the Ozone Layer, 1996 and updated by the Protocol on Substances that Deplete the Ozone Layer (Montreal), 1998; London Amendments to Montreal Protocol Ozone Depleting Substances, 1998; Copenhagen Amendments to Montreal Protocol on Ozone Depleting Substances, 2009; Montreal Amendments to Montreal Protocol on Ozone Depleting Substances, 2009; Beijing Amendments to Montreal Protocol on Ozone Depleting Substances, 2009	1996
5	Convention on International Trade in Endangered Species of Fauna and Flora (CITES)	2016
6	Stockholm Convention on Persistent Organic Pollutants (POPs); Related updates: 2009 amendments listing 9 new Persistent Organic Pollutants, 26 August 2010; 2011 amendment listing endosulfan, 27 October 2012; and 2013 amendment listing HBCD, 26 November 2014	2007
7	UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage	1997
8	Aarhus Convention (joined in 2001); A related update: Kiev Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information on 21 May 2003	2003
9	Bonn Convention on the Conservation of Migratory Species of Wild Animals; Related update is the Bukhara Deer Memorandum, 2002	2001
10	International Convention for the Protection of New Varieties of Plants UPOV Convention (1961), Revised at Geneva (1972, 1978 and 1991)	2012
11	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	2016
12	The Rotterdam Convention on Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	1998
13	Occupational Safety and Health Convention	2009
14	Tripartite Consultation (International Labor Standards) Convention	2014

No	International Convention	Year of Accession
15	Convention for the Safeguarding of the Intangible Cultural Heritage	2006
16	International Covenant on Economic, Social and Cultural Rights	1999
17	Convention on the Elimination of all forms of Discrimination Against Women	1993
18	Convention on Minimum Age for Admission to Employment	1993
19	Convention on Worst Forms of Child Labor	2005
20	Abolition of Forced Labor Convention	1999
21	Employment Policy Convention	1993
22	Labor Inspection Convention	2006
23	United Nations Convention on the Rights of the Child CRC	1993

International Labor Organization

The Republic of Tajikistan is a member of the international labour organization since 1993 and has ratified 49 conventions, including ILO conventions with the core conventions protecting workers' rights and the UN conventions protecting the rights of the child and of migrant workers:

Fundamental

Convention	Date
C029 - Forced Labour Convention, 1930 (No. 29) ***P029*** *- Protocol of 2014 to the Forced Labour Convention, 1930 ratified on 24 Jan 2020 (In Force)*	26 Nov 1993
C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)	26 Nov 1993
C098 - Right to Organise and Collective Bargaining Convention, 1949 (No. 98)	26 Nov 1993
C100 - Equal Remuneration Convention, 1951 (No. 100)	26 Nov 1993
C105 - Abolition of Forced Labour Convention, 1957 (No. 105)	23 Sep 1999
C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	26 Nov 1993
C138 - Minimum Age Convention, 1973 (No. 138) *Minimum age specified: 16 years*	26 Nov 1993
C155 - Occupational Safety and Health Convention, 1981 (No. 155)	21 Oct 2009
C182 - Worst Forms of Child Labour Convention, 1999 (No. 182)	08 Jun 2005

Governance (Priority)

Convention	Date
C081 - Labour Inspection Convention, 1947 (No. 81)	21 Oct 2009
C122 - Employment Policy Convention, 1964 (No. 122)	26 Nov 1993
C144 - Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144)	23 Jan 2014

Technical

Convention	Date
C011 - Right of Association (Agriculture) Convention, 1921 (No. 11)	26 Nov 1993
C014 - Weekly Rest (Industry) Convention, 1921 (No. 14)	26 Nov 1993
C023 - Repatriation of Seamen Convention, 1926 (No. 23)	26 Nov 1993
C027 - Marking of Weight (Packages Transported by Vessels) Convention, 1929 (No. 27)	26 Nov 1993
C032 - Protection against Accidents (Dockers) Convention (Revised), 1932 (No. 32)	26 Nov 1993

Convention	Date
C045 - Underground Work (Women) Convention, 1935 (No. 45)	26 Nov 1993
C047 - Forty-Hour Week Convention, 1935 (No. 47)	26 Nov 1993
C052 - Holidays with Pay Convention, 1936 (No. 52)	26 Nov 1993
C069 - Certification of Ships' Cooks Convention, 1946 (No. 69)	26 Nov 1993
C073 - Medical Examination (Seafarers) Convention, 1946 (No. 73)	26 Nov 1993
C077 - Medical Examination of Young Persons (Industry) Convention, 1946 (No. 77)	26 Nov 1993
C078 - Medical Examination of Young Persons (Non-Industrial Occupations) Convention, 1946 (No. 78)	26 Nov 1993
C079 - Night Work of Young Persons (Non-Industrial Occupations) Convention, 1946 (No. 79)	26 Nov 1993
C090 - Night Work of Young Persons (Industry) Convention (Revised), 1948 (No. 90)	26 Nov 1993
C092 - Accommodation of Crews Convention (Revised), 1949 (No. 92)	26 Nov 1993
C095 - Protection of Wages Convention, 1949 (No. 95)	26 Nov 1993
C097 - Migration for Employment Convention (Revised), 1949 (No. 97)	10 Apr 2007
C103 - Maternity Protection Convention (Revised), 1952 (No. 103)	26 Nov 1993
C106 - Weekly Rest (Commerce and Offices) Convention, 1957 (No. 106)	26 Nov 1993
C108 - Seafarers' Identity Documents Convention, 1958 (No. 108)	26 Nov 1993
C113 - Medical Examination (Fishermen) Convention, 1959 (No. 113)	26 Nov 1993
C115 - Radiation Protection Convention, 1960 (No. 115)	26 Nov 1993
C116 - Final Articles Revision Convention, 1961 (No. 116)	26 Nov 1993
C119 - Guarding of Machinery Convention, 1963 (No. 119)	26 Nov 1993
C120 - Hygiene (Commerce and Offices) Convention, 1964 (No. 120)	26 Nov 1993
C124 - Medical Examination of Young Persons (Underground Work) Convention, 1965 (No. 124)	26 Nov 1993
C126 - Accommodation of Crews (Fishermen) Convention, 1966 (No. 126)	26 Nov 1993
C133 - Accommodation of Crews (Supplementary Provisions) Convention, 1970 (No. 133)	26 Nov 1993
C134 - Prevention of Accidents (Seafarers) Convention, 1970 (No. 134)	26 Nov 1993
C142 - Human Resources Development Convention, 1975 (No. 142)	26 Nov 1993
C143 - Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143)	10 Apr 2007
C147 - Merchant Shipping (Minimum Standards) Convention, 1976 (No. 147)	26 Nov 1993
C148 - Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148)	26 Nov 1993
C149 - Nursing Personnel Convention, 1977 (No. 149)	26 Nov 1993
C159 - Vocational Rehabilitation and Employment (Disabled Persons) Convention, 1983 (No. 159)	26 Nov 1993
C160 - Labour Statistics Convention, 1985 (No. 160) *Acceptance of Articles 7 to 10 has been specified pursuant to Article 16, paragraph 2, of the Convention.*	26 Nov 1993
C177 - Home Work Convention, 1996 (No. 177)	29 May 2012

3.4. Environment Quality Standards

Environmental quality standards in the Republic of Tajikistan are based on GOST, SNiP and SanPiN[27]. Environmental quality standards in Tajikistan ensure both maximum permissible concentration (MPC) and the maximum permissible (or allowable) emissions (MPE). Under MPC refers to a concentration of chemical elements and their compounds in the environment, which in everyday impact for a long time on the human body does not lead to pathological changes or diseases established modern research methods in any time of life of present and future generations. It is standard of maximum permissible emissions of harmful substances (pollutants) into the air, which is set for a stationary source of air pollution in accordance with technical standards for emissions and background air pollution. It provides non-exceeding of the hygiene and environmental air quality standards, limits (critical) loads on ecological systems and other environmental regulations requirements.

Air quality

Air quality standards in the Republic of Tajikistan are set by Annex 3 to Procedure of Environmental Impact Assessment accepted by Resolution #464 of the Government of the Republic of Tajikistan dated 3 October 2006. **Table 5** lists the most relevant parameters in accordance with national requirements and international requirements (WHO). In line with WB ESF, the more stringent standards shall apply to the project.

Table 5: **Air Quality Standards (National and International)**

Pollutant	Average Period	Norm in mg/m³	Norm mg/m³	Source of standards
SO_2	10 min	500	0.5	EHS Guidelines
	30 min	500	0.5	Republic of Tajikistan
	24 hours	20	0.02	EHS Guidelines/ Republic of Tajikistan
	1 month	500	0.5	Republic of Tajikistan
	1 year	50	0.05	Republic of Tajikistan
NO_2	10 min	200	0.2	EHS Guidelines/ Republic of Tajikistan
	30 min	85	0.085	Republic of Tajikistan
	24 hours	60	0.06	Republic of Tajikistan
	1 month	50	0.05	Republic of Tajikistan
	1 year	40	0.04	EHS Guidelines/ Republic of Tajikistan
NO_x	30 min	600	0.6	Republic of Tajikistan
	24 hours	250	0.25	Republic of Tajikistan
	1 month	120	0.12	Republic of Tajikistan
	1 year	600	0.6	Republic of Tajikistan
CO	30 min	5000	5.0	Republic of Tajikistan
	24 hours	4000	4.0	Republic of Tajikistan
	1 month	3500	3.5	Republic of Tajikistan
	1 year	3000	3.0	Republic of Tajikistan
PM_{10}	1 year	20	0.02	EHS Guidelines
	24 hours	50	0.05	EHS Guidelines
PM_{25}	1 year	10	0.1	EHS Guidelines

[27] GOST refers to a set of technical standards maintained by the Euro-Asian Council for Standardization, Metrology and Certification (EASC), a regional standards organization operating under the auspices of the Commonwealth of Independent States (CIS). SNiP mean Technical Standards - a building code, a set of rules that specify the minimum standards for constructed objects such as buildings and nonbuilding structures. SanPiN are sanitary rules and norms (standards).

Pollutant	Average Period	Norm in mg/m³	Norm mg/m³	Source of standards
	24 hours	25	0.025	EHS Guidelines

Water quality

In the Republic of Tajikistan, water quality management is regulated by state standards that were adopted in the republic during the Soviet period. Some standards were introduced during the period of independence of the republic:

- GOST 17.1.3.07-82 "Rules for monitoring the quality of water in reservoirs and watercourses" has been in effect since 1982 to the present;
- SanPIN 2.1.4.1074-01.

According to the Water Code of the Republic of Tajikistan, there are two types of water use: general, carried out without the use of structures or technical devices, and special water use, which in economic sectors is carried out on the basis of permits issued by specially authorized state bodies for regulating the use and protection of water. The table below provides a comparison of national and international WB EHS (2007) requirements for water quality parameters mostly relevant to the Project's activities.

Table 6: Water Quality Standards (National and International)

Pollutants	Fishery	Municipal	Potable Water	
			Nat	WHO[28]
COD	15	30	30	-
BOD_{20}, mg_{O2}/L	3	3-6	3-6	-
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
Water salinity	1,000	1,000	1,000-1,500	1,000
Including: sulphates	100	500	400-500	-
Chlorides	300	350	250-350	-
Ammonium nitrogen (ammonium salt) (NH_4^+)	0.39	2	0.5	-
Nitrogen	9.1	25	45	-
Nitrogen nitrite	0.02	0.5	3	-
Nitrite	0.08	3.3	3	3
Nitrate	45	45	45	50
Phosphate (PO_4^{3-})	0.3	1	3.5	-
Ether soluble	0.05	0.8	0.8	-
Oil products	0.05	0.3	0.1	-
Phenol	0.001	0.001	0.001-0.1	-
Arsenic (As)	0.05	0.05	0.05	0.01
Iron (Fe)	0.5	0.5	0.3-3	-
Chromium (Cr^{6+})	0,001	0.1	0.05	0.05
Copper (Cu)	0,001	1	1	2
Zinc (Zn)	0.01	1	3	-
Lead (Pb)	0.03	0.1	0.03	0.01
Nickel (Ni)	0.01	0.1	0.1	0.07
Cadmium (Cd)	0,005	0.01	-	0,003

[28] WHO, Guidelines for drinking water quality, Fourth edition, 2017.

Noise and vibration

Environmental Standards for Noise Emissions in the Republic of Tajikistan are regulated in accordance with sanitary norms SN 2.2.4/2.1.8.562-96 (Noise at Workplaces, in Residential and Public Spaces, and in Areas of Residential Development). These sanitary standards establish the classification of noise; standardized parameters and maximum permissible noise levels in workplaces, permissible noise levels in residential and public buildings and in residential areas.

Table 7: Maximum Allowable Noise Standards (National and International), (dB)

Receiver	National[29]		General EHS Guidelines[30]	
	Day time (7.00 am – 11 pm)	Night time (11.00 pm – 7.00 am)	Day time (7.00 am – 10.00 pm)	Night time (10.00 pm – 7.00 am)
In residential and public buildings:				
Hospitals, health centres with recreation areas:	60	25 dB(A)	55	45
Residential rooms	55	45		
Rooms in hotels and hostels; Territory directly surrounding hospital buildings and health centres, with their recreation areas	45	35		
Territory directly surrounding residential, clinics, rest homes, homes for the elderly and disabled, educational institutions, libraries; Recreation areas within the territory of residential, rest homes, houses for the elderly and disabled, children's playgrounds, schools and other educational institution	55	45		
Shops trade halls, passenger halls in airports and stations, consumer services centres	60	-	-	70

[29] Sanitarian Norms and Rules (SanPiN) # 0331 (2016) Admissible noise level into the living area, both inside and outside the buildings, Table 10.2.4.2

[30] *World Bank Group, Environmental, Health, and Safety Guidelines*, April 30, 2007, Washington, USA. https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM in English. https://www.ifc.org/wps/wcm/connect/be37221a-fc47-4379-b539-eca3fe72c3e6/General%2BEHS%2B-%2BRussian%2B-%2BFinal_.pdf?MOD=AJPERES&CVID=nPtgFKk&ContentCache=NONE&CACHE=NONE in Russian.

4. BASELINE DESCRIPTION

4.1. Project Location

The location of preliminary project districts within the Republic of Tajikistan is shown in **Figure 1**.

The project activities of Components 2 and 3 that may have potential environmental and social risks and impacts are located in Dushanbe city, Khatlon region (Jomi, Hissar, Shaartuz) and Hissar city, Sughd, Gorno-Badakhshan Autonomous Region (GBAO), Districts of Republican Subordination (DRS). More detailed information regarding the project-related activities is given in Section 2.

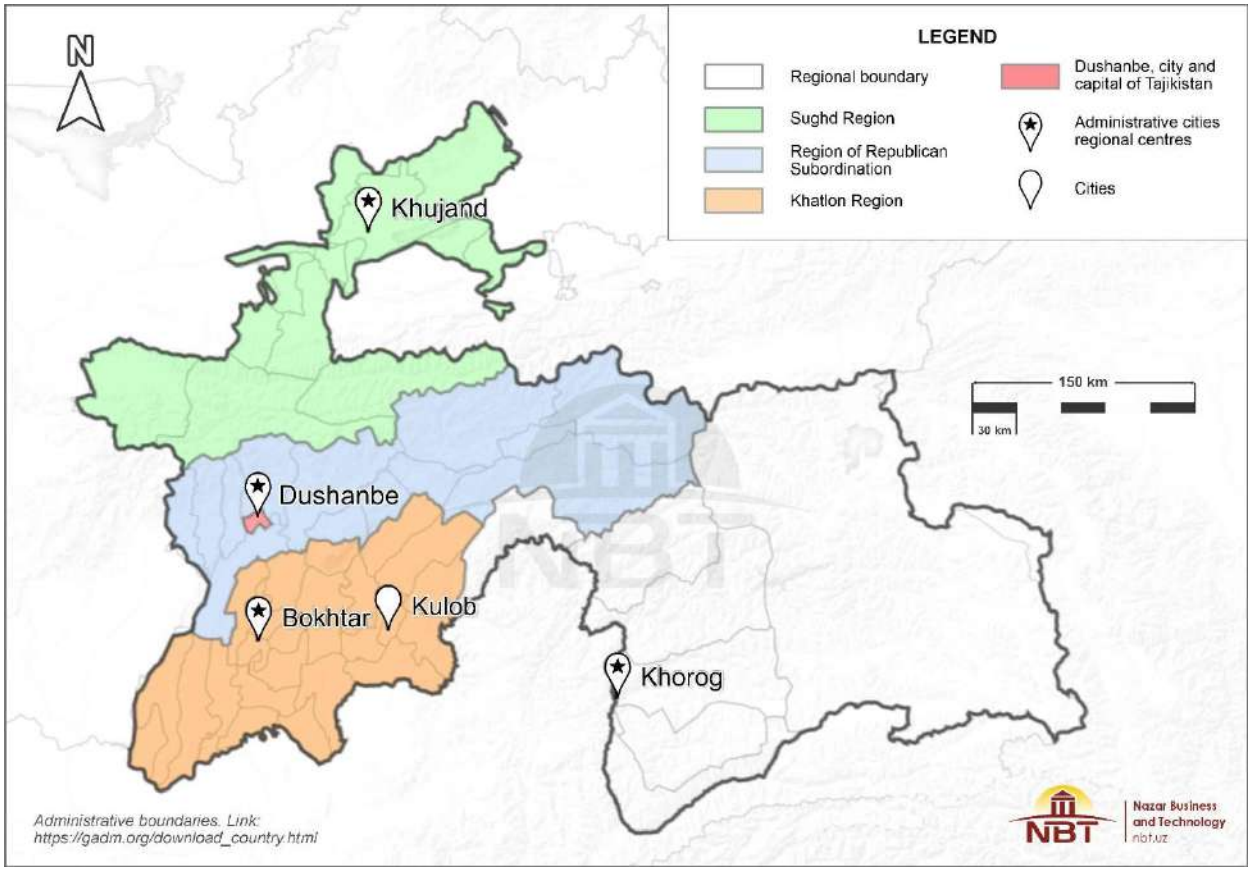


Figure 1: Location of the project districts

4.1.1. Physical Environment

Climatic conditions

The climate of the Republic of Tajikistan is characterized by diversity due to its geographical location and significant altitude differences, which varies from flat areas to high mountainous regions. In general, the country's climate is sharply continental, with pronounced seasonal fluctuations in temperature and precipitation. In lowland areas, such as the Vakhsh Valley, summers are hot and dry with temperatures reaching 45 °C. At the same time, winter temperatures can drop to -20 °C, especially in the eastern and northern regions. High-altitude regions, such as the Pamir Mountains, have much colder climates: temperatures can drop to -45 °C in winter and snow remains on the ground for most of the year. These regions are also prone to strong winds and blizzards.

The amount of precipitation in the Republic of Tajikistan is unevenly distributed across the country. In the foothills and mountainous areas (Hissar and Alai ranges), annual precipitation can reach 600-1500 mm, while in the plains and lowland areas, such as Khatlon region, this figure drops to 150-200 mm per year. Most of the precipitation falls in the winter-spring period, which is due to cyclonic activity in this region. While winters in the lowlands can be mild and dry, in the mountains they can be accompanied by heavy snowfalls and avalanches.

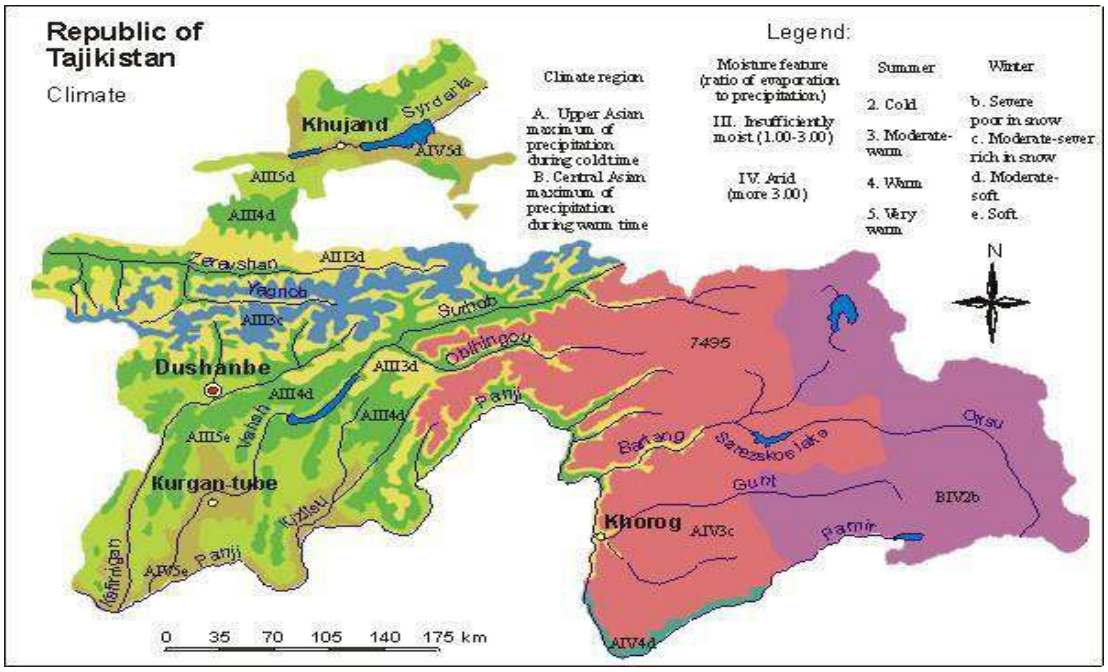


Figure 2: Climatic map of the Republic of Tajikistan

The Republic of Tajikistan is characterized as having few strong winds from large-scale lows, such as typhoons, although there are relatively many seasonal winds with dust. The wind speed is similar to that in South Asia at about 40 m/sec (mps). The wind direction and average wind speed in the subproject areas are shown in **Table 8**.

Table 8: Wind Direction of the Cardinal Points and Average Wind Speed (m/sec)

Location / Wind	N	NE	E	SE	S	SW	W	NW
Dushanbe	1.9	1.5	1.9	1.8	1.6	1.6	1.9	1.7
Khujand	2.2	4.6	4.5	2.2	3.1	5.7	3.9	2.1
Bokhtar	1.6	1.4	1.6	2.2	2.0	1.6	1.5	1.6

Source: Construction Climatology (MKC 23-01-2007, Table 10).

Soils

Soil cover of the Republic of Tajikistan is very diverse and depends on climatic conditions, relief and geological structure of the territory. In the northern and central parts of the country, in the foothill zones, serozems - typical soils of the dry subtropics - are widespread. These soils are characterized by low content of organic matter and require irrigation for agricultural use. At higher altitudes, light chestnut and chestnut soils are found, which have a higher humus content and better water holding capacity, making them suitable for farming without intensive irrigation.

Mountain brown and mountain chernozem soils, which are formed under the influence of alpine and subalpine climate, are developed in high mountainous areas such as Pamir. These soils are well-structured and contain enough humus to support high-altitude pastures and meadows. In addition, meadow-marsh soils and solonchaks are also found on the plains, especially in areas with high water tables. These soils require reclamation measures for their use in agriculture.

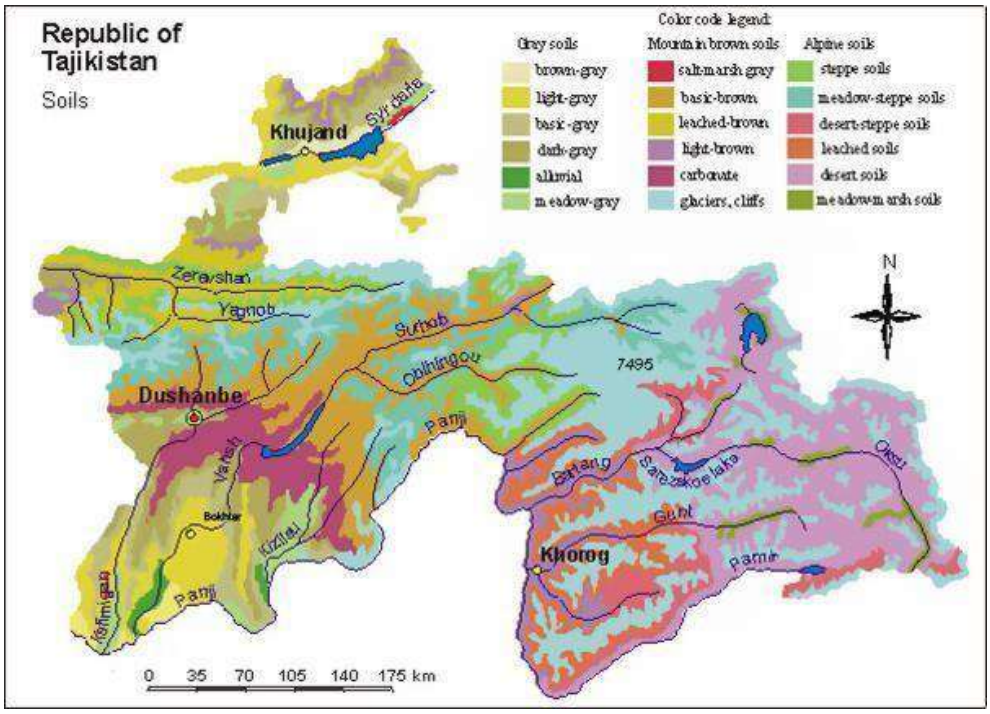


Figure 3: Soil map of the Republic of Tajikistan

Water Resources

Surface Water Resources

The Republic of Tajikistan has some of the most significant water resources in Central Asia due to the presence of many rivers, lakes and glaciers. The country accounts for about 60% of all water resources in the region. The main rivers - the Amu Darya, Syr Darya, Panj, Vakhsh and Kafirnigan - provide water not only to the Republic of Tajikistan but also to its neighbors, including Republic of Uzbekistan, Kyrgyz Republic and Afghanistan. Glaciers such as Fedchenko and Grum-Grzhimailo feed many rivers, playing an important role in ensuring a constant water supply, especially during the dry summer months.

Much of the water is used for agriculture, especially for irrigating cotton fields, which is the country's main crop. Water management remains a challenge, especially in the face of climate change, with possible changes in runoff patterns and glacial melt. Despite the abundance of water, uneven distribution and access to clean drinking water remain problems for some regions, especially in remote mountainous areas.

There are 9 water reservoirs containing from 0.028 to 10.5 km^3 of water. The largest reservoirs are Kairakkum on the north of the Republic of Tajikistan, and Nurek in the central part of the Republic of Tajikistan. They are mainly used for electric power generation, irrigation, fish breeding, water supply, and mudflow protection.

Figure 4: Main rivers in the Republic of Tajikistan

Geology, Topography and Seismicity

The Republic of Tajikistan is located in a zone of high seismic activity due to its location in the Alpine-Himalayan belt orogen. The country is crossed by several active faults, including the Hissar-Alai and Pamir-Alai faults, making it prone to frequent earthquakes. One of the most devastating earthquakes occurred in 1949 in the Khojent area, causing significant casualties and destruction.

The Republic of Tajikistan's geology also includes a variety of rocks, ranging from ancient crystalline shales and granites to younger sedimentary rocks. Most of the territory is covered by mountains: the western and central parts are the Alay and Zeravshan ranges, and the eastern part is the Pamirs. These mountains have a great influence on the climate and water resources of the region. Due to the complex geology and topography, construction and infrastructure development in the country requires consideration of the high seismicity and inaccessibility of some regions.

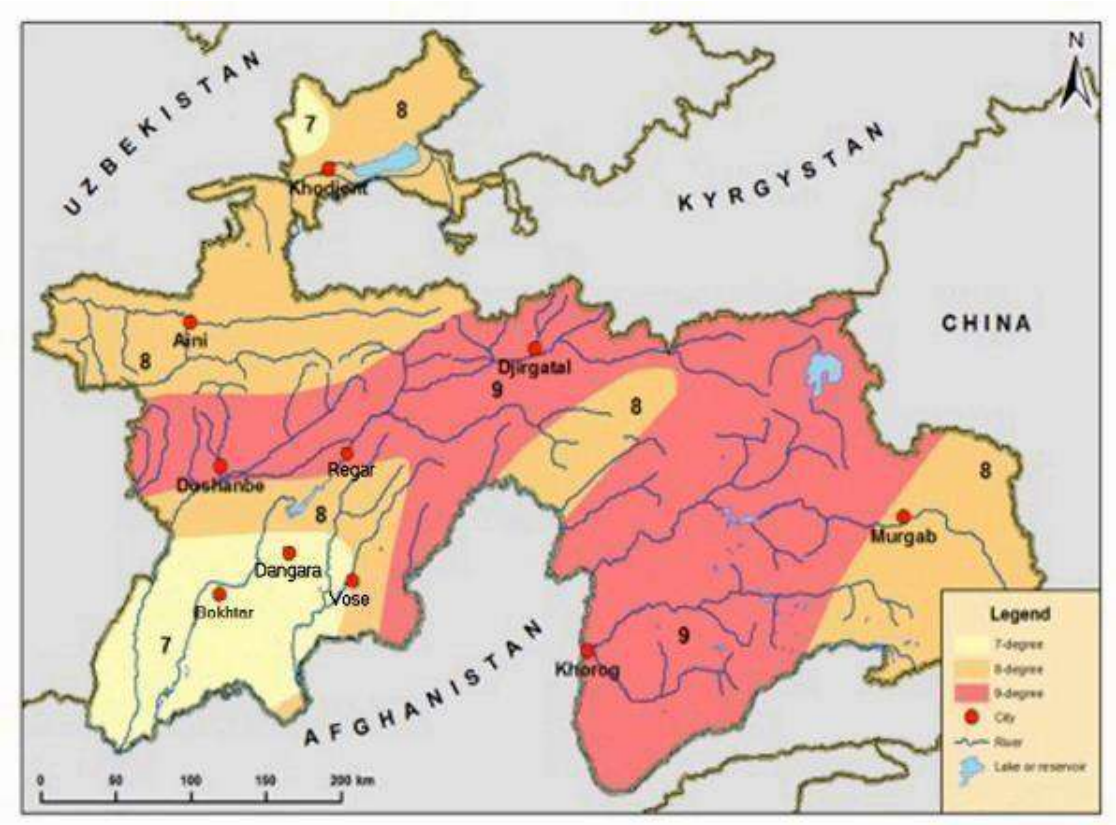


Figure 5: Seismic map of the Republic of Tajikistan

4.1.2. Biological Environment

Geographical location of the Republic of Tajikistan in the southern arid zone, high mountain systems among continental deserts of Eurasia, combination of latitudinal zonality and vertical belt with natural complexes from sultry deserts and subtropics to glaciers and genetic fusion of different botanical and geographical areas caused concentration of rich landscape-biological diversity here.

Mountainous areas of the Republic of Tajikistan are home to 0.66% of the world diversity of animals and 1.8% of plants, including wild relatives of domestic animals and cultivated plants. The richness of biodiversity is expressed at genetic, species, population, biocenotic and ecosystem levels. There are many relict and endemic species, while most of the biodiversity components are vulnerable to the impact of anthropogenic factors.

Natural ecosystems of the Republic of Tajikistan are geographically subdivided into mountainous and pre-mountainous-plain ecosystems. Mountain ecosystems occupy altitudes from 600 to 7000 above sea level. Water resources are formed in mountain ecosystems. More than 80% of biodiversity is concentrated here. Mountain ecosystems include nival-glacial, highland-desert, meadow-steppe, forest, and most of the water-coastal ecosystems. Pre-mountainous-plain ecosystems are located on gentle mountain areas and include pre-mountain semi-desert/desert and water-coastal ecosystems located in the lower flows of the rivers Pyandj, Vakhsh, Kafirnigan, Zeravshan and Syrdarya.

Brief description of natural ecosystems of the Republic of Tajikistan (According to “National Strategy and Action Plan for the Conservation and Rational Use of Biodiversity of the Republic of Tajikistan”):

1) Nival glacial ecosystems occupy the highlands of the country, a significant part of the Eastern and Western Pamir. They have great climate-forming and ecological importance at the regional and global level.

2) High-mountain-desert ecosystems occupy vast areas of the Eastern and Western Pamir, with fragmentary occurrences in the Zeravshan River basin.

3) High-mountain meadow-steppe ecosystems are found in fragments and sometimes in the form of huge strips on all mountain ranges of the Republic of Tajikistan and are of great ecological importance. Most of the territory of this ecosystem is the habitat of rare endemic species of mammals, birds, insects and valuable plant communities. This ecosystem is intermediate between forest (lower boundary), subnival and nival (upper boundary) ecosystems.

4) Mid-mountain coniferous forest ecosystems make up about 50% of the total forest cover in the country. They are widespread in Northern Tajikistan, within the Kuramin, Turkestan and Zeravshan ranges. Small fragments of them are found in Central, South-Western Tajikistan and in the Western Pamir Mountains.

5) Mid-mountain mesophilic forest ecosystems are widespread throughout the country, with the exception of Northern and Southern Tajikistan. These forests contain a significant number of rare endemic species of animals and plants.

6) Mid-mountain xerophytic sparse forest ecosystems occupy vast territories of Southern and Western Tajikistan, and small fragments of them are also found in Northern Tajikistan.

7) Mid- and low-mountain semi-savanna (savannoid) ecosystems are widespread in southern and northern Tajikistan. They are developed in hot climatic conditions.

8) Foothill semi-desert/desert ecosystems occupy high terraces of the valley part of the lower flows of large rivers - Pyanj, Vakhsh, Kafirnigan, Syr Darya and Zeravshan.

9) Aquatic and coastal ecosystems. These include tugai (sometimes tugai forests), meadow-marsh (in the lower reaches of rivers), aquatic and near-water ecosystems.

Flora

The Republic of Tajikistan as a typical mountain country is unique with its high-altitude flora distribution and its geographic isolation. The flora of the Republic of Tajikistan makes up 1.9% of the world diversity of plants. Wild relatives of cultivated plants include 1000 species, endemics - 1132 species, the number of rare and endangered species - 226, only fodder plants number more than 300 species. There are more than 50 species of wild fruit trees and shrubs, among which nut-bearing trees are of special importance. The main types of woody vegetation are broad-leaved and small-leaved forests, tugai (floodplain forests), xerophytic sparse forests, juniper forests.

The Red Book includes 226 species of both lower and higher plants belonging to 126 genera and 52 families. Of these, 4 species are fungi, 8 are mosses, 6 are ferns, 1 is a gymnosperms (eastern thuja), and 208 are angiosperm species. Most species are herbaceous plants (199), only 27 species are trees and shrubs [tj-nr-04-ru].

Some plant communities typical for the Republic of Tajikistan are: broad-leaf forests (Acer turkestanicum, Juglans regia), tugai flood plain forests (*Populus pruinosa, Elaeagnus angustifolia, Tamarix laxa, Phragmites communes*), small leaf forests (*Salix turanica, Hippophae rhamnoides, Populous tadshicistanica, Betula tadshicistanica*), juniper forests (*Juniperus turkestanica, J. seravschanica, J. semiglobosa*), sparse forests (*Pistacia vera, Cercis griffithii, Amygdalus bucharica*), saxaul deserts, shrub deserts, steppes, meadows, and thorny dwarf shrubs.

According to vertical zonality, the following types of vegetation are widespread in the Republic of Tajikistan in various natural ecosystems:

1) Nival glacial ecosystems: in the cold rocky glacial conditions of this ecosystem there are no more than 16-17 species of flowering plants - *Melandrium apetalum*, *Draba altaica*, *Astragalus nivalis*, *Saussurea glacialis* and others.

2) High-mountain-desert ecosystems: the vegetation is dominated by *Ceratoides kraschenninnikovia*, *Artemisia pamirica, A.korshinskyi*, *Ajania tibetica*, *Stipa glareosa*, *Oxytropis immersa* and *Acantholimon diaspensioides*, *A.pamiricum*. They include some endemic, rare

and endangered plant species - Badakhshan dandelion (*Taraxacum badachschanicum*), Pamir desideria (*Desideria pamirica*) and others.

3) High-mountain meadow-steppe ecosystems: The main cenosis-forming species in this ecosystem are: *Festuca alaica, F.pamirica*, *Stipa kirghisorum*, *Poa alpina*, *Carex melanantha, C.stenocarpa*, *Cobresia stenocarpa*, *Oxytropis savellanica*, *Thymus seravshanicus* and others.

4) Mid-mountain coniferous forest ecosystems are represented by juniper forests and sparse forests of 4 species: *Juniperus seravschanica, J.turkestanica, J.semiglobosa* and *J.sibirica*, among which the forest-forming species are the Seravschan juniper (*J.seravschanica*), the Turkestan juniper (*J.turkestanica*) and the semi-spherical juniper (*J.semiglobosa*).

5) Mid-mountain mesophilic forest ecosystems are represented by maple-walnut, willow-poplar-birch forests with sparse mesophilic shrubs. The most valuable communities of these ecosystems are broad-leaved mesophilic relict forests: walnut (*Juglans regia*) and maple (*Acer turkestanicum*) forests are widespread in Central Tajikistan. Large areas of small-leaved forests - birch forests (Betula tianschanica) - are found in the Zeravshan River basin, on the territory of the Karategin Range and the Western Pamir, mesophilic shrubs are found mainly in Central Tajikistan.

   Forest plant communities contain a significant number of wild relatives of fruit trees – apple (*Malus*), pear (*Pyrus*), cherry plum (*Prunus*), hawthorn (*Crataegus*), barberry (*Berberis*) and other species that create the most favorable ecological niche for large mammals, including rare and endangered ones.

6) Mid-mountain xerophytic-sparse forest ecosystems are represented by sparse forests of pistachio, maple (Regel), hackberry, and ephedra. Pistachio forests in dry, hot areas perform water-regulating functions and are an optimal habitat for wild animals of arid zones. Wild relatives of *Hordeum spontaneum*, *Vicia tenuifolia*, *Amygdalus bucharica*, *Diospyros lotus*, *Zizyphus jujuba*, *Punica granatum*, *Vitis vinifera* and others grow in this ecosystem.

7) Mid- and low-mountain semi-savanna (savannoid) ecosystems. The main valuable communities of this ecosystem are tall-grass-tall-cereal and forb-shrub communities. The dominant species are *Hordeum bulbosum*, *Poa bulbosa*, *Carex pachystylis, Ferula kokanica, F.kuhistanica, Phlomis bucharica* and other plant species.

8) Foothill semi-desert/desert ecosystems: the main dominants of the vegetation cover of this ecosystem are *Haloxylon persicum, Calligonum litvinovii, Salsola richteri, Artemisia tenuisecta, Hammada leptoclada, Carex physodes, Halostachys belangeriana,* and *Halocharis hispida*.

9) Aquatic and coastal ecosystems. The main dominants of the vegetation are *Populus pruinosa, Elaeagnus angustifolia, Lycium dasystemum, Typha angustifolia, Imperata cylindrica, Phragmites communis, Saccharum spontaneum, Tamarix hispida, Juncus articulatus* and other plant species.

Fauna

There are 84 species and subspecies of mammal, 385 species of bird, 46 species of reptile, 52 species of fish, 2 species of amphibian, and more than 10,000 species of invertebrate. Such diversity takes place due to the specific geographical location of the Republic of Tajikistan inside the Eurasian continent with its diverse habitats, ranging from the hot lowland deserts to the high mountains.

Mountain fauna is richer than in the plains and contain a substantial number of European-Siberian and East Asian elements. The fauna of the hot, lowland deserts comprises plenty of Indo-Himalayan, Ethiopian, and Mediterranean species.

A few rare and endangered species of animals should also be listed, such as screwhorned goat, argali, urial, Bukhara red deer, snow leopard, Central Asian cobra, desert monitor, peregrine, snow-cock, and others.

The natural ecosystems of Tajikistan are characterized by the following fauna species:

1) Nival glacial ecosystems: Among the animals, large mammals listed in the Red Book of the

Republic of Tajikistan are found at the lower boundaries of the distribution of these ecosystems: argali (*Ovis ammon polii*), snow leopard (*Uncia uncia*), Siberian ibex (*Capra sibirica*), which are rare and endangered.

2) High-mountain desert ecosystems: The main animals are argali (*Ovis ammon polii)*, snow leopard (*Uncia uncia*), Siberian ibex (*Capra sibirica*), red marmot (*Marmota caudata*), Tibetan saja (*Syrrhaptes tibetana*), as well as some species of butterflies - swallowtail (*Papilio machaon*), common apollo (*Parnassius apollo*), alexanor (*Papilio alexanor*) and others.

3) High-mountain meadow-steppe ecosystems: The fauna of this ecosystem includes: snow leopard (*Uncia uncia*), argali (*Ovis ammon polii*), red marmot (*Marmota caudata*), *Syrrhaptes tibetana*, Siberian ibex (*Capra sibirica*), Tibetan snowcock (*Tetraogallus tibetanus*) and others.

4) Mid-mountain coniferous forest ecosystems: a number of rare and endangered animal species are found in juniper forests: Tien Shan brown bear (*Ursus arctos*), urial (*Ovis vignei bochariensis*), markhor (*Capra falconeri*), blunt-nosed viper (*Vipera lebetina*), wood pigeon (*Columba palumbus*) and others.

5) Mid-mountain mesophilic forest ecosystems. Mammals: weasel (*Mustela nivalis pallida, M.n.heptneri*), Turkestan lynx (*Felis lynx*), snow leopard (*Uncia uncia*), urial (*Ovis vignei bochariensis*), Tien Shan brown bear (*Ursus arctos*), Indian porcupine (*Hystrix leucura*); birds: wood pigeon (*Columba palumbus*), pheasant (*Phasianus colchicus*), golden eagle (*Aquila chrysaetus*), Egyptian vulture (*Neophron percnopterus*) and others.

6) Mid-mountain xerophytic-sparse forest ecosystems: The fauna of this ecosystem is much richer than others. Large mammals include: goitered gazelle (*Gazella subgutturosa*), urial (*Ovis vignei bochariensis*), wolf (*Canis lupus*), fox (*Vulpes vulpes*), reptiles include the Central Asian cobra (*Naja oxiana*), steppe tortoise (*Testudo horsfieldi*) and others.

7) Middle and low mountain semi-savanna (savannoid) ecosystems: The fauna, with the exception of insects, is represented by a small species composition with summer and winter dormancy. Of the reptiles, the steppe tortoise (*Testudo horsfieldi*), the yellow-bellied turtle (*Ophisaurus apodus*) are background ones. There are rare and endangered species - the desert partridge (*Ammoperdix griseogularis*), great bustard (*Otis tarda*), long-legged skink (*Eumeces schneideri*), goitered gazelle (*Gazella subgutturosa*), Turkestan saker falcon (*Falco cherrug*), golden eagle (*Aquila chrysaetus*) and others.

8) Foothill semi-desert-desert ecosystems: the fauna of the ecosystem is represented by specific species adapted exclusively to open spaces with sparse vegetation and an extremely hot, dry climate. Mammals are represented mainly by such species as the goitered gazelle (*Gazella subgutturosa*), long-eared hedgehog (*Paraechinus hynomelus*), and steppe cat (*Felis libyca*). Reptiles include the steppe agama (*Agama sanguinolenta*), Gray's monitor lizard (*Varanus griseus*), arrow snake (*Taphrometopon lineolatum*), sand viper (*Echis carinatus)*, and xerophilous species predominate among arthropods.

2) Aquatic and coastal ecosystems. The fauna of tugai forests is much richer than in sandy-desert ecosystems. A significant part of animals find shelter in tugai forests in winter. For example, such birds as white and grey heron (*Egretta alba, Ardea cinerea*), bittern (*Botaurus stellaris*), garganey (*Anas querguedula*), marsh harrier (*Circus aeruginosus*), water rail (*Rallus aquaticus*), moorhen (*Gallinula chloropus*), pheasant (*Phasianus colchicus*), little cormorant (*Pholacrocarax pugmeus*), great cormorant (*Ph.carbo*), short-toed snake eagle (*Circaetus ferox*) and others spend the winter in tugai forests. The background species of tugai mammals are the jungle cat (*Felis chaus*), jackal (*Canis aureus*), Bukhara deer (*Cervus elaphus bactrianus*) and others.

Natural Protected Areas

Since 1938, protected natural areas have been developing in the Republic of Tajikistan. The protected areas preserve the natural ecosystems of the Republic of Tajikistan and their biological diversity. The Republic of

Tajikistan has a sufficient and extensive system of protected areas. Protected areas of the Republic of Tajikistan occupy a total area of 3.1 million hectares or 22% of the territory of the republic and include: 4 reserves with a total area of 173,418 hectares, 12 wildlife sanctuaries on an area of 313,260 thousand hectares; 1 national and 1 historical and natural park with a total area of 2,603,000 hectares. Natural monuments, occupying insignificant areas, are represented by various unique natural objects and are taken under state protection. In total, this status has currently been assigned to 162 objects in the Republic of Tajikistan.

In the territories of the protected natural area, about 12,000 species of plants, 85 species of mammals, 10,000 species of invertebrates, 44 reptiles, 49 species of fish, 346 species of birds, many of which are of international importance, are protected and monitored.

Table 9: List of the Natural Protected Areas of the Republic of Tajikistan [31]

Name	Year of establishment	Area	Province
Nature reserves			
State Nature Reserve "Tigrovaya Balka" (Taj. Beshai Palangon)	1938	49700	Khatlon region
State Nature Reserve "Ramit"	1959	16200	Vakhdat region
State Nature Reserve "Dashti Jum"	1983	19700	Khatlon region
State Nature Reserve "Zorkul"	State Nature Reserve "Zorkul"	87700	Mountainous Badakhshan Autonomous regiont
Wildlife sanctuaries			
Zeravshan (complex)		2300	Sogd region
Iskanderkul (complex)		30000	Sogd region
Nurek (complex)		34000	Khatlon region
Childukhtaron (complex)		14500	Khatlon region
Sangvor (complex)		9000	РРП
Muzkol (complex)		66900	Mountainous Badakhshan Autonomous regiont
Aktash (complex)		15000	Sogd region
Karatau (complex)		14400	Khatlon region
Sayvota (botanical)		4100	Sogd region
Darai “Sabz” (botanical)		18280	Sogd region
Almas (botanical)		6000	Gissar region
Dashti Jum (zoological)			Khatlon region
Nature parks			
Tajik National Park (taj. Bogi milli Тоҷikiston)	1992	2600000	Mountainous Badakhshan Autonomous regiont
Shirkent Historical and Natural Park (taj. Bogi ta'rihiyu tabii Shirkent)	1991		Tursunzade region
Sari Khosor Nature Park (taj. Bogi tabii Sari Khosor)			Khatlon region
Yagnoba National Park	2019		Sogd region

[31] Source: https://ru.wikipedia.org/

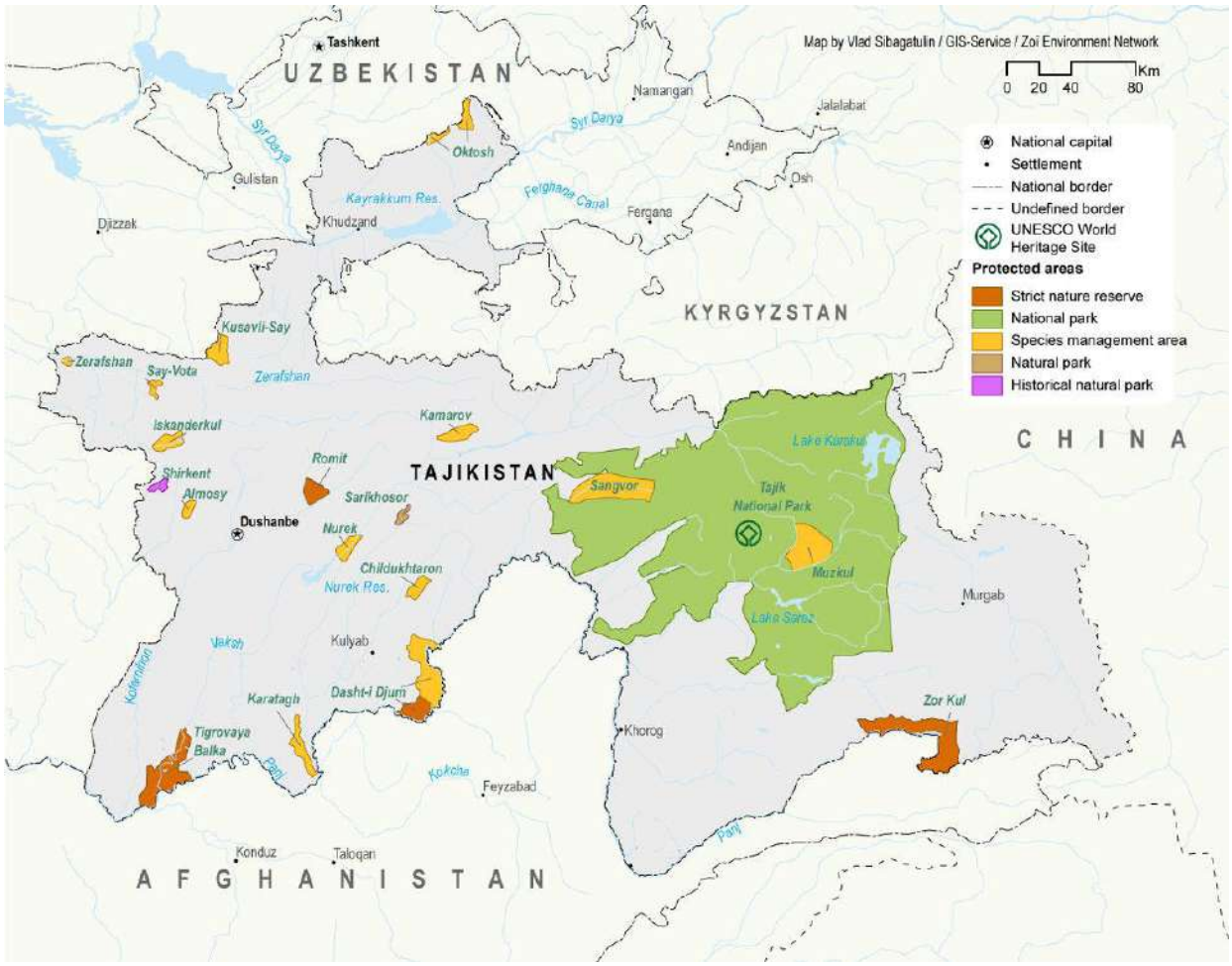


Figure 6: Map of protected areas of the Republic of Tajikistan [32]

Four sites from the Republic of Tajikistan are included in the UNESCO World Heritage List:

- Tajik National Park (Pamir Mountains) (included in 2013),
- Tugai forests of the Tigrovaya Balka Reserve (included in the UNESCO World Heritage List in 2023),
- Zarafshan-Karakum Corridor (included in the UNESCO list since 2023).

Tajik National Park (Pamir Mountains). This unique territory of more than 2.5 million hectares occupies almost 20% of the entire the Republic of Tajikistan. The national park is located in the middle of the Pamir Mountain range, where the highest peaks of Eurasia are concentrated. Every year, hundreds of people from all over the world come to conquer the seven-thousand mountains. On the territory of the Pamir Reserve, which is part of the National Park, there are more than a thousand glaciers, and almost fifty lakes, and a rich world of flora and fauna. It is expected that in 2030, the Tajik National Park will become a biosphere zone and a large part of the International National Park, which will include the territories of Afghanistan, Pakistan and China.

The Fedchenko Glacier is located in the Pamirs, which is considered the longest in the world outside the polar regions. Lake Karakul is also on the list of the "most". It is believed that this is the highest lake of meteorite origin in the world. And also, here live rare species of animals that are included in the Red Book. Also, this area is seismically active, which is why earthquakes occur here frequently.

Tugai forests of the Tigrovaya Balka Reserve is a protected area that includes the Kashka-Kum desert, the Khodja-Koziyon mountains, the Buritau peak and huge tugai forests. These forests are the only place on the planet where an entire ecosystem of tugai forests with Asian poplar has remained untouched. In addition, there is great biodiversity here.

[32] http://www.tourism.tj/index.php/ru/o-tadzhikistane/66-okhrana-okruzhayushchej-sredy

The ***Zarafshan-Karakum corridor*** is a UNESCO natural site that is protected in the Republic of Tajikistan, Turkmenistan and Uzbekistan. This is the most important section of the Great Silk Road in the territory of modern Central Asia, which connected all other caravan routes. There are nine sites on the territory of the Republic of Tajikistan: ancient Penjikent, Gardani Hisor, the mausoleum of Khoja Muhammad Bashoro, the ancient settlement of Sanjarshah, the fortress of Hisorak, the castle of Mug, the fortress of Kum, Tali Khamtuda, as well as the irrigation system of Toksankoriz (Toksankorez).

4.1.3. Social Environment

Administrative structure

The Republic of Tajikistan consists of the city of republican significance Dushanbe, the Gorno-Badakhshan Autonomous Region, Sughd and Khatlon regions, 17 cities, 62 districts (including 13 districts of republican subordination), 55 villages and 368 rural jamoats (rural communities).

The Republic of Tajikistan is one of the countries with a rapidly growing population; in 2021, it reached 9.5 million people (49% of them are women, 40.6% are children under 18 and 66% are young people under 30).17 The average permanent population in the Republic of Tajikistan has increased from 6.1 million., people (2000) to 9.5 million people (2021), or 49 percent. About 74 percent of the population lives in rural areas. The population of the Republic of Tajikistan is very young; for the past 70 years the number of populations increased in 6 times. The annual population growth rate in the country varies between 2.1 – 2.5%. According to the latest estimates, the average age of the population is 25, and median age is 22.4.

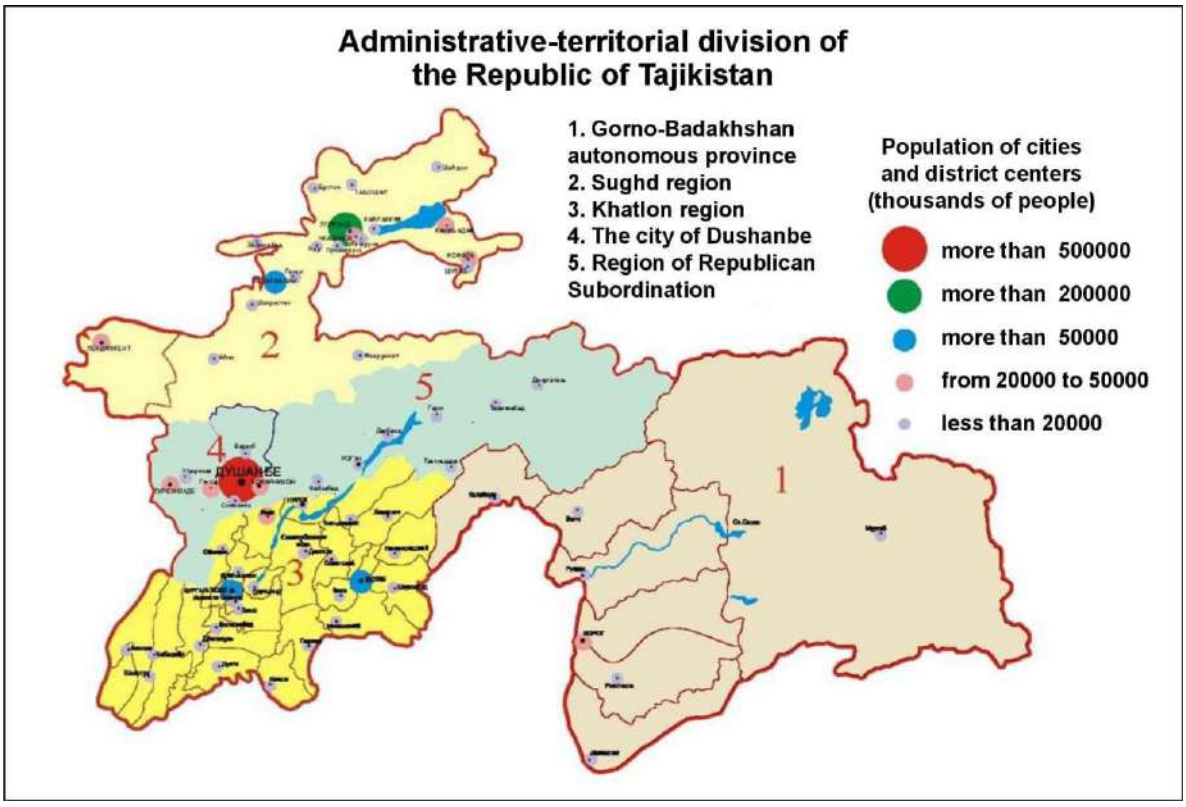


Figure 7: Administrative map of the Republic of Tajikistan

Ethnicity, Religion and Language

Ethnic groups present in the Republic of Tajikistan are Tajik 84.3% (includes Pamiri and Yagnobi), Uzbek 13.8%, and other 2% (includes Social development, Russian, Turkmen, Tatar, Arab).

the Republic of Tajikistan considers itself a secular state with a constitution providing for freedom of religion. Sunni Islam of the Hanafi school has been officially recognized by the government since 2009. The government has declared two Islamic holidays, Eid ul-Fitr and Eid al-Adha, as state holidays. The population of the Republic of Tajikistan is 98% Muslim.

According to the 1994 Constitution, Tajik is the state language and Russian is a language of international communication with post-Soviet countries. Tajik is the language most widely used in the country, although Russian continues to be used, mainly in urban areas. In the Project area, Tajik is the main language, and many people do not speak Russian, particularly women in the small villages.

Cultural Heritage

The Republic of Tajikistan became a full member of UNESCO in 1993. Today, this country has four tangible World Heritage sites and 15 sites on the tentative list.

The Republic of Tajikistan cooperates with UNESCO on cultural and historical heritage issues, conducting research on territories and archaeological sites that may be of interest to the entire world. In 2004, Dushanbe, which is the capital of Tajikistan, became a city of peace according to UNESCO.

Sarazm is an ancient settlement of the 4th-3rd millennia BC. This place, the name of which literally translates as "where the earth begins", is evidence of the early development of people in the Central Asian territory. Even in those days, there was cultural and trade exchange here. Scientists have found evidence of exchange and trade between Sarazm and Mesopotamia, modern India and Turkmenistan. Also, not only the caravans of the Great Silk Road passed through here, but also the routes of the Great Lazurite and Tin Roads. In Sarazm, ruins of palaces and religious buildings have been preserved. All this was found by scientists in the second half of the 20th century during the discovery of an ancient settlement. Therefore, archaeological work is still being carried out on 17 hectares of the ancient settlement.

Material monuments of the cultural heritage of Tajikistan included in the preliminary list of UNESCO World Heritage Sites:

- Mausoleum of Amir Hamza Hasti-Podshokh (included in 1999). This medieval building is decorated with Arabic epigraphy, which has no analogues in the world.
- Ancient settlement of Batudasht IV (included in 1999). Only ruins located on 10 hectares remain from the prehistoric settlement. During archaeological excavations, religious buildings and other artifacts from the 6th-4th centuries BC were found here.
- Ancient settlement of Takhti-Sangin (included in 1999). It was here that the famous structure was discovered - the Oxus Temple, which was built no later than the 3rd century BC. Archaeologists also found many Greco-Macedonian weapons and a hoard of coins dating back to the 4th-3rd centuries BC. Buddhist Monastery of Ajina Tepe (included in 1999). On the hill of Ajina Tepe, which is located near the city of Bokhtar, are the remains of a Buddhist monastery of the 6th-8th centuries. Monastic cells and some buildings have been preserved here. During excavations on the territory of the monastery, a 12-meter statue of Buddha was found, which is depicted lying on its right side.
- Mausoleum of Khoja Mashad (included in 1999). The complex, consisting of a mosque, madrasah and mausoleum, was built between the 9th and 12th centuries. The earliest building is the eastern mausoleum.
- Mausoleum of Khoja Nakshiron (included in 1999). The mausoleum of the 11th-12th centuries combines two small crypts lined with brick. The mausoleum is a unique structure of the pre-Mongol period, as it has a protruding portal, which is not typical for those times.
- Ancient Penjikent (included in 1999). In the 5th-8th centuries, there was a large city with a fortress, residential areas, trading areas and a necropolis.
- Ancient city of Shakhriston (Kahkakha) (included in 1999). In the 6th-9th centuries, the capital of the ancient state of Ustrushan was located here. The ruins of the palace of Kalai Kahkakha II, a trading area, and the remains of a mosque erected on the site of a pagan temple have survived to this day.
- Mausoleum of Muhammad Bashoro (included in 1999). It was built in the 11th-12th centuries and united a mosque and a mausoleum under one roof. The building has been preserved quite well.

- Zorkul State Nature Reserve (included in 2006). This amazing territory contains lakes, rivers and an abundance of high-mountain vegetation. It is also home to mammals and birds.
- Dashti Jum State Nature Reserve (included in 2006). There are four types of forests on the territory of the reserve. It is also home to dozens of species of animals, birds and fish, some of which are listed in the Red Book.
- Kusavlisay Nature Reserve (included in 2006). The main goal of this reserve is to preserve the juniper forest with three types of junipers.
- Fann Mountains (included in 2006). This is one of the most significant mountain ranges of the Hissar and Zerafshan ranges. The Fann Mountains have a unique landscape that has not been affected by human economic activity.
- Sights of the Great Silk Road in Tajikistan (included in 2013). These include ancient Penjikent, the Bunjikat settlement, the Gissar Castle, the Buddhist monastery of Ajina-Tepe, the Takhti-Sangin settlement, the Khoja Mashad mausoleum and the ancient settlement of Khulbuk.
- Khulbuk is the capital of ancient Khuttal (included in 2021). The palace complex and some historical buildings, including ancient baths, religious buildings and cemeteries, have been preserved here.

Health system and health status in the Republic of Tajikistan [33]

The Republic of Tajikistan's health system is centrally organized. Tajikistan is a former Soviet country in central Asia, and the organization and governance of its health sector is still in large parts shaped by its Soviet legacy. Ownership and administration of most health facilities have remained almost exclusively in the public sector. Private sector involvement is small but there has been a progressive opening of the health sector in recent years to private provision, for certain diagnostic and ambulatory care services and dental care.

The organization and governance of the health system is shaped by the general system of public administration. The government is responsible for approving the national health policy, which is developed by the Ministry of Health and Social Protection of Population (MOHSPP) of the Republic of Tajikistan. The Ministry of Finance is charged with the implementation of the state budget. The MOHSPP is responsible for funding the republican health facilities and regulating service provision. Local government bodies at the provincial (viloyat or oblast) and city/district (rayon) levels are responsible for health service provision and funding at these levels. Generally, decentralization of policy-making from the national to the local government remains limited.

There are geographical and financial barriers to accessing health services. Physical access to specialist services can be a challenge in rural areas, in mountainous and remote locations. Due to the high prevalence of out-of-pocket payments, there are also major financial barriers to accessing services, especially for poorer groups of the population.

Vaccination coverage rates are high for many vaccine-preventable diseases in the Republic of Tajikistan. The National Immunization Programme is a priority for the government, which has received support from the Global Alliance for Vaccines and Immunization (GAVI) since 2001 (GAVI, 2022). One challenge for the programme is to achieve financial sustainability for the procurement of traditional and novel vaccines. The Republic of Tajikistan remains the only country in the WHO European Region that is not able to cover the cost of traditional vaccines for the population.

Rates for some infectious diseases have improved in recent years. The incidence of measles in the Republic of Tajikistan is reported to be exceedingly low, recorded as 0.1 per 100 000 in 2019, compared with a WHO European Region average of 11.2 and the Central Asian Republics average of 24 in the same year (WHO, 2022b).

[33] https://iris.who.int/bitstream/handle/10665/362327/9789289059206-eng.pdf

Following the civil war in the 1990s, the Republic of Tajikistan has seen progress in many areas of health. These include reductions in infant and child mortality, in maternal mortality and mortality from communicable diseases, and increases in overall life expectancy.

In 2017, life expectancy at birth in the Republic of Tajikistan was 74.5 years. This was lower than the WHO European Region as a whole (78.3), but above the 2015 average of central Asia (73 years) and higher than in Kazakhstan (73.1 years in 2017) and Uzbekistan (73.9 years in 2016).

The Republic of Tajikistan, at 29.6 deaths per 1 000 live births, had the second-highest estimated rate of infant mortality in the WHO European Region in 2019, more than four times the WHO European Region average of 7 deaths per 1 000 live births. However, this was an improvement from an estimated 67.6 deaths in 2000.

Maternal mortality is also high, estimated at 17 maternal deaths per 100 000 live births in 2017, which was higher than the WHO European average of 12.7, but lower than the central Asian average of 23.6. Here, too, major improvements have been made, with maternal mortality estimated at 53 deaths in 2000.

Internationally reported data on mortality in the Republic of Tajikistan do not allow a detailed analysis of trends in causes of death, due to gaps in reporting. Furthermore, the causes of many deaths (130 per 100 000 population or 14.2% of all deaths) are ill-defined, indicating problems in cause of death registration.

According to data reported for 2017, ischemic heart disease was the leading cause of death, at 138 deaths per 100 000 population, a decline from 221 in 2005, and much lower than the rate of 240 in Central Asia overall. Stroke was the second leading cause of death in 2017, at 133 deaths per 100 000 population.

Reporting of deaths from cancer was more consistent, with 67.9 deaths per 100 000 population in the Republic of Tajikistan in 2017, which was below the averages for central Asia (92.2 in 2015) and the WHO European Region (146.8 in 2017). Stomach cancer is the most prevalent type and has seen an increase in mortality in recent years.

Deaths connected with diabetes appear to have also increased substantially, from 23.3 per 100 000 population in 2005 to 48.2 in 2017. This compares to a smaller increase in central Asia overall, from 21.2 in 2005 to 31.5 in 2015, and a largely stagnating trend in the WHO European Region overall (from 14.6 in 2005 to 15 in 2017).

Like many of its central Asian neighbors, the Republic of Tajikistan struggles with tuberculosis (TB). Its estimated prevalence rate in 2014, at 128 per 100 000 population, was more than twice the rate of the WHO European Region as a whole (48). The Republic of Tajikistan is also among 27 countries worldwide with a high burden of multidrug-resistant TB (MDR-TB).

Another risk factors include environmental factors such as air pollution, poverty and poor access to water and sanitation.

Access to safe water varies considerably across the Republic of Tajikistan. In urban areas, water systems are badly decayed and subject to frequent service outages. In rural regions, where less than half of residents have access to improved water sources, large parts of the population take their water from ponds, canals, rivers and other unsafe sources. Inevitably, this leads to issues around sanitation, including for health care settings.

Air pollution is considered a risk for population health in the Republic of Tajikistan, but data on air quality and emission sources are scarce. The burning of solid fuels (such as wood) in homes is also a contributing factor to poor air quality, with one fifth of the population in 2016 estimated to have to use such fuels.

Poverty is one of the primary factors affecting population health in the country. While the percentage of the population living below the national poverty line declined from 73% in 2003 to 33% in 2014, over a quarter of the population (27.4%) was below the poverty rate at national poverty lines in 2018. Both absolute and relative poverty continue to cause challenges for health through various socioeconomic factors. These include poor housing, access to clean water and sanitation, use of polluting household fuels, and education levels.

4.2. Brief Description of Laboratory Services under the Project Beneficial Ministries

4.2.1. Laboratories of the Ministry of Agriculture

The Ministry of Agriculture has a wide mandate that encompasses all aspects of agricultural development, including crop and livestock production, agricultural policy, and rural development. It oversees various sectors, including research, extension services, and agricultural input management. The Ministry also operates laboratories related to agriculture (e.g., soil testing, plant protection, veterinary services). However, these laboratories are not included in the project.

4.2.2. Laboratories of the Committee for Food Security under the Government of the Republic of Tajikistan

Food safety is a key priority for the Government of the Republic of Tajikistan[34]. It is included as one of the four strategic development goals of the National Development Strategy of the Republic of Tajikistan for the period up to 2030.

The Law of the Republic of Tajikistan *"On the Quality and Safety of Food Products"* of 2012, along with many by-laws and regulations, forms a comprehensive legal basis for ensuring food safety in the country.

In 2017, the Committee for Food Security under the Government of the Republic of Tajikistan (**Figure 8**) was established as a central body performing special executive, supervisory and coordinating functions to ensure food security (including food safety). In addition, the multi-sectoral Food Safety Council coordinates work related specifically to food safety. The Council will be the responsible body overseeing the development and implementation of the Food Security Strategy, which is expected to be completed by the end of 2019. The strategy aims to ensure food safety to better protect consumer health, further develop national agriculture and food production, and promote agricultural and food exports.

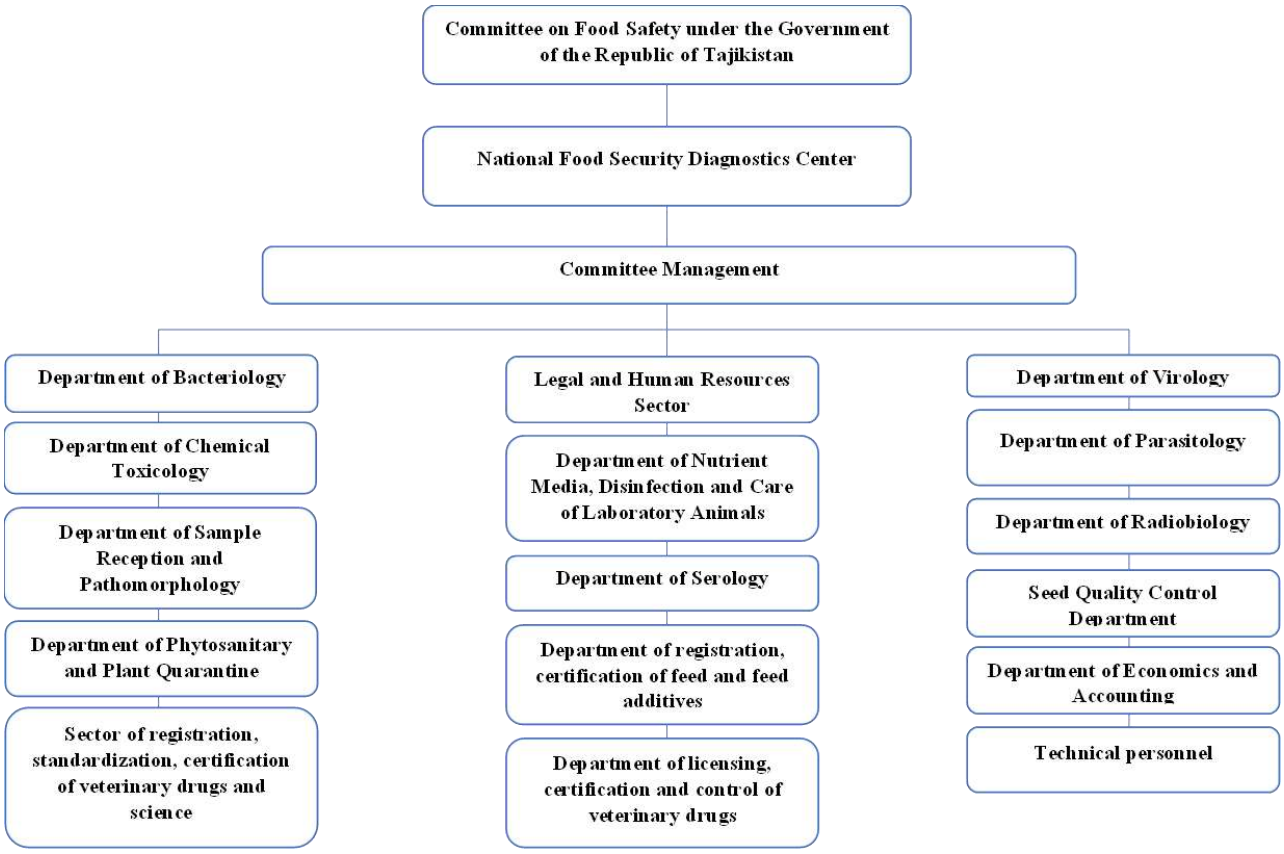


Figure 8: Committee for Food Security under the Government of the Republic of Tajikistan

[34] https://iris.who.int/bitstream/handle/10665/339323/9789240018587-rus.pdf?sequence=5

In order to ensure food safety, there is *National Food Security Diagnostics Center* based in Dushanbe city and its *regional, district and city centers* (**Figure 9**) conducted the following types of research:

- Determination of animal feed quality;
- Animal health research;
- Animal disease research;
- Sanitary and hygienic research of livestock facilities and food processing facilities;
- Control of livestock product processing;
- Chemical and toxicological analysis;
- Bacteriological analysis;
- Virological analysis;
- Serological analysis;
- Radiobiological analysis;
- Passivological analysis;
- Determination of mycotoxins;
- Determination of antibiotics;
- Determination of heavy metal salts;
- Determination of pesticides.

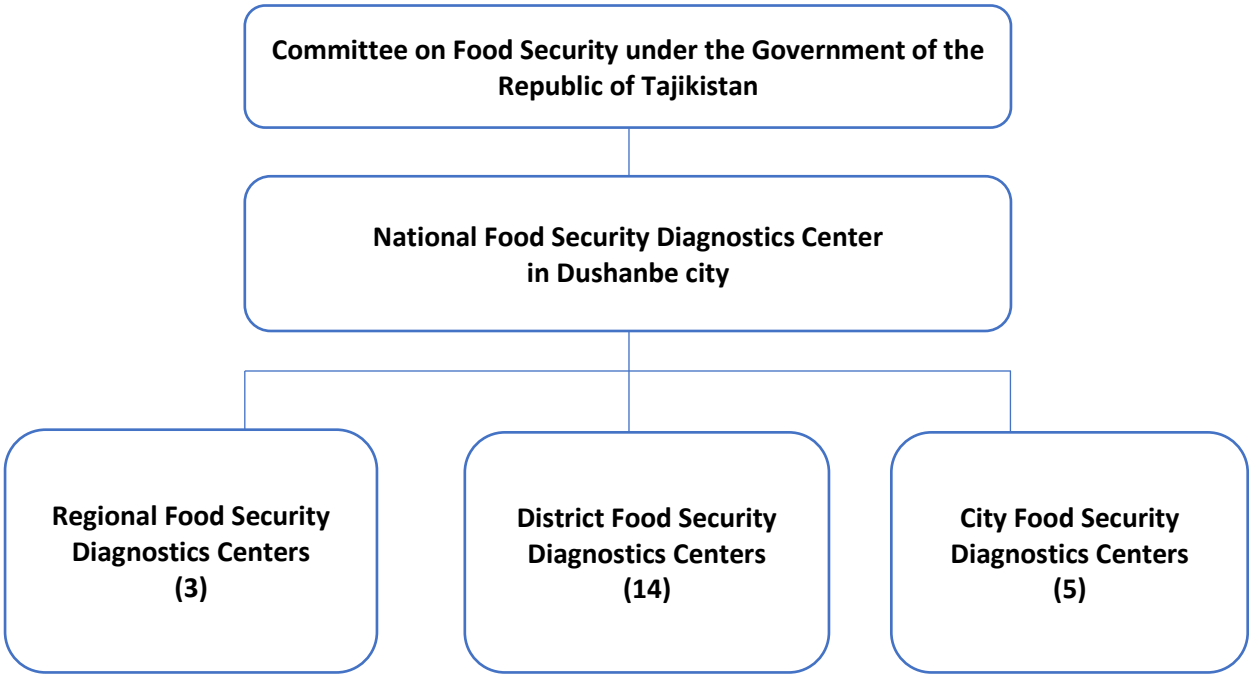


Figure 9: National Food Security Diagnostics Center

The Republic of Tajikistan uses a disease-based approach to surveillance, risk assessment, and response to disease outbreaks and public health emergencies. Surveillance focuses on a list of notifiable diseases, which includes food poisoning and intoxication. Treatment recommendations are available for each notifiable disease.

Detection of foodborne diseases is reported to the district branch of the Department of Sanitary and Epidemiological Safety, Emergencies and Emergency Medical Care under the MOHSPP, which collects surveillance data and transmits them to the regional level and, ultimately, to the central level of the above-mentioned department. Contamination monitoring in fresh food is carried out by the Food Safety Council. 65 laboratories conduct veterinary and sanitary epidemiological surveillance of food products in markets in support of food inspection services. The National Codex Alimentarius Focal Point is also based in the MOHSPP, and the National Codex Alimentarius Committee serves as a multidisciplinary mechanism for information exchange and coordination between ministries and agencies working in the field of food safety.

4.2.3. Laboratories of the Committee of Environmental Protection

Committee for Environmental Protection under the Government of Tajikistan[35] 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.

Sector of Specially Protected Natural Areas. The State Institution "Specially Protected Natural Areas" was established by the Resolution of the former Council of Ministers of the Republic of Tajikistan in accordance with No. 267 of July 20, 1992 in order to ensure the stability of the biological balance of nature, the protection of rare species of flora and fauna, specific natural ecosystems, biological monitoring, ecotourism, mountaineering and the implementation of research work on the analysis and assessment of processes.

In accordance with the Decree of the Government of the Republic of Tajikistan dated March 30, 2020, No. 195, the State Institution "Specially Protected Natural Areas" was transferred from the jurisdiction of the Forestry Agency under the Government of the Republic of Tajikistan to the jurisdiction of the Environmental Protection Committee under the Government of the Republic of Tajikistan.

There are 5 main departments of environmental protection under the Sector of Specially Protected Natural Areas:

- Main Department of Environmental Protection of the Gorno-Badakhshan Autonomous Region
- Main Department of Environmental Protection of the Sughd Region
- Main Department of Environmental Protection of the Khatlon Region
- Main Department of Environmental Protection of the Dushanbe city
- Main Department of Environmental Protection of the Areas of Republican Subordination.

The detailed information on protected areas is provided in Chapter 4.2.2.

Under this project, it is planned to create 10 quarantine enclosures. The wildlife enclosure in specially protected natural areas is designed to care for and rehabilitate animals, with dedicated facilities for treatment, quarantine, and preventive health measures. The enclosure provides a secure space for animals that require medical attention, vaccinations, or quarantine as part of conservation and disease management efforts. Preliminary design for wildlife and bird enclosures provided by the Committee for Environmental Protection under the Government of Tajikistan.

[35] http://tajnature.tj

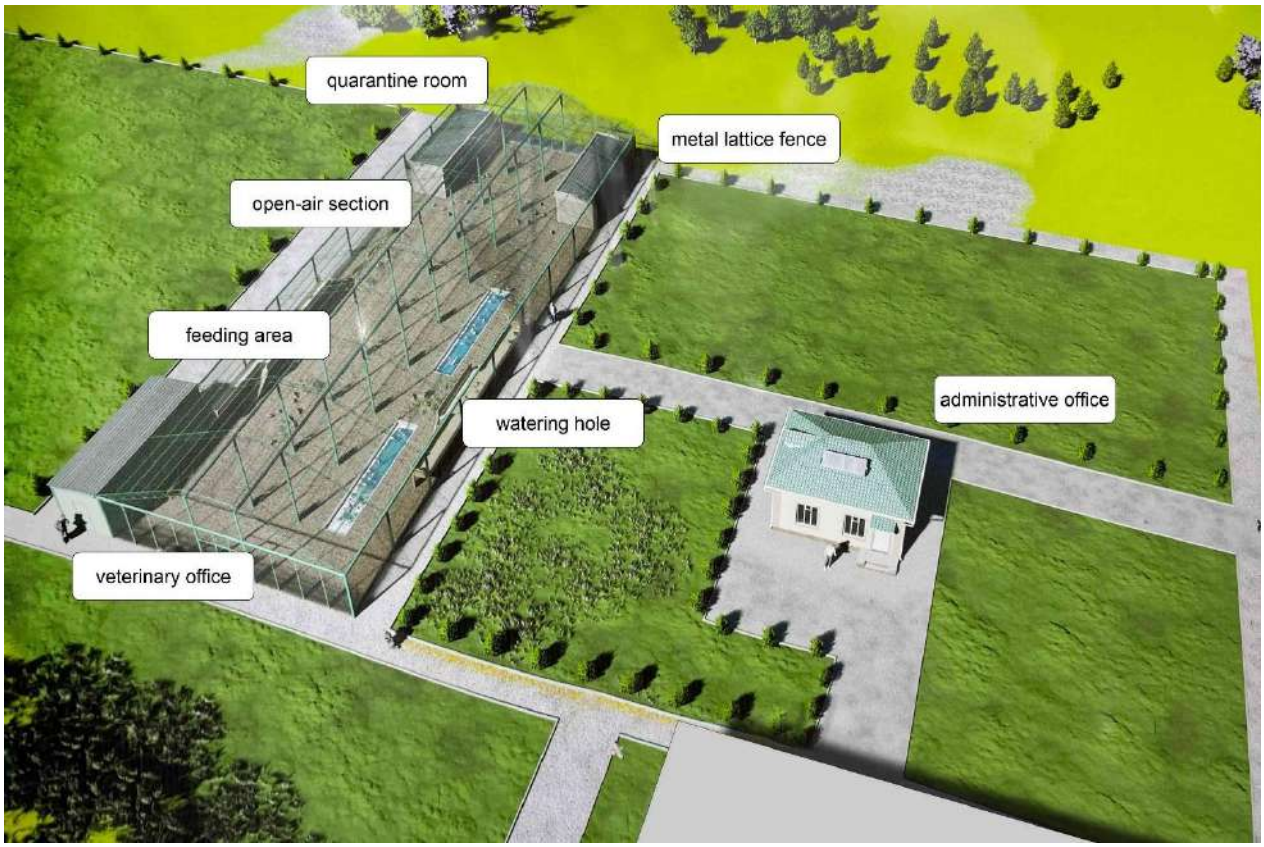


Figure 10: Example of wildlife enclosure

Key Features of the Enclosure

Quarantine Enclosures: All animals entering the protected area undergo a 30-day quarantine in isolated, fenced spaces to prevent the spread of disease. During this period, animals have access to a feeding area and an open-air section, closed off with sturdy grating. For birds, the enclosure is fully covered to prevent escape, while ground-dwelling animals are housed within high fences, typically over 2 meters tall, without a roof. The 30-day minimum quarantine period may need to be extended in the case of diseases which exhibit a long and often unpredictable incubation period (e.g. rabies, tuberculosis) and in other special circumstances.

Health and Veterinary Care: Sick animals either enter the enclosure voluntarily or are brought in by gamekeepers, particularly if they exhibit signs of illness during migration. The facility includes a dedicated veterinary office where trained staff conduct treatments, vaccinations, and preventative health procedures, such as rabies vaccinations and the distribution of oral vaccine cubes.

Safety and Hygiene Measures: Denitrifying barriers, with using chemicals such as chlorine, are set up to ensure sanitation. An isolation room is available for animals suspected of carrying infectious diseases, keeping them separate from healthy animals. The facility includes septic tanks for waste management, with a drainage system leading into these tanks to prevent contamination of surrounding areas. Equipment used to feed and water the quarantined wild animals and to clean their enclosures must be used for these animals alone. Such equipment must be regularly disinfected. All dung-soiled bedding and discarded foodstuffs must be disposed of in a hygienic manner, preferably by burning.

Enclosure Structure and Environment: The main enclosure is built with a durable metal framework measuring approximately 50x15 meters, featuring a concrete floor for easy cleaning and hygiene control. Metal columns provide structural support, and areas are designated for animal shelter, allowing them to seek refuge during harsh weather conditions like rain or snow.

The final design, tailored to the specific needs of the animals and the local environment, will be developed after the project's approval. A contracted company will implement this plan, with huntsman and veterinary staff on standby to assist in sampling and monitoring animals as needed.

4.2.4. Laboratories of the Ministry of Health and Social Protection of Population of the Republic of Tajikistan

The activities of medical laboratories are carried out in accordance with the Appendix to the Order of the Minister of Health and Social Protection of the Population of the Republic of Tajikistan "On the procedure for the activities of healthcare organizations conducting laboratory diagnostics, as well as the volume and types of research they conduct 190.010.000" *"Procedure for the activities of healthcare organizations conducting laboratory diagnostics, as well as the volume and types of research they conduct"* (dated April 17, 2021, #327)[36].

The procedure for the activities of healthcare organizations that carry out laboratory diagnostics, as well as the volume and types of research they conduct (hereinafter referred to as the Procedure) has been developed in accordance with Part 2 of Article 34 of the Health Code of the Republic of Tajikistan and regulates the activities of medical laboratories and (or) structural divisions of healthcare organizations that carry out laboratory diagnostics, as well as the volume and types of research they conduct, regardless of their form of ownership and departmental affiliation.

Healthcare organizations that carry out laboratory diagnostics when performing work at their permanent location or in another place outside their permanent location must comply with the requirements of state standards and sanitary norms and rules.

There are 3 three-level laboratory systems the Ministry of Health and Social Protection of the Republic of Tajikistan in Tajikistan[37]: SSES laboratories (State Sanitary and Epidemiological Surveillance Service laboratories), laboratories for diagnosing HIV infection and laboratories for diagnosing tuberculosis. At the national level, one or more national laboratories have the status of reference laboratories. At the provincial level, there is a regional laboratory, and at the district level, there are district laboratories that report to the provincial laboratory structures.

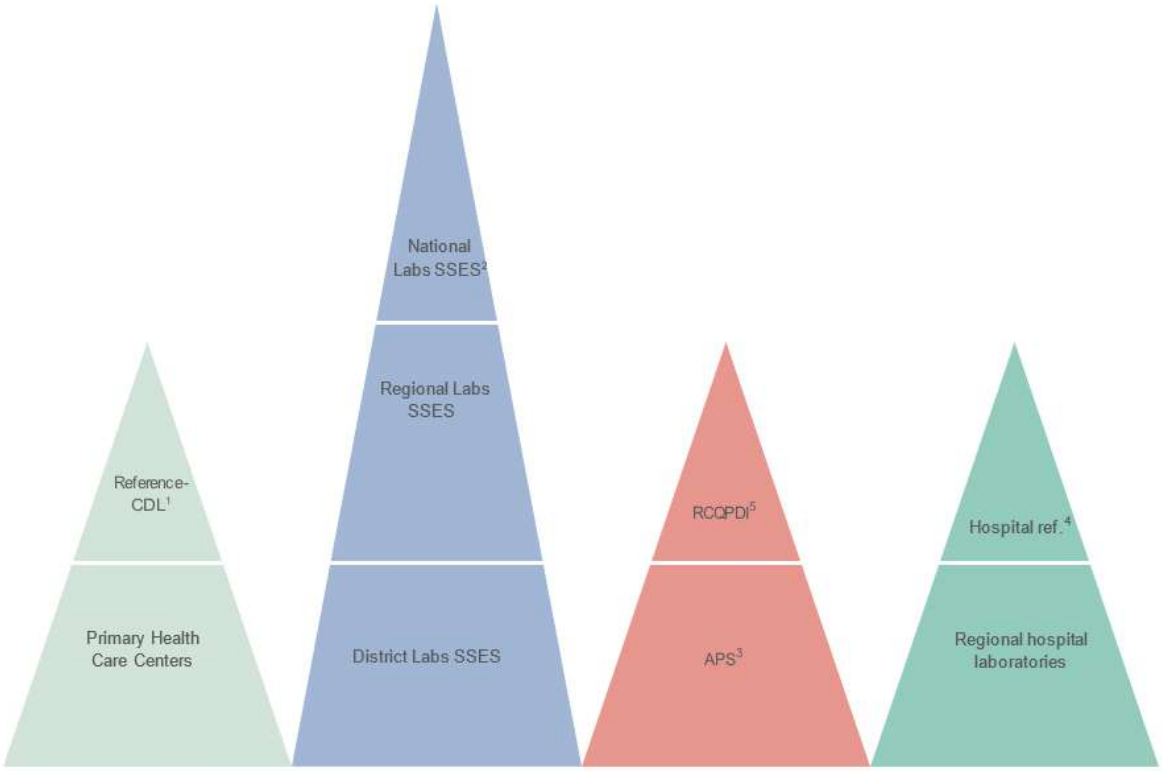
The SSES laboratory system, covering all laboratory disciplines, unites about 200 institutions in Tajikistan (republican, regional and district levels), participating in the management of the healthcare system and providing research on samples taken from people and the environment.

In the SSES laboratory systems, samples are regularly redirected from district to regional and national laboratories for specialized and confirmatory studies. Regional laboratories send samples to national reference laboratories in cases where testing is not possible at the regional level and, less frequently, for confirmatory diagnostics.

The State Sanitary and Epidemiological Surveillance Service (SSES) is a national agency under the Ministry of Health and Social Protection of Population[38]. SSES has inter alia a supervisory function and the state control over the quality and safety of food products. SSES has a mandate to inspect the different levels of food business (including food import and export) and to take and test food samples. Food samples are taken by the SSES inspectors. There are several food testing and microbiological testing centers in Tajikistan.

Clinical diagnostic laboratory (CDL) systems are two-tier systems based on laboratories in hospitals and in primary health care systems. This system generally includes government laboratories at the regional and district levels located in hospitals, clinics or primary health care centers. There are reportedly 565 such laboratories in Tajikistan. They also include small laboratories in outpatient clinics or family medicine centers and large multifunctional laboratories in large hospitals in major cities of the countries. Laboratories that do not have bacteriology departments at the regional level or in large cities send their samples to regional bacteriology laboratories in the centers.

[36] http://portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=25286#A6770KW6EF
[37] https://who-sandbox.squiz.cloud/__data/assets/pdf_file/0009/364815/php-4-1-1201-lab-capacities-rus.pdf
[38] https://www.gainhealth.org/sites/default/files/publications/documents/report-on-assessment-of-food-labatories-in-tajikistan-2015.pdf



Where: 1 - CDL: Clinical and Diagnostic Laboratory; 2 - LSSES: Laboratories of the State Sanitary and Epidemiological Surveillance; 3 - APS: Anti-Plague Station; 4 - Ref.: Reference Laboratory; 5 - LRCQPDI: Laboratories of the Republican Center for Quarantine and Particularly Dangerous Infections

Figure 11: Schematic Overview of Laboratory Systems in the Republic of Tajikistan[39]

[39] https://who-sandbox.squiz.cloud/__data/assets/pdf_file/0009/364815/php-4-1-1201-lab-capacities-rus.pdf

5. POTENTIAL ENVIRONMENTAL AND SOCIAL RISK IMPACTS AND STANDARD MITIGATION MEASURES

5.1. Environmental and Social Risk Classification as per the WBG's Risk Classification

The project environmental risk is considered as **Substantial,** and the social risk is considered as **Moderate**. The project will not involve large scale infrastructure. It will support the increasing diagnostic capacity of laboratories by equipping district and regional laboratories on infectious diseases, focusing on priority zoonotic diseases, AMR and food safety, and establishing a regional One Health Education, Training and Research Center and laboratories. These activities will have positive environmental and social impacts by enhancing the capacity of agencies involved in the project and integrating One Health approaches.

The evaluation is grounded in a thorough desk study of the relevant regulatory framework, enhanced by site visits and consultations with experts. It has been determined that environmental risks during the construction phase are expected to be manageable. Key concerns include noise generation, local air pollution, and the management of construction waste. While hazardous waste generation may occur in areas designated for new construction, these impacts can be effectively mitigated through appropriate measures.

Significant potential impacts may arise during the operational phase of the rehabilitated facilities, particularly concerning the transmission of zoonotic diseases.

The project's overarching objective is to significantly enhance the material and technical capabilities of veterinary and health laboratories, alongside other related institutions. By bolstering these capabilities, the project aims to improve efficiency in early disease detection among both animals and humans. Key initiatives will include capacity-building programs for laboratory staff and the community, the establishment of a centralized database, and the creation of rapid response mechanisms to address zoonotic disease outbreaks.

While increasing laboratory testing capacities may inadvertently heighten risks associated with the spread of zoonotic and other communicable diseases, effective risk mitigation strategies are essential. These strategies will encompass the implementation of clear biomedical waste management protocols, adherence to safety regulations, and the provision of adequate technical resources, including personal protective equipment (PPE) and proper biomedical waste disposal facilities.

The project will apply the relevant requirements of the World Bank Group's Environment, Health and Safety Guidelines (EHSG), Contractors' contract will include environmental and social mitigation measures based on EHSGs. Environmental and Social instruments have been also developed for the project under the WB ESF and referred in the Environmental and Social Commitment Plan (ESCP), Resettlement Policy Frameworks (RPF), Labor Management Plan (LMP) and Stakeholder Engagement Plan (SEP).

A summary of potential environmental and social risks and impacts during project pre-construction, construction and operation phases, along with recommended mitigation measures is presented in the chapters below. The proposed measures can be used to develop site specific ESMP for selected sub-projects.

Pre-construction phase

There is a risk that environmental and social documents are not included in bidding documents, or subsequently in contracts. This could therefore result in a situation where contractors may not allocate sufficient financial and human resources for the implementation of social and environmental safeguards, causing negative effects.

There is also a risk that equipment, machinery and other items are not procured in accordance with national regulations, leading to the potential prohibition of these items.

Civil works will be implemented both inside settlements with existing utility networks, and also outside settlements. As most utility networks traverse underground, the implementation of construction works without obtaining approvals from agencies (gas supply, communication, etc.) prior to the commissioning of civil works may result in damage to such utility networks.

Without the proper assessment of anticipated risks and developing ESMPs after finalizing the project design and the exact location of sub-projects, the project may lead to numerous environmental and social risks. Therefore, prior to commissioning of the project works on selected sub-projects, an ESIA or ESMP will be developed, and submitted to the World Bank for non-objection. The RPF has been prepared and will be implemented in accordance with Environmental and Social Standards (ESS) 5 and applicable national legislation, in the event of involuntary resettlement related to construction activities. Screening procedures defining the documents to be prepared, and the contents of the ESIA and ESMP, are provided in **Section 5**.

ESS 2: Labor and Working Conditions

Construction phase

Labor risks associated with contracted workers at the subproject level. Subprojects will be implemented by local contractors, and most contracted workers are likely to be hired locally. All contractors will be required to have written contracts with their workers, materially consistent with objective of ESS2, and comply with the Labor Management Plan (LMP), regarding child and forced labor, following the requirements in the Bank's standard procurement documents.

Labor risks, including labor influx and associated gender-based violence, and child labor, are considered to be very low given the small size of subproject construction works and the PMU's adherence to the national labor code which prohibits forced labor (article 10, Labor Code). Since civil works implemented by the project will be very small in scale, the risk of forced labor is expected to be low. Nonetheless, the Contractor will be required to contractually commit to prohibit the use of child and forced labor and introduce mitigation measures against gender-based violence. PMU staff responsible for contractor supervision will monitor and report the absence of forced labor.

Employment risks. Workers will be hired by the PMU, either directly as project staff, or indirectly as part of contracts with consultants or service providers. The practice shows that civil works subcontractors do practice a labor contract with a lump-sum payment for a certain type of service or scope of work where the duration of labor will be limited to several months.

Overtime work risk. There is a risk that there are unaccounted working hours and a lack of compensation for overtime work.

The project will seek to address risks through informing direct workers of their rights, and establishing a grievance redress mechanism (GRM) for direct workers.

Operation phase

During the implementation of the project, impacts can be exerted on the following groups: (i) the employees of laboratories and auxiliary personnel, and (ii) persons engaged in transportation and waste disposal.

(i) Laboratory staff may be subjected to the following risks:

Emergency situations:

Chemical and biological alarm: Exposure to harmful chemicals in gaseous and liquid form, as well as biological substances, may cause both short- and long-term negative effects to human and environmental health.

Fire: A fire can lead to the release of toxic and flammable substances, which threatens the health of employees and the environment. A fire can lead to the destruction of laboratory equipment. If a fire is not extinguished in time, it can spread through the underlying territory.

Earthquake: An earthquake can endanger the lives of employees. Fragile samples and materials may be destroyed or damaged, and chemicals from destroyed containers can cause toxic spills.

Water leakage: Water leakage can lead to equipment damage, electrical risk, and sample loss.

Electrical outage: An unexpected shutdown can lead to the loss of unsaved data, which will make it difficult to continue research. It can also create safety risks, especially if chemicals or hazardous materials are used.

First aid: Human health risks due to chemical and biological accidents such as cuts and burns. This may also be caused by the aggression of animals or the spread of animal diseases to humans (zoonosis). This also relates to any individual personnel healthcare risks, for example in the unlikely event of an individual experiencing a heart attack or stroke.

Security breach: The access of unauthorized individuals into a facility may cause them harm, for example, due to the unnecessary exposure to chemical and biological agents. They also represent a risk if they have ulterior, negative motives.

Laboratory activities and practices:

Biological agents and their pathological characteristics: Biological agents pose several risks to human health and the environment, including chemical burns, and bacterial and/or virological infections.

Spread of zoonotic diseases, particularly Brucellosis: These diseases can be spread through airborne means, through direct contact with an infected animal, and through the ingestion of infected animal products.

Risks of equipment injury: Dangerous equipment such as scalpels, knives, scissors and larger machinery such as centrifuges can cause human injury if operated incorrectly or if there is a fault with the machine.

Workers engaged in transportation and waste disposal:

These workers face risks from improper waste storage, waste transportation in containers that do not ensure complete isolation, lacking worker PPE and a low awareness of potential risks, and non-compliance with other safety requirements.

ESS 3: Resource Efficiency and Pollution Prevention and Management

Construction phase

Air pollution. Air pollution during the construction stage may occur due to several reasons, but primarily from exhaust gases from equipment and machinery, and dust generated during machinery movements, earthmoving operations, and demolition works. The use of improperly maintained techniques/machinery will cause excessive emissions of exhausted gases. Leaving machinery idling mode for a long period (more than 5 minutes) will also cause air pollution. Other sources of air pollution include the burning of wastes on construction sites or surrounding areas.

Noise pollution. It is natural that during construction works, noise levels may increase. Almost all works related to the construction or reconstruction of buildings will lead to increasing noise levels. The most noticeable increase of noise pollution is anticipated during the demolition works, and in the loading/uploading of construction materials. Construction works conducted in populated areas with sensitive receptors (schools, kindergartens, and hospitals/polyclinics) may cause excessive noise levels, above the allowed parameters.

Project workers will be exposed to noise from construction machinery as well as, potentially, hand-arm vibration from hand-held power tools, or whole-body vibrations from surfaces on which a worker stands or sits.

Water pollution. Surface waters may become polluted due to the improper placement of excavated soil, poor management of construction camps, improper storage of construction materials, leakage of fuel and lubricates from construction machinery, and washing of vehicles and equipment without proper maintenance. These risks may occur when construction works are implemented close to waterways. Groundwater could be polluted due to soil pollution by chemicals and oils.

Impact on soil contamination. Soil pollution may occur due to the improper management of waste, including hazardous waste. The project will not require significant earthworks operations or large amounts of construction materials such as gravel and sand, although insignificant amounts of these materials could be required for the construction of associated facilities, such as utility cables and pipelines. The creation

of new borrow pits is not anticipated. The off-road movement of machinery, especially through agricultural lands, may lead to soil compaction and topsoil loss. Poor vehicle and equipment maintenance and refueling methodologies could also lead to the contamination of soil.

Waste generation. It is anticipated that project construction activities, notably the construction or reconstruction of buildings, will result in the generation of construction, municipal (non-hazardous) and hazardous wastes. Solid waste will also be generated at the construction and camp sites, largely consisting of, for example, plastic or glass bottles, glasses, and waste food, and wastewater will also be generated. Improper waste management may cause the spread of infectious diseases, and the emergence of insects and parasites in construction sites. It may also indirectly lead to conflicts with the local population.

During the construction phase, hazardous waste will be generated from vehicle operations and maintenance, including (engine, hydraulic and transmission) oils, as well as oil filters and absorbents. In the case of the improper handling and disposal of such materials, the pollution of soil, ground and surface water may occur. Along with this, such materials are hazardous to human health.

Where construction or reconstruction activities include the demolition of buildings, asbestos could be present and cause significant risks to workers and other nearby human receptors. The improper handling of hazardous wastes such as used oil, batteries will also potentially lead to the pollution of soil and groundwater.

Operation phase

Air pollution may occur mostly in case of electrical outages, where autonomous power generators will provide auxiliary power supplies. However, such outages will only occur from time to time and will have temporary impact.

The burning of hazardous and non-hazardous wastes on the territory of the laboratories will lead to pollution of the air.

Regarding the disinfection of biological and medical wastes, two types of equipment could be used: (i) autoclaves, and (ii) incinerators. Autoclave operations will not produce any emissions. Some laboratories, however, may not have disinfection equipment, and in that case, the medical wastes will need to be transported to the closest medical entities with proper disinfection facilities. Regarding incineration, the operation of incinerators that do not meet established operational standards, including low incineration temperatures and the incomplete combustion of waste, can lead to the release of hazardous emissions into the atmosphere (dioxins, furans and etc.).

The laboratory operations are not expected to lead to increasing **noise levels**.

Water pollution may occur when wastewater will be discharged into centralized networks or in waterways without treatment. It can lead to the pollution of watercourses, aquafauna, other surface features, and groundwater. As an indirect impact, it can also cause the sickness of nearby human receptors who come into contact with and ingest these polluted waters.

Soil pollution may occur if any types of waste will be improperly stored and disposed. Water and soil pollution also could happen due to, inter alia, the mishandling of carcass disposal during disease outbreaks, and infrastructure wastes (laboratory effluents), including disinfectants, insecticides, antimicrobials and other chemical residues

Waste generation. During laboratory and check point operations, domestic and medical waste will be generated. Medical wastes have a high potential to carry micro-organisms that can infect the community at large if they are not properly disposed of.

ESS 4: Community Health and Safety

Construction phase

Increased traffic, noise and air pollution (potentially including asbestos dust) from construction activities may negatively impact on populations near the project site. The project proposes some small-scale civil

works, and the expectation is that most of the labor will be locally hired and hence no large-scale labor influx is envisaged.

Nevertheless, social problems could arise due to the irresponsible behavior of the outside work force, such as for example, gambling, alcoholism and the general disrespect of local people and their culture. Cultural interference workers with local communities may cause HIV and sexually communicable diseases spreading in case of law awareness about these diseases among workers and community.

From other side, the project will lead to the creation of new jobs for local population during construction period to provide services for workers.

Operation phase

During the functioning of the laboratories, the main human health risks will be (i) the spread of zoonotic-based diseases transmitted from animals to people, and (ii) the infection of workers involved in the collection, handling, transportation, treatment and destruction/disposal of medical waste. A lack of knowledge among the population about zoonotic diseases and their transmission pathways will exacerbate these risks.

Without appropriate sterilization, disinfection and neutralization, sharps (including syringes, needles and blades) will pose a serious risk. Public health will also be negatively impacted from the improper handling, transportation and disposal of animal carcasses and other biological materials. Animal diseases may also pose serious risks to specific groups, particularly vulnerable ones, such as women, and even more so pregnant women, and young children, and communities due to their exposure or limited resilience. Domestic animals may also graze in areas containing improperly disposed waste: this way, waste microbes can be reintroduced to humans through the food chain.

ESS 5: Land Acquisition, restrictions on land use and involuntary resettlement

Construction phase

The renovation and construction works are planned to take place within areas owned by the ministries and agencies involved in the project. However, the land for the new laboratories and associated facilities—such as electricity transmission lines, sewage, and water supply networks—has not yet been acquired. Once the locations for these facilities are approved, land acquisition and involuntary resettlement may be necessary. Even if the approved locations are within ministry/agency-owned land, on-site examination will be required to confirm that there are no squatters or private assets on these sites.

Operation phase

Impacts on land use are not anticipated during the project operation phase.

ESS 6: Biodiversity Conservation and Sustainable management of living natural resource

Construction phase

Limited impacts are anticipated on biodiversity and protected areas as most project facilities are located in populated areas. Any tree cutting required during the construction of laboratories and facilities is envisioned to be minor.

The ESMP for the sub-component of establishment of 10 quarantine enclosures (on the territory of SPNA) will be developed in accordance with the national legislation of the Republic of Tajikistan in terms of specially protected natural areas (Law of the RT “On specially protected natural areas”). ESMP for the construction of quarantine enclosures provides necessary requirements.

Operation phase

Biodiversity impacts could occur due to the diffusion of pathogens from domestic animals to wildlife, with risks for endemic species and biodiversity.

ESS 8: Cultural heritages

Construction phase. Most of the project will be implemented within the territories of existing facilities. If additional land is required however to construct laboratories and facilities, then a possibility exists that archeological artefacts are found during the excavation works.

Operation phase. Impact on land use is not anticipated during the project operation phase.

ESS 10: Stakeholder Engagement and Information Disclosure

The project's nature reinforces the need for effective and inclusive engagement with relevant stakeholders and the population at large. Considering the awareness and acceptance challenges associated with zoonotic diseases and medical waste, meaningful consultations are critical, particularly when public meetings can counter the aims of the Stakeholder Engagement Plan (SEP). The disclosure of appropriate information should ensure public health and safety from all perspectives: social, environmental, economic, and medical/ health.

Within this context, a SEP has been prepared to define a comprehensive program of stakeholder engagement, including public information disclosure and consultation throughout the entire project duration. The SEP outlines the communication methodologies between the project team and stakeholders and includes a mechanism by which people can raise concerns, provide feedback, or submit complaints about the project or any of its related activities.

The involvement of the local population is essential to the success of the project in order to ensure smooth collaboration between project staff and local communities, and to minimize and mitigate environmental and social risks related to project activities. In the context of infectious diseases, broad, culturally appropriate, and adapted awareness raising activities are particularly important to properly sensitize the communities to the risks related to infectious diseases and vaccination.

The scope and level of detail of the SEP is commensurate with the nature, scale, potential risks, and impacts of the project, and the level of concern in the project area. Stakeholder engagement refers to a process of:

- Sharing information and knowledge in a meaningful manner.
- Seeking to understand and respond to the concerns of individuals potentially impacted or affected by an activity in a transparent, inclusive and timely process; and
- Building relationships based on trust.

The specific objectives of the SEP are to:

- Identify and assess the stakeholder groups and their profiles, interests, issues/impacts and concerns relevant to the Project (stakeholder mapping).
- Identify specific initiatives (e.g., community meetings, focus-group discussions, face-to-face meetings, posters in public facilities) to allow meaningful engagement with the different stakeholder groups in a manner that is transparent and accessible and using culturally appropriate communication methods with a specific focus on vulnerable groups.
- Allow a relationship to be built with the various stakeholders of the Project based on mutual respect and trust.
- Facilitate adequate and timely dissemination of information on technical, economic, environmental and social risks and impacts to the stakeholder groups in a timely, understandable, accessible and culturally appropriate manner and format.
- Establish systems for prior disclosure/dissemination of information and consultation, including seeking inputs from affected persons, incorporation of inputs, as applicable, and providing feedback to affected persons/groups on whether and how the input has been incorporated.

- Establish a mechanism for feedback and dispute resolution (through a Grievance Redress Mechanism); and
- Establish a procedure for registering and tracking of grievances of the activities undertaken through reporting and monitoring of the GRM.

The purpose of the GRM is to provide a forum for internal and external stakeholders to voice their concerns, queries and issues with and provide suggestions on the Project, be that openly or anonymously. Such a mechanism should provide the stakeholders with responsible Project personnel or channel through which their queries can be communicated with the assurance of timely responses to each query.

The specific objectives of the GRM are to:

- Allow stakeholders the opportunity to raise comments/concerns.
- Manage and monitor the handling of comments responses and grievances (via fair and timely investigation).
- Ensure that comments, responses, and grievances are handled in a fair, accessible and transparent manner, in line with the applicable reference framework (with acceptance in genuine cases from both parties).

5.2. Project Activities Specific Risks

The program's support for laboratories and healthcare centers may involve handling infectious materials that pose contamination risks to both workers and nearby communities. Project implementation could expose various workers—such as PMU staff, civil servants, local civil society organization personnel, and community health and nutrition workers—to occupational health and safety (OHS) risks. This may also require the construction of waste management and healthcare facilities, which could lead to land acquisition and involuntary resettlement if suitable sites or government-owned land for these facilities are unavailable.

Subproject designs have not yet been developed, and the exact locations for construction or rehabilitation are not yet determined. Potential impacts related to involuntary resettlement and land acquisition will be assessed in detail once the locations and designs are finalized. As these impacts are not yet identified, the project is following a framework approach. Even if the locations are within ministry or agency-owned land, on-site inspections will be necessary to ensure there are no squatters or private assets on the sites

Table 10: The potential Environmental and Social (E&S) Risks and Impacts

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
COMPONENT 2: ENHANCING ONE HEALTH KNOWLEDGE AND WORKFORCE CAPACITY			
Pre-construction phase			
2.1. Establishment of the National Training and Resource Center for specialists of all levels of the Committee for Food Security, the National Center for Food Security Diagnostics and its regional centers, as well as employees of the Institute of Veterinary Science of the Academy of Agricultural Sciences of the Republic of Tajikistan.	**Positive**	The specialists of all levels of the Committee of Food Security, the National Center for Food Security Diagnostics and its regional centers, as well as employees of the Institute of Veterinary Science of the Academy of Agricultural Sciences of the Republic of Tajikistan will be trained and updated with new sector related materials and technologies.	N/a
	Negative	E&S instruments are not prepared and are not included in Contractors' bidding and contract documents. Selected Contractors do not have efficient capacity to implement E&S requirements	• Ensure that all procedures on screening, assessment (as indicated in Chapter 6) are conducted prior selection of contractors • E&S document are disclosed and public consultations are conducted. All findings from PCs are included in the E&S • Developed E&S documents are submitted to WB approval. • E&S documents are included in bidding documents • Ensure that during bid evaluation process, bidders' E&S capacity (human resources and budget) are considered;

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			• Ensure that contractors' contracts include E&S requirements
Construction phase			
2.1. Establishment of the National Training and Resource Center for specialists of all levels of the Committee for Food Security, the National Center for Food Safety Diagnostics and its regional centers, as well as employees of the Institute of Veterinary Science of the Academy of Agricultural Sciences of the Republic of Tajikistan.	**Positive**	The same as for Component 2.1	N/a
	Negative	**ESS 2** • Risks related to labor and working conditions e.g., discrimination, SEAH, GBV, etc. **ESS 3** • Air pollution • Noise pollution • Water pollution • Improper waste management • Hazardous materials handling **ESS 4** • Community health and safety **ESS 5** • Impact on land use **ESS 6**	**<u>Labor and working conditions</u>** • Ensure SEP and LMP are properly implemented • SEP is timely updated (as needed) and implemented during the Project cycle • Develop and implement OHS plan All employees must be given a safety briefing before starting repair and construction works. • Ensure that all workers are provided protective measures as appropriate. • Conduct regular monitoring on OHS implementation **<u>Air pollution</u>** • Apply watering of construction sites and roads inside settlements during dry season; • Cover transported bulk materials; • Control speed limitation for vehicles during movement inside of settlements - no more than 30 km/h; • All vehicles and equipment will comply with technical requirements and will pass regular inspection as indicated in the national standards;

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
		• Impact on biodiversity (especially for construction of associated facilities) **ESS 8** • Impact on cultural heritages (for new construction)	• Restrict demolition activities during the period of the high winds or under more stable conditions when winds could direct dust towards adjacent houses; **<u>Noise pollution</u>** • Establish limits on speed for vehicles inside of settlements (30 km/h); • In the settlement areas, construction works generating noise will be undertaken during period from 8:00 in the morning and until 8:00 in the evening; • Avoid construction works in front of schools during the period from 8:30 until 15:00 during the weekdays and Saturday. Apply additional mitigation measures (installation of acoustic screens, mufflers for machinery, etc.) in case of urgency or technical needs of such works; • Prepare and implement OHS Plan; • Schedule construction to minimize the multiple use of noisier equipment near sensitive receptors (houses, schools); • Use of PPE by workers involved in demolishing and construction works in conditions of increased noise level is mandatory; • Inform population about anticipated works at least one week before **<u>Water pollution</u>** • Construction camp (if any) will have to be located at a safe distance from water courses (no closer than 100 meters); • Ensure that refuelling, oil replacement or repairing works of the machinery will be conducted in the specially equipped places.

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			Prohibit conduct these works in the area within 50 m from water streams; • Management and storage of fuel, waste oil, hazardous waste will be planned in accordance with EHS General Guidelines on Hazardous Materials Management. This includes the use of appropriate secondary containment structures capable of containing the larger of 110 % of the largest tank or 25% of the combined tank volumes in areas with above-ground tanks with a total storage volume equal or greater than 1,000 liters; • Labor camps and construction sites will be equipped with sanitary latrines that do not pollute surface waters. Domestic wastewater from labor camps and construction sites will be canalized into septic tanks which will be installed by the contractors. The septic tanks will be timely emptied by hired septic trucks and transported to the closest Waste Water Treatment Plant (WWTP); • No wastewater will be dumped into any ditches or streams. **<u>Improper waste management</u>** *Hazardous wastes* • As part of ESMPs, the Contractor shall develop construction waste management measures. • Refuelling vehicles and replacement oils also will be conducted in special designated and properly equipped places. Emergency facilities will be at the place for elimination of accident of oil spills; • Used oil from vehicles and machinery will be collected into containers placed at the concreted sites and disposed to

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			national oil company designated for accepting and handling of used oils; • Prior to commencement of construction works, PMU environmental specialist will conduct visual observation of demolishing buildings on presence of asbestos containing materials. • In case of presence of asbestos materials, the Contractor will develop Asbestos-Containing Materials Management Plan (ACMMP) that includes identification of hazards, the use of proper safety gear and disposal methods. Any activities involving asbestos materials will be prohibited until the ACMMP is approved by PMU environmental/waste management specialist; • Conduct all works on demolishing in accordance with approved ACMMP; • Conduct awareness program on safety during the construction work. *Non-hazardous wastes* • Conclude contract with waste disposal organization for the timely transportation and disposal of non-recyclable wastes, prior to the commencement of any civil works; • Put proper waste bins at a related areas of construction sites and workers camps; • Segregation of wastes on recyclable and non-recyclable wastes; • Selling recyclable wastes to relevant organizations (paper, scraps, accumulators) and timely disposal of non-recyclable wastes to the municipal landfill.

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			Community health and safety • A focal point will be appointed in the Contractor's team who will be responsible for liaison with the local community and receiving inquiries / complaints from the local community. • Contractor will inform population about anticipated works in the settlement in advance. Prior to starting construction works, Contractors will share work plan with indications timeline and places. The works will be planned in the way, ensuring that trenches will not stay open more than 5 days; • Contractors will be required to include a key road safety and community health and safety measures as it is indicated in ESMP checklist with clear indication routes of vehicles' movements, placement special signs, and speeding allowance inside of the settlements and schedule transportation activities by avoiding peak traffic periods; • Clear signs will be placed at construction sites in view of the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc. and raising awareness on safety issues; Impact on land use • If land acquisition is required prepare resettlement action plan in accordance with RPF Impact on biodiversity • If cutting trees is needed for construction of associated facilities (HV line, water supply and sewage pipeline), or construction of new laboratory select an alignment in a way which allows to minimize cutting of trees and bushes;

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			• Prior to starting civil works, all trees which will be cut will be marked to avoid unnecessary cutting trees; • Do not use chemical and burning for removing vegetation. <u>Impact on cultural heritages (for new construction)</u> • Develop a Chance Finding Procedure (template is provided in **Appendix 9**: Chance Finds Procedure) and implement in case of finding an object that can be identified as an artifact.
Operation phase			
2.1. Establishment of the National Training and Resource Center for specialists of all levels of the Committee for Food Security, the National Center for Food Security Diagnostics and its regional centers, as well as employees of the Institute of Veterinary Science of the Academy of Agricultural Sciences of the Republic of Tajikistan. (the activities included in the Project related to completion of building which is currently under construction)	**Positive**	The same as for Component 2.1	N/a
	Negative	Risks for lab staff due to performance of laboratories Risks for workers during transportation and disposal of medical wastes	It is recommended to develop and implement during operation phase a Laboratory Biosafety and Waste Management plan which at least will cover the following topics and mitigation measures. **<u>Emergency situation</u>** <u>Fire</u> • The facility should be equipped with alarm systems and smoke detectors, and all personnel should be aware of standard evacuation procedures and the use of fire extinguishing equipment. Regular checks of their operability should be carried out. • There should be fire safety instructions, evacuation schemes for personnel in case of fire and fire extinguishing equipment (fire cranes, fire hoses, fire extinguishers) available to personnel. <u>Earthquake</u> • The laboratory must have a clear evacuation plan. All employees should have clear knowledge of how to act in case of an

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			earthquake. • Heavy equipment must be secured so that it does not fall during tremors, all chemicals and reagents must be stored in stable containers and cabinets. • Laboratories must have emergency equipment (emergency kits with water, first-aid kits, flashlights and other necessary assistance) <u>Water leakages</u> • Laboratories must perform regular inspections of the equipment. Sensors for water leaks and drainage systems must be installed. • All employees should be familiar with the emergency plan. • Chemicals and equipment should be stored in places that are protected from possible leaks (for example, on stable stands). • It is necessary to monitor the temperature in the rooms to prevent the pipes from freezing. <u>Air quality</u> • Installation of safety filters or an air purification system. • Installation of appropriate indoor climate control equipment. <u>Electrical Outage</u> • In case of a power outage, laboratories must have an evacuation plan and all employees must be notified. • Regular inspections and maintenance of electrical systems and equipment should be carried out to prevent overloads and malfunctions. Laboratories could use voltage stabilizers to protect equipment from power surges and ensure its operation during short-term outages. • If the centralized power supply is turned off, the power supply could be provided by autonomous power generators.

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			First Aid • First aid materials must be supplied and easily accessible in the facility. Basic first aid training is suggested for key personnel. These trained personnel must be contacted for any first-aid occurrence, and a record must be kept. The Head of the Laboratory must be informed for high-level risk injuries, for example the exposure of a cut to an infectious specimen Security breach • Ideally, all entrances and exits to the facility must require the ID of employed personnel, and if possible, security guards, CCTV, and an air-lock system. Air-lock systems are particularly recommended for animal facilities to prevent the escape of veterinary animals. **Laboratory performance** Biological agents and their pathological characteristics • Personal protective equipment (PPE) should be worn according to national regulations. The use of some PPE, for example nitrile gloves and eye protection, can be enforced during all activities irrespective of their risk level to ensure the utmost protection of employees and associated personnel. • For diseases with available prophylactic activities such as vaccinations, personnel must be adequately protected from infectious specimens during their occupational health assessment. Spread of zoonotic diseases, particularly Brucellosis • Brucellosis vaccinations must be given to all cattle, swine, goats, sheeps, and dogs that enter the veterinary laboratory. There is no

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
			existing vaccination for humans, therefore appropriate PPE must be worn when working with all animals, whether they are known to have the infection or not. <u>Risks of equipment injury</u> • All personnel must be adequately trained for all equipment they are expected to use during working hours. • For example, the use of the autoclave must be carried out by a qualified individual who is aware of all risks in place. • Any injury obtained from equipment (e.g. cuts, burns etc.) must be reported to the Head of the Laboratory, kept tracked in a record book/online, and first-aid materials must be available. • The machines must be routinely maintained and any issues must be reported to the Head of the Laboratory. <u>Medical wastes handling and disposal</u> • Ensure proper implementation of medical waste management plan which will be developed under the *Component 1.4 Improving medical waste management.*
COMPONENT 3: IMPROVING ONE HEALTH PREVENTION, DETECTION, AND RESPONSE SYSTEMS			
Pre-construction phase			
3.1 Strengthen laboratory diagnostics capacity priority diseases (zoonotic diseases, AMR, and food-borne diseases)	**Negative**	The same as for Component 2.1	• The same mitigation measures as for Component 2.1.
Construction phase			

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
3.1. Strengthen laboratory diagnostics capacity priority diseases (zoonotic diseases, AMR, and food-borne diseases) - small scale rehabilitation works	**Positive**	Risk of infection with zoonotic diseases decreased due to inventing new method, practices for the protection, promotion and prevention of diseases	Prepare and implement the Checklist based ESMP (**Appendix 5**: Indicative Outline of Checklist-based ESMP).
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Operation phase			
3.1. Strengthen laboratory diagnostics capacity priority diseases (zoonotic diseases, AMR, and food-borne diseases)	**Positive**	Laboratory diagnostics capacity priority diseases (zoonotic diseases, AMR, and food-borne diseases) is strengthened	N/a
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Pre-construction phase			
3.2. Building, renovation and equipment of laboratories including Jomi, Hissar, Shaartuz and Central Labs (3 laboratories at the regional level Khatlon region and the city of Hissar).	**Positive**	Laboratories will be equipped with the up-to date equipment	N/a
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Construction phase			

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
3.2. Building, renovation and equipment of laboratories including Jomi, Hissar, Shaartuz and Central Labs (3 laboratories at the regional level Khatlon region and the city of Hissar).	**Positive**		N/a
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Operation phase			
3.2. Building, renovation and equipment of laboratories including Jomi, Hissar, Shaartuz and Central Labs (3 laboratories at the regional level Khatlon region and the city of Hissar).	**Positive**	Laboratories will be equipped with the up-to date equipment	N/a
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Operation phase			
3.3. Purchasing of 4 mobile laboratories for work in remote areas and in emergency situations based on the National Center for Food Securiy Diagnostics and its 3 regional structures.	**Positive**		N/a
	Negative	Impact on health of staff working in remote areas	OHS requirements for working in mobile laboratories will be developed under the Component 2
Pre-construction phase			

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
3.4. Establishment of buffer zones in border areas, especially in the GBAR and Khatlon Region (brucellosis), as well as in cities with animals most vulnerable to rabies on the basis of the Central Office, subordinate organizations and regional structures.	**Positive**		N/a
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Construction phase			
3.4. Establishment of buffer zones in border areas, especially in the Gorno-Badakhshan Autonomous Region (GBAR) and Khatlon Region (brucellosis), as well as in cities with animals most vulnerable to rabies on the basis of the Central Office, subordinate organizations and regional structures.	**Positive**		N/a
	Negative	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Operation phase			
3.4. Establishment of buffer zones in border areas, especially in the Gorno-Badakhshan Autonomous Region (GBAR) and Khatlon Region (brucellosis), as well as in cities	**Positive**		N/a

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
with animals most vulnerable to rabies on the basis of the Central Office, subordinate organizations and regional structures.	**Negative**	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Pre-construction phase			
3.5. Establishment of quarantine enclosures for the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection for wild animals and birds.	**Positive**		N/a
3.5.1. Establishment of 10 quarantine enclosures; *3.5.2. Establishment of veterinary points in 10 institutions of the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection, purchase of medicines and vaccines for wild animals, establishment of a cold chain.*	**Negative**	The same as for Component 2.1	The same mitigation measures as for Component 2.1.
Construction phase			

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
3.5. Establishment of quarantine enclosures for the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection for wild animals and birds.	**Positive**		N/a
3.5.1. Establishment of 10 quarantine enclosures; *3.5.2. Establishment of veterinary points in 10 institutions of the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection, purchase of medicines and vaccines for wild animals, establishment of a cold chain.*	**Negative**	The same as for Component 2.1	The same mitigation measures as for Component 2.1. The ESMP for this component will be developed in accordance with the national legislation of the Republic of Tajikistan in terms of specially protected natural areas (*Law of the RT "On specially protected natural areas"*[40]). ESMP for the construction of quarantine enclosures provides necessary requirements.
Operation phase			
3.5. Establishment of quarantine enclosures for the State Institution "Specially Protected Natural Areas" under the Committee on	**Positive**		N/a

[40] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=13446

Component	Type of impact/ Severity (for negative impacts)	Impacts and Risks	Recommended Mitigation Measures
Environmental Protection for wild animals and birds. *3.5.1. Establishment of 10 quarantine enclosures;* *3.5.2. Establishment of veterinary points in 10 institutions of the State Institution "Specially Protected Natural Areas" under the Committee on Environmental Protection, purchase of medicines and vaccines for wild animals, establishment of a cold chain.*	**Negative**	The same as for Component 2.1	The same mitigation measures as for Component 2.1. All activities during the operation phase related to this sub-component should be implemented in accordance with established regime of specially protected areas stated in the *Law of the RT "On specially protected natural areas"*[41]. More detailed information about special regimes of SPNA is given in Section 2.1.3.
Operation phase			
3.6. Purchase of special transport for detection and delivery of carcasses of wild animals and birds to veterinary laboratories for examination in the territory of Sughd, Khatlon, GBAR, DRS, Dushanbe. *3.6.1. Purchase of special transport for delivery of carcasses of wild animals for 10 State Protected Areas, purchase of vehicle boxes and mobile refrigeration chambers.*	**Positive**		N/a
	Negative		OHS requirements for working in mobile laboratories will be developed under the Component 2

[41] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=13446

5.3. Risks and Mitigation Measures, Specific to Disadvantaged and Vulnerable Groups

It is particularly important to understand whether project impacts may disproportionately fall on disadvantaged or vulnerable individuals or groups, who often do not have a voice to express their concerns or understand the impacts of a project and to ensure that awareness raising and stakeholder engagement with disadvantaged or vulnerable individuals or groups are adapted to take into account such groups or individuals particular sensitivities, concerns and cultural sensitivities and to ensure a full understanding of project activities and benefits.

As it is stated in SEP, within the Project, the vulnerable or disadvantaged groups include and are not limited to the following:

- Retired and elderly people;
- Persons with disabilities;
- Women-headed households and single mothers with underage children;
- Extended low-income families;
- Unemployed;
- Homeless people and street people;
- Waste pickers

They could be affected by the project due to lack of knowledge about zoonotic diseases: symptoms, transmission ways, preventive methods, etc. In rural areas, as a rule, women are more involved in livestock care. In the absence of appropriate knowledge about zoonotic diseases, they become one of the most vulnerable groups.

Another risk could be related to the medical waste disposal. In case of their improper disposal, without pre-disinfection or sterilization (depending on type of waste), waste picker on solid waste management landfills will get infected and may transfer infection further to their families and people whom they contact.

Capacity building, knowledge raising, effective awareness campaigns which are planning under the project will play crucial role in the improving the situation in preventing spread of zoonotic diseases and waste management. Therefore, it will be important that disadvantaged and vulnerable groups are fully involved. The methods of engaging all types of stakeholders, including vulnerable and disadvantaged group are presented in SEP developed for this project.

5.4. Planning and Design Considerations for Avoidance of Environmental and Social Risks and Impacts

In general, the implementation of the project will have a significant positive social impact. Thus, the level of knowledge of the population about zoonotic diseases will improve, the control, inter-ministerial warning and response system in case of detection of such diseases will improve. As a result, this will reduce cases of disease among the population and expenses associated with the treatment of such diseases. At the same time, the risks of the spread of diseases will remain due to the low efficiency of measures taken, insufficient coverage of the project measures (both in terms of public awareness and personnel working in laboratories), and non-compliance with safety measures during work in laboratories and transportation of medical waste.

To minimize these environmental and social risks, safeguards documents were developed (ESMF, SEP, ESCP, LMP, RPF) for this project. It will allow to minimize potential risks already at the initial stages - before the start of construction. At the stage of preparation of the project, an institutional structure was

proposed and discussed with implementing agencies. The institutional structure clearly identified the tasks of each department involved in the implementation of the project.

6. PROCEDURES TO ADDRESS ENVIRONMENTAL AND SOCIAL ISSUES

6.1. Overview

This section sets out the procedures (steps 1-7) for identifying, preparing, and implementing the project components and activities, environmental and social screening, preparation of required E&S plans, consultation on such plans, review and approval, and implementation.

The purpose of this screening process is to determine whether the activities (sub-projects) are eligible to be financed or part of the WB Exclusion List (**Appendix 2**: The Exclusion List**)** and the exclusion list of the project itself. The extent of environmental assessment that might be required prior to the commencement of the sub-projects will depend on the outcome of the screening process described below.

6.2. Environment and Social Screening Steps

The environmental and social process of screening consists of the following steps:

Step 1: Screening of the Sub-Projects

The objectives of environmental and social screening are to: (i) determine whether activities are eligible to be financed; (ii) evaluate the environmental, social, occupational safety and health risks associated with the proposed operations; (iii) determine the depth and breadth of environmental assessment (EA); and (iv) recommend an appropriate choice of EA instrument(s) suitable for a given sub-project. The criteria for classification include the type, location, sensitivity, and scale of the sub-project, as well as the nature and magnitude of its potential environmental and social impacts. As a first step, all proposed activities should be screened to ensure that they are within the boundaries of the Project's eligible activities, and they are not considered as activities listed on the E&S Exclusion List in Annex 2.

As a second step, to define an appropriate environmental and social rating and possibility for inclusion in the program, the PMU's Environmental and Social Development Specialists will complete an Environmental and Social Screening Form (ESSF) (**Appendix 1**: Environmental and Social Screening Form). This will facilitate (i) identification of potential environmental and social impacts and relevant environmental and social standards; (ii) assignment of an appropriate environmental and social risk rating; (iii) where required, recommend relevant due diligence actions such as the preparation of an ESIA/ ESMP, checklist-based ESMP, ARAP/RAP and/or Stakeholder Engagement Plan (SEP); and (iv) implement LMP as required. The finalized ESSFs will be submitted to the Bank for review and approval.

Step 2: Assigning of Environmental and Social Risk Rating

To define an appropriate environmental and social rating, the PMU Environmental and Social Development specialists will complete an Environmental and Social Screening Form (ESSF) (see **Appendix 1**: Environmental and Social Screening Form) to facilitate the identification of potential environmental and social impacts, and relevant environmental and social standards, assignment of an appropriate environmental and social risk rating, and where required, recommend relevant due diligence actions such as the preparation of an ESIA, ESMP, ARAP/RAP and/or Stakeholder Engagement Plan (SEP) as required. Finalized ESSFs will be submitted to the Bank for review and approval. In addition, each beneficiary health facility or laboratory will be required to prepare its own ESMP which will include a *Laboratory Biosafety and Waste Management Plan* prepared using the template provided in **Appendix 7**: Laboratory Biosafety and Waste Management Plan.

WBG Environmental and Social Risk Classification

According to the World Bank Environment and Social Framework (ESF), projects are classified as *high, substantial, moderate*, or *low risk,* depending on the environmental and social sensitivity of the sub-

project. The Bank requires the Borrower to carry out appropriate environmental and social assessment of Projects, and prepare and implement such Projects, as follows:

a. *High Risk* sub-projects, in accordance with the ESSs; and

b. *Substantial Risk, Moderate Risk* and *Low Risk* sub-projects, in accordance with national law and any requirement of the ESSs that the Bank deems relevant to such sub-projects[42].

As discussed in Section V, the overall environmental and social risks classification for this Project is ***Substantial*** for operation phase. Therefore, appropriate environmental and social assessment for sub-projects will be carried in accordance with the Republic of Tajikistan legal frameworks and in line with the World Bank's ESF ESSs.

Environmental and Social Risks Classification of Republic of Tajikistan

The *Law on State Environmental Expertise* includes provisions about the process of Environmental Impact Assessment (EIA) in the Republic of 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.

A list of activities for which the Environmental Impact Assessment is mandatory provided in *Appendix 1* to the *Resolution No. 532 on the Procedure for Environmental Impact Assessment (EIA) of the Government of the Republic of Tajikistan dated November 1, 2018*[43]. This List contains 180 types of activities, grouped according to four environmental impact categories (from (A) "high risk" to (G) "local impact").

There is no formal social classification system for projects in the Republic of Tajikistan. The necessary documents and relevant procedures are outlined in detail in the Resettlement Policy Framework developed for the Project.

Step 3: Carrying out Environmental and Social Assessments

For sub-projects with substation environmental risks which includes new construction, environmental and social impact assessment must be conducted in accordance with environmental and social legislation requirements of Tajikistan and the proposed mitigation measures provided in the ESMP in line with the World Bank's ESF. The PMU's Environmental and Social Development Specialists (E&S team) will be in charge of the preparation of an ESIA, including an ESMP. For this, the PMU may contract external consultants to assist in the preparation of these documents as well. A template for an ESIA outline is provided in **Appendix 3**: Indicative Outline of ESIA. ESIA and ESMP preparation will be required for the construction of new laboratories (Component 2). To comply with national regulations, the development of Environmental Expertise will be required as part of national documents.

Sub-projects that include the renovation of laboratories (replacement of windows, doors, roofs and etc.) may have a moderate risk, and accordingly, the PMU 's E&S team will need to develop ESMP. The template of Site specific ESMP is provided in **Appendix 4**: Indicative Outline of ESMP. For small scale renovation works (replacement of linoleum, painting and etc.) Checklist based ESMP will be developed as for sub-projects with low environmental risks. Templates for these documents are provided in **Appendix 5**: Indicative Outline of Checklist-based ESMP.

[42] Where sub-projects are likely to have minimal or no adverse environmental or social risks and impacts, such sub-projects do not require further environmental and social assessment following the initial screening.

[43] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=21481#A5C70W6SRT

The ESMP or Checklist based ESMP should constitute an integral part of the bidding documents for contractors carrying out civil works under the Project.

For the laboratories, the PMU 's Environmental Specialist with assistance of medical waste management and lab biosafety specialists (to be hired under the Component 2) will develop **a *Laboratory Biosafety and Waste Management Plan*** utilizing the template provided in **Appendix 7**: Laboratory Biosafety and Waste Management Plan.

Considering the specific nature and volume of planning work under the Project, the social risk is classified as moderate or low. For sub-Projects with moderate social risk involving land acquisition and resettlement, the development of an ARAP/RAP will therefore be required. The recommended template of an ARAP/RAP will be provided in the RPF.

For sub-projects with low social risk, the development of separate documents will not be required, and necessary actions and mitigations measures will be included in the ESMP.

Step 4: Review and Approval

PMU will submit the prepared environment and social instruments (e.g., ESIA which include ESMPs, checklist-based ESMP, ARAP/RAP) to the World Bank for prior review and no objection. Thereafter, the World Bank and the implementing agency (beneficiary institutions) will reassess whether prior review is needed for further ESMPs, or a certain category of ESMPs (for example, for activities exceeding a certain budget, for certain types of activities).

Step 5: Integration of ESIA requirements into project documents

The PMU's Environmental and Social Development Specialist should ensure that all sub-project bidding documents include a requirement for implementation of the ESMP/or checklist based ESMP, and that the documents are attached to the bidding documents and then to the construction contracts. At this stage, the Environmental and Social Development Specialist should be Project trained in the environmental and social management plans relevant to the activities they work on. The responsible party in the implementing agency should provide such training to field staff.

The PMU 's Procurement Specialists, together with environmental specialist should ensure that all selected contractors, subcontractors, and vendors understand and incorporate environmental and social mitigation measures relevant to them as standard operating procedures for civil works. The PMU 's Environmental and Social Development Specialists should provide training to selected contractors to ensure that they understand and incorporate environmental and social mitigation measures. The recommended actions on integration of environmental and social requirements into the bidding process and pre-construction stage are presented are provided are provided in Chapter 7.1**.**

Step 6: Public Consultations and Disclosure

Once the ESIA is conducted and an ESMP is prepared, these documents are subject to public consultation. The PMU will be responsible for organizing and conducting the public consultation process and ensuring that the ESIA and/or ESMP documents are distributed to interested parties and the local population by posting them on relevant websites and submitting them to the local councils. Minutes of public meetings will be kept and included in the final ESMP or checklist-based ESMP. During the consultation sessions, the PMU's Environmental and Social Development Specialists with the support of medical waste management and biosafety specialists will present the ESIA/ESMP including (i) the Project overall Project and sub-projects, (ii) its preliminary location and implementation schedule, (iii) an overview of the ESA process, and (iv) any conclusions on impacts, and proposed mitigation measures and benefits.

These data should be defined as preliminary, indicating that inputs from participants can still be applied to Project planning. Participants will be invited directly (not by order) to submit comments and corrections on what is presented. Adequate and convenient contact information will be provided for use by participants.

The public consultation on the ESIA/ESMP or checklist-based ESMP of a particular sub-project will include an announcement of PMU meetings on the website at least two weeks before the session, with a brief description of the Project, the meeting location, and specific contact details (including telephone numbers). In addition, the PMU's Environmental and Social Development Specialists will make an announcement in the local and regional Hukumats about a public consultation by means of a short booklet, together with an invitation to participate in the consultation. Documentation for the consultation should be submitted to the implementing agency as part of the sub-project file by the PMU's environmental and social development specialists. Versions of the ESMP in Russian and/or the local language and records of the public consultation should be posted in a public place close to the construction site, as well as on the Borrower's website. The specific ESMP or checklist based ESMP for sub-projects will also be available to affected groups and local NGOs in an easily accessible location and on the website of the PMU and (or) other implementing agencies.

Step 7: Monitoring, Supervision and Reporting

The PMU 's Environmental and Social Development Specialists will carry out the regular monitoring of sub-projects during construction and operation to ensure that the ESMP/ESMP checklists are properly implemented. If the PMU 's Environmental and Social Development Specialists notice any implementation issues, they will inform the relevant contractor and agree with the contractor on corrective action to be taken. The PMU 's Environmental and Social Development Specialist will present the findings to the World Bank in the Project progress report twice a year or more frequently and bring issues to the attention of the World Bank as necessary. The World Bank Project team will also visit the sub-project sites as part of Project supervision, as appropriate.

6.3. Review and Evaluation – E&S Completion

Upon completion of Project activities, the PMU will review and evaluate progress, the completion of Project activities, and all required environmental and social mitigation measures. Especially for civil works, the PMU will monitor activities regarding site restoration and landscaping in affected areas to ensure that the activities have been completed to an appropriate and acceptable standard before closing the contracts, in accordance with measures identified in the ESMPs or checklist based ESMP. The sites must be restored to at least the same condition and standard that existed prior to the commencement of works. Any pending issues must be resolved before a sub-project is considered fully completed. The PMU will prepare a completion report describing the final status of compliance with the E&S risk management measures and submit it to the World Bank.

7. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

7.1. Project Coordination

This section summarizes the proposed institutional and organizational arrangements and responsibilities for the Project, and to implement the ESMP in order to complete subproject screening for environmental and social impacts and risks, consultations to evaluate and recommend mitigation measures, evaluation and clearance of due diligence documentation, and ESMP monitoring and implementation. The proposed institutional arrangements are shown on Error! Reference source not found. overleaf and summarized in the f ollowing narrative.

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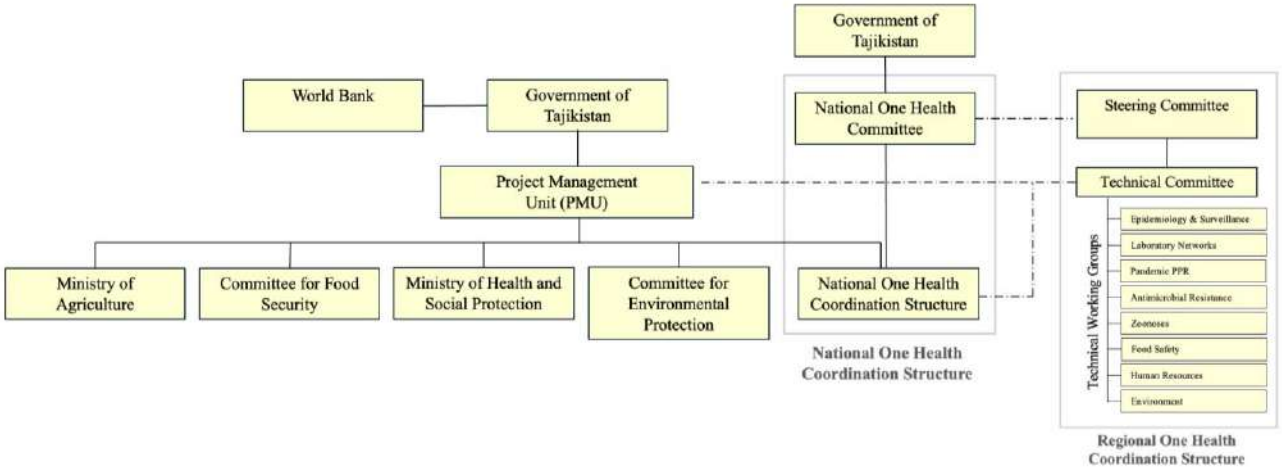


Figure 12: Proposed Program Institutional Organization

7.2. Project Management Unit (PMU)

The State Institution "Agriculture Entrepreneurship Development" under the Government of the Republic of Tajikistan will serve as the **Project Management Unit (PMU)** will serve four implementing entities: the Ministry of Agriculture of the Republic of Tajikistan, the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan, the Committee for Food Security under the Government of the Republic of Tajikistan and the Committee for Environmental Protection under the Government of the Republic of Tajikistan, and will implement activities for the National One Health Coordination Structure. The PMU will be responsible for coordinating the overall implementation of each project Component in collaboration with the respective implementing agencies. It will solely handle fiduciary management responsibilities, ensure compliance with ESF, and establish appropriate M&E systems to track results contributing to the overall PDO. It will particularly monitor and evaluate day-to-day project activities and outputs and ensure ESF due diligence and compliance. Led by a designated project manager, the PMU is envisioned to include (i) an environmental specialist with health and safety expertise, (ii) a social development specialist with expertise in social and gender, and (iii) an expert specializing in laboratory biosafety and medical waste management. Additional environmental and social capacity support will also be provided as required to assist in managing risks, given the multi-

sectoral nature of the project. Current structure of PMU is presented in **Figure 13**.

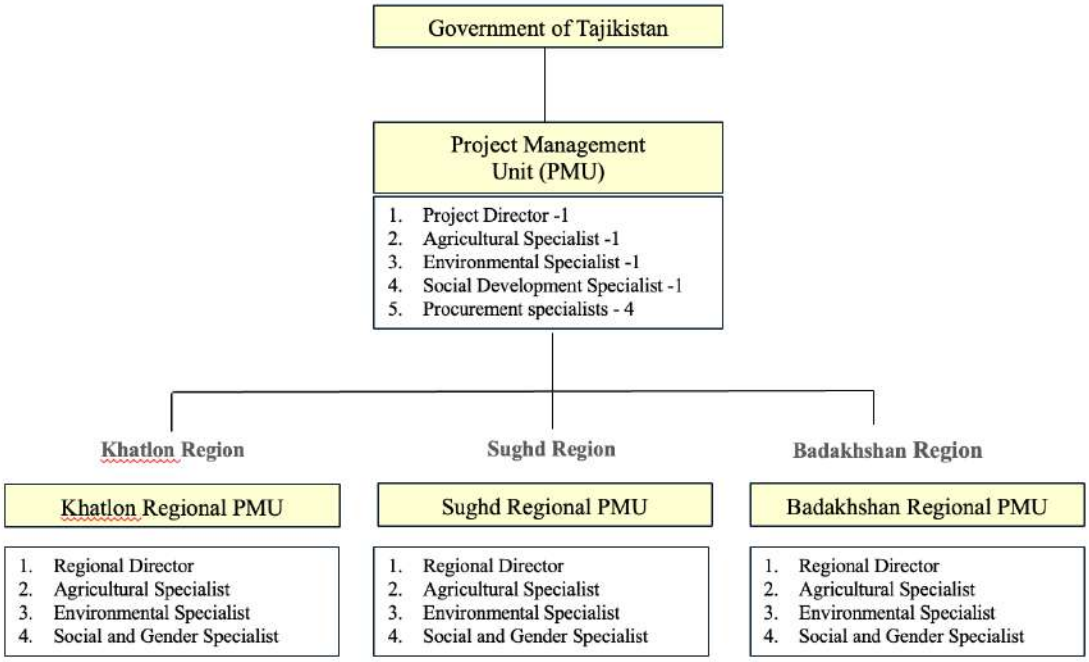


Figure 13: Current structure of PMU

7.3. National Implementing Entities

The PMU will assist the responsible technical departments of involved agriculture, food safety, health, social protection, and environment sector ministries and committees, and the National One Health Coordination Structure, to implement project activities. These entities and key component activities are summarized as follows:

1. **Ministry of Agriculture of the Republic of Tajikistan.** This ministry is the central executive authority responsible for the development and implementation of unified agriculture state policy. It (i) develops animal husbandry and crop production policy, (ii) drafts agricultural legislative and regulatory acts, standards, and regulations, (iii) formulates proposals for breeding work development, seed production, fishing, beekeeping, plant protection, and the use of pesticides in the fight against agricultural pests, and (iv) promotes the growth of agricultural production and development of agricultural infrastructure. Within its competence, it coordinates and fulfils the nation's obligations under international conventions and international treaties and agreements.

The State Veterinary Supervision Service is an authorized veterinary body under the ministry. It is mandated to (i) develop and approve standards, regulations, instructions and recommendations on veterinary issues, (ii) protect the territory against the introduction of pathogens of quarantine animal diseases, (iii) determine procedures for conducting veterinary and sanitary examinations, (iv) certify products and raw materials of animal origin, biological agents and veterinary drugs, (v) control veterinary and sanitary conditions of animal trade points, and (vi) control imports, exports, production, use, processing, storage, purchase, sale, and transit of products and raw materials of animal origin. The Service

also maintains veterinary controls at border checkpoints across the state, and protects the nation from the importation of infectious and other animal diseases from foreign countries.[44] Departments of the ministry that will be involved directly with project implementation are presented on **Figure 14**.

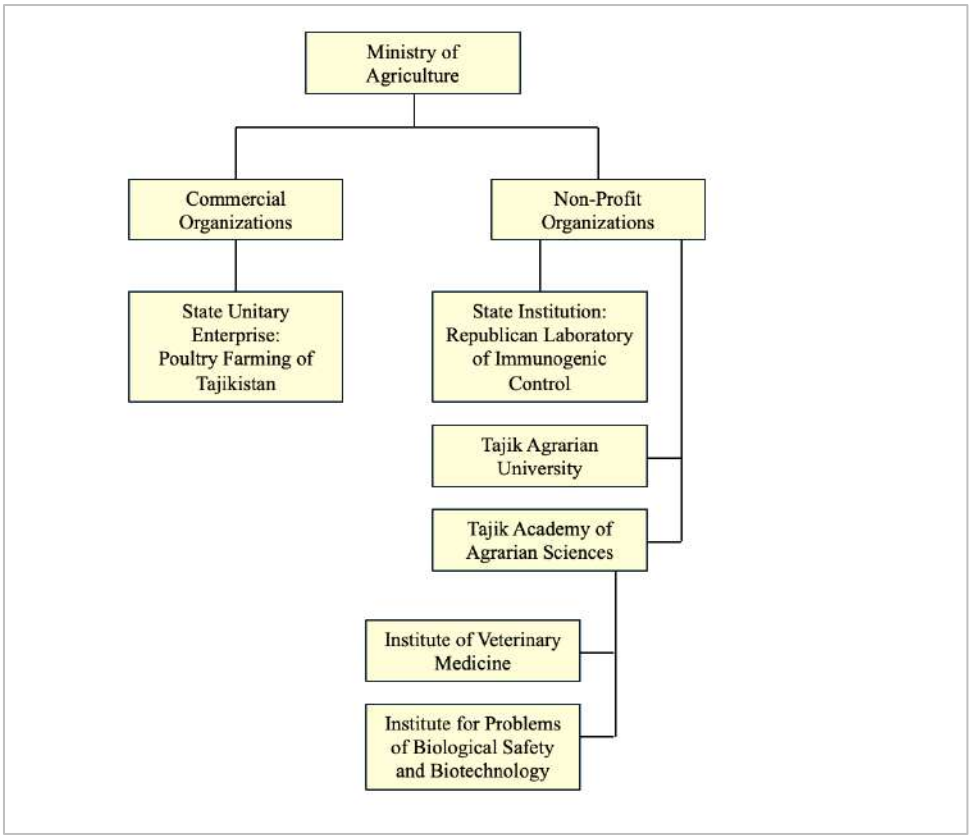


Figure 14: Project Implementing entities of the Ministry of Agriculture of the Republic of Tajikistan

Project activities to be implemented by the ministry are shown in **Figure 15**.

Ministry of Agriculture of the Republic of Tajikistan

<u>Strengthening One Health governance:</u>

- Prepare and update a data repository for the online data platform established by the national coordination structure.
- Update laws and regulations relevant to the agricultural sector, for example, on-farm biosecurity, pasture management, cattle migration routes and veterinary control and treatment points for animals before and after access to summer pastures.

[44] These responsibilities are performed by (i) Main Veterinary Department of the Ministry of Agriculture of the Republic of Tajikistan, (ii) Department of State Veterinary Supervision at the state border, transport and airports with its subdivisions – border veterinary control points and posts, (iii) Republican Epizootic Expedition, and (iv) Tajik Research Veterinary Institute, the Central Asian Research Foot-and-Mouth Disease Institute, and the republican, regional and district (border) veterinary laboratories.

Enhancing One Health knowledge and workforce capacity

- Carry out on-the-job workforce development for Ministry of Agriculture staff.
- Conduct training for relevant extension service professionals.

Improving One Health prevention, detection and response systems

- Conduct brucellosis vaccination in small holder farms.
- Provide matching grants for the development of biosecurity measures on farms.

Figure 15: Project Component Activities
Ministry of Agriculture

The Committee of Food Security under the Government of the Republic of Tajikistan is the central executive body that implements the special executive, controlling, allowing and other functions established in the fields of veterinary science, phytosanitation, the quarantine of plants, protection of plants, seed farming and breeding. It was created on the basis of the organizations of the Ministry of Agriculture, State Veterinary Supervision Service, State Phytosanitary Supervision and Plant Quarantine Service, State Breeding Supervision Service, and State Seed Supervision Inspectorate. Project activities to be implemented by the committee are shown in **Figure 16**.

Committee of Food Security under the Government of the Republic of Tajikistan

Strengthening One Health governance:

- Prepare and update a data repository for the online data platform established by the national coordination structure.
- Update laws and regulations relevant to the agricultural and veterinary sectors, for example, laws and regulation for animal identification, registration and traceability, legislative acts specifically for zoonotic infections (brucellosis in particular), food safety, antibiotic supply and use, and compensation systems related to animal health issues.
- Strengthen the legal framework regarding the surveillance, prevention and control of priority zoonotic diseases;
- Develop and implement regulatory frameworks for monitoring veterinary product residues.
- Develop regulations and frameworks for compensation systems related to animal health issues.
- Implement Hazard Analysis and Critical Control Points (HACCP) awareness programs for stakeholders from farm to fork.
- Raise media and public awareness to promote engagement of rural communities and stakeholders in the implementation of the One Health concept.
- Promote safe food handling and nutrition through regular communication and information-sharing activities targeting consumers and food operators.

Enhancing One Health knowledge and workforce capacity

- Prepare a baseline assessment on antimicrobial use in animal operations.
- Prepare an assessment of HACCP systems in food establishments and a traceability system for food products, and recommendations for improvement.

- Assess the competencies of veterinary and laboratory specialists at all levels of the Committee for Food Security.
- Conduct, at the regional and national levels, intersectoral education, training, and seminars on legislation and regulations for the control of zoonotic diseases, on the prevention of AMR, and technical food safety regulations.
- Carry out on-the-job workforce development for Committee for Food Security staff.
- Review and improve veterinary and animal health worker curriculums to mainstream the One Health approach and ensure up-to-date content regarding zoonoses, AMR, and food safety.
- Perform research on chronic diseases (brucellosis and tuberculosis), and where relevant, vaccine-based prevention.
- Implement explanatory and awareness-raising work (trainings, preparation of brochures and posters) among decision-makers, dehkan/farmers, and livestock breeders.
- Create a National Research and Training Center for specialists at all levels of the Food Security Committee and the National Center for Diagnostics of Food Security and its regional Centers, and employees of the Institute of Veterinary Medicine of the Tajik Academy of Agricultural Sciences.

Improving One Health prevention, early detection and response systems

- Construct, renovate and equip the central veterinary laboratory and 6 interdistrict laboratories (Hamadoni, Shartuz, Gissar, A. Jami, Bokhta, Khujand) and prioritized food safety laboratories at food markets;
- Equip the central laboratory for analysis of residues in food.
- Increase laboratory capacity in testing AMR and antimicrobial susceptibility testing (AST) with new and more efficient equipment, expanding the scope of the AST profile to include all antibiotics as per legal requirements;
- Support developing quality management systems, Standard Operating Procedures (SOPs) and proficiency testing schemes in the central laboratory, aiming at international accreditation.
- Revise and update testing methodologies for residual amounts of veterinary and pharmaceutical drugs, antimicrobial drugs, heavy metal salts, radionuclides.
- Procure mobile laboratory for work in remote areas and in emergency situations, following needs assessment;
- Develop laboratory information management system, ensuring compatibility with the human health LIMS.
- Map the existing veterinary health laboratory accreditation programs.
- Establish animal identification, registration and traceability system and animal holding registration.
- Provide field offices with equipment for sampling and transportation of samples to designated veterinary laboratories for diagnosis and research.
- Establish or strengthen quarantine stations and control capacity at designated PoEs.
- Create buffer zones in border areas, particularly in areas of GBAR and Khatlon (brucellosis), and cities most vulnerable to rabies.
- Develop and implement a monitoring plan for residues of veterinary and medicinal drugs, pesticides and pesticides in agricultural products, products of animal origin, feed and food products.

- Establish a traceability system for foodstuffs, with a minimum of one step traceability system in place.

Figure 16: Project Component Activities
Committee of Food Security

2. **Ministry of Health and Social Protection of the Population of the Republic of Tajikistan.** This ministry is the central executive body that is responsible for the development and implementation of unified state policy and regulation of legal norms in the health and social protection sector of the population. It develops and implements state policy and regulations, the circulation of medicines and medical products, medical examinations, and organization of medical and pharmaceutical education to ensure the sanitary and epidemiological well-being of the population.

Ministry of Health and Social Protection of the Population of the Republic of Tajikistan

Strengthening One Health governance:

- Prepare and update a data repository for the online data platform established by the national coordination structure.
- Organize information and education campaigns to improve awareness of International Health Regulations (IHR) and health security capacities among government staff, partners, media, and other community-level stakeholders.
- Develop multisectoral annual work plans for the implementation of the AMR National Action Plan, identifying prioritized, costed activities in line with the AMR Global Action Plan. These plans will be developed in close coordination with agricultural, veterinary, environment, and other relevant sector stakeholders and agencies.
- Develop a multimodal national operational plan for improving infection prevention and control, in line with Worldwide Governance Indicators multimodal improvement strategy (with five core elements, including systems change, training and education, monitoring and feedback, reminder and communication, and culture of safety).
- Develop contingency response plans for high-risk hazards (related to AMR, food safety, and zoonotic diseases) based on capacity and performance assessments (for example, JEE, SPAR, and action reviews).
- Perform legal analyses across the agricultural, environmental, and health sectors, at all levels of government, to identify, understand, assess, and analyse gaps within the country's legal instruments (for example, public health act/law, animal health and veterinary legislation, food safety legislation), including any legal inconsistencies, or laws that conflict with IHR implementation.

Enhancing One Health knowledge and workforce capacity

- Execute routine simulation exercises, after action reviews, intra-action reviews, early action reviews, and other functional and performance assessments.
- Assess existing capacities for awareness, training, surveillance, infection prevention and control (IPC), and stewardship of antibiotic use in and by relevant sectors.
- Conduct or update annual multisectoral hazard risk assessments that establish what threats are national and subnational priorities, accounting for all biological and non-biological threats that

could potentially lead to public health emergencies, and incorporating surveillance data, risk modelling, and other available analytics.
- Update pre- and in-service curriculums for the Field Epidemiological Training Program and continuous professional development programs (related to laboratory and surveillance).
- Develop a contingency health sector workforce plan to ensure the availability of healthcare workers and other essential roles to cover IHR needs at national and subnational in both routine circumstances and health emergencies.
- Conduct training for relevant health and public health workers (for example, clinicians, laboratorians, surveillance officers) to prevent, detect, and respond to priority diseases.

Improving One Health prevention, early detection and response systems

- Develop or update national standardized infection prevention and control protocols for health facilities and management of special settings (for example, POEs, industrial plants, waste management companies, schools, and community settings).
- Assess national clinical and public health laboratory capacity (that is, infrastructure, staffing, compliance with standard procedures, timeliness).
- Develop and implement systematic specimen referral and transportation system for diagnostics and/or confirmation of priority diseases at all levels.
- Develop quality standards at national and subnational levels, including priority licensing and accreditation of clinical and public health laboratories aligned with basic quality requirement or national laboratory standards.
- Establish an external quality assessment program for the national reference public health laboratory and ensure that it can conduct confirmatory or additional testing.
- Map the existing clinical and public health laboratory accreditation programs.
- Equip central and subnational public health laboratories with diagnostic equipment, reagents, and supplies;
- Conduct cross-sectoral surveillance landscape assessment, with focus on potentially leveraging digital tools across surveillance systems to automate routine data management and reporting processes and enable greater linkage and interoperability between systems.
- Develop national strategy, guidelines, and/or SOPs for surveillance based on the Integrated Disease Surveillance and Response Technical Guidelines at national and subnational health facilities.
- Establish national and subnational networks for healthcare-associated infections surveillance.
- Establish/expand epidemic intelligence functions to triage, verify, investigate, and assess detected risk signals at all levels from all surveillance sources.
- Establish and equip multi-disciplinary surge rapid response teams for investigation and response.

Figure 17: Project Component Activities
Ministry of Health and Social Protection of the Population of the Republic of Tajikistan

3. **Committee for Environmental Protection under the Government of the Republic of Tajikistan.** This committee implements state policy in the field of environmental.

Strengthening One Health governance:

- Prepare and update a data repository for the online data platform established by the national coordination structure.

- Organize information and education campaigns to improve awareness of International Health Regulations (IHR) and health security capacities among government staff, partners, media, and other community-level stakeholders.
- Develop multisectoral annual work plans for the implementation of the AMR National Action Plan, identifying prioritized, costed activities in line with the AMR Global Action Plan. These plans will be developed in close coordination with agricultural, veterinary, environment, and other relevant sector stakeholders and agencies.
- Develop a multimodal national operational plan for improving infection prevention and control, in line with Worldwide Governance Indicators multimodal improvement strategy (with five core elements, including systems change, training and education, monitoring and feedback, reminder and communication, and culture of safety).
- Develop contingency response plans for high-risk hazards (related to AMR, food safety, and zoonotic diseases) based on capacity and performance assessments (for example, JEE, SPAR, and action reviews).
- Perform legal analyses across the agricultural, environmental, and health sectors, at all levels of government, to identify, understand, assess, and analyze gaps within the country's legal instruments (for example, public health act/law, animal health and veterinary legislation, food safety legislation), including any legal inconsistencies, or laws that conflict with IHR implementation.

Enhancing One Health knowledge and workforce capacity

- Execute routine simulation exercises, after action reviews, intra-action reviews, early action reviews, and other functional and performance assessments.
- Assess existing capacities for awareness, training, surveillance, infection prevention and control (IPC), and stewardship of antibiotic use in and by relevant sectors.
- Conduct or update annual multisectoral hazard risk assessments that establish what threats are national and subnational priorities, accounting for all biological and non-biological threats that could potentially lead to public health emergencies, and incorporating surveillance data, risk modeling, and other available analytics.
- Update pre- and in-service curriculums for the Field Epidemiological Training Program and continuous professional development programs (related to laboratory and surveillance).
- Develop a contingency health sector workforce plan to ensure the availability of healthcare workers and other essential roles to cover IHR needs at national and subnational in both routine circumstances and health emergencies.
- Conduct training for relevant health and public health workers (for example, clinicians, laboratorians, surveillance officers) to prevent, detect, and respond to priority diseases.

Improving One Health prevention, early detection and response systems

- Develop or update national standardized infection prevention and control protocols for health facilities and management of special settings (for example, POEs, industrial plants, waste management companies, schools, and community settings).
- Assess national clinical and public health laboratory capacity (that is, infrastructure, staffing, compliance with standard procedures, timeliness).
- Develop and implement systematic specimen referral and transportation system for diagnostics and/or confirmation of priority diseases at all levels.
- Develop quality standards at national and subnational levels, including priority licensing and accreditation of clinical and public health laboratories aligned with basic quality requirement or national laboratory standards.

- Establish an external quality assessment program for the national reference public health laboratory and ensure that it can conduct confirmatory or additional testing.
- Map the existing clinical and public health laboratory accreditation programs.
- Equip central and subnational public health laboratories with diagnostic equipment, reagents, and supplies;
- Conduct cross-sectoral surveillance landscape assessment, with focus on potentially leveraging digital tools across surveillance systems to automate routine data management and reporting processes and enable greater linkage and interoperability between systems.
- Develop national strategy, guidelines, and/or SOPs for surveillance based on the Integrated Disease Surveillance and Response Technical Guidelines at national and subnational health facilities.
- Establish national and subnational networks for healthcare-associated infections surveillance.
- Establish/expand epidemic intelligence functions to triage, verify, investigate, and assess detected risk signals at all levels from all surveillance sources.
- Establish and equip multi-disciplinary surge rapid response teams for investigation and response.
- management and control over environmental protection and the use of natural resources. The Agency for Hydrometeorology, under the committee, implements activities in the fields of meteorology, climatology, hydrology, glaciology, agrometeorology, and environmental pollution monitoring. It also provides information on the state of the environment.

Committee for Environmental Protection under the Government of the Republic of Tajikistan

Strengthening One Health governance:

- Prepare and update a data repository for the online data platform established by the national coordination structure.
- Strengthen the legal framework for regulating zoonotic diseases and developing recommendations and instructions for government inspectors on the rules for handling animals and birds on measures to combat diseases.
- Develop and test wildlife outbreak communication protocols.

Enhancing One Health knowledge and workforce capacity

- Setup a Geographic Information System for the monitoring wildlife and the identification and control of zoonotic diseases.
- Monitor and analyze the migration of wild animals including migratory birds and study the state of vulnerable wetland ecosystems in relation to the potential emergence and spread of zoonotic diseases.
- Monitor migratory bird movements together with scientists from the Institute of Zoology and Parasitology of the National Academy of Sciences.
- Map and identify risk zones for the spread of zoonotic diseases among domestic and wild animals, considering climate risks.
- Develop capacity to monitor and reduce antimicrobial residues and water-borne disease in the environment.
- Build the capacity of specialists at Committee for Environmental Protection and its subordinate institutions, including through trainings and seminars on the study and monitoring of wild animals including migratory birds, as well as zoonotic diseases and their chain of transmission.

Improving One Health prevention, detection and response systems

- Support the central laboratory with equipment to analyse samples from monitoring of residues and contaminants in the environment.
- Build quarantine enclosures at the "Specially Protected Natural Areas" institute of the Committee for Environmental Protection under the Government of the Republic of Tajikistan.
- Purchase special transportation vehicle and equipment for the transportation of corpse of wild animals and birds.
- Procure mobile laboratory for work in remote areas.
- Develop and implement a plan to monitor and control the disposal of medical waste (disposables, chemicals and biological material).
- Support the active and passive surveillance of diseases in wildlife (including in aquatic species), and the surveillance of vectors and vector-borne diseases, by supplying field offices with equipment for taking and transporting samples to designated veterinary laboratories for diagnosis and research in ways that ensure sample preservation.
- Regulate of cattle trails in protected areas, and the creation of veterinary control points and treatment of domestic animals before moving and upon returning from pastures to prevent the spread of zoonotic diseases, as well as for vaccination of wild animals and reducing the risk of transmission of zoonotic diseases from domestic animals to wild animals.
- Develop measures to control chemical and other pollution including medical waste, identifying sentinel sites.

Figure 18: Project Component Activities
Committee for Environmental Protection under the Government of the Republic of Tajikistan

4. **National One Health Coordination Structure**

The primary functions of this entity relate primarily to management, coordination and training, ensuring seamless coordination between the project and both the Government and the One Health Coordination Structure.[45]

Regional Implementation. A Regional One Health Coordination Structure will also be established to facilitate regional dialogue, coordinate regional activities, share experiences, and mobilize resources to address common challenges. As shown on **Figure 14**, the structure of the coordination entity includes a steering committee, a technical committee, eight technical working groups, and a secretariat. It will comprise of officials from the Republic of Tajikistan and four other central Asian nations, each with decision-making capacity and relevant technical knowledge. At least initially, the coordination structure will be hosted by the Central Asia Regional Economic Cooperation Program (CAREC).

7.4. Management of Contractors

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

[45] Two councils are currently under consideration to host the National One Health Coordination Structure: the National Council for Health, and the Coordination Council for Food Security, both of which are chaired by a deputy prime minister.

proposals. Contractors' contracts should include requirements for compliance with all national building codes, health and safety, protective procedures and regulations, and environmental protection documents.
Contractors will conduct environmental and social monitoring on the daily base and in case of any serious incidents, the Contractor will inform the PMU within 24 hours and prepare Incident report (outline is provided in Error! Reference source not found.).
During the Construction phase, each Contractor must retain the expertise of a full-time Environmental Engineer and Operational Health and Safety Engineer (OHSE) to prepare and update the C-ESMP and to oversee and report on the C-ESMP implementation throughout the contract period.

The Bidding Documents for each subproject shall include ESIA/ESMP or simplified checklist-based ESMP proportionate to the risk level classification identified for each subproject, considering the final design of the project. The ESMP obligates Contractors, upon mobilization, to prepare their own Construction Environmental and Social Management Plans (C-ESMPs) for each site as well as to ensure proper costing for mitigation is included in their bid in accordance with the relevant legislation of the Republic of Tajikistan, World Bank's ESSs, and in line with World Bank Group Environment, Health, and Safety Guidelines (EHSGs), which shall be prepared prior to the commencement of construction activities. The C-ESMP will provide mechanisms and institutional arrangements for implementing mitigation measures, conducting monitoring, reporting, and capacity-building programs. Contractors are required to conduct public consultations on the C-ESMP. The C-ESMPs shall be reviewed and approved by the Construction Supervision Engineer (CSE) and by the Environmental and Social Development Specialists of PMU. The Construction – ESMP (C-ESMP) shall include (for example) the following, but not limited to plans:

- Occupational Health and Safety (OHS) Plan;
- Air Quality and Dust Management Plan;
- Soil Pollution Management Plan;
- Water Pollution Management Plan;
- Waste Management Plan;
- Laboratory Biosafety and Waste Management Plan
- Noise and Vibration Management Plan;
- Community Health and Safety Plan;
- Emergency preparedness and Response Plan;
- Traffic Management and Road Safety Management Plan (if required);
- Labor Influx Management Plan;
- Code of Conduct for Workers, and
- Site Restoration Plan
- Other specific management plans.

The C-ESMP will need to be reviewed and approved by PMU's E&S Specialists. Only after approval of the Contractor-ESMP by the PMU, can the Contractor start with actual civil works. Accordingly, construction/rehabilitation works can commence only once the above-mentioned environmental and social requirements are met.

7.5. Capacity Building and ESMF Implementation Costs

7.5.1. Capacity Building and Training

The ESMF implementation requires special knowledge from the beneficiaries and all project participants at each stage of the project. To ensure the effective implementation of the project and a clear understanding of the requirements for safeguards of the project, a capacity-building program is proposed under this project.

The program provides training in both general environmental policy principles of the World Bank, relevant national legislation, and in certain specific aspects relevant to this project. It is planned to conduct training and provide information on such topics as the introduction of ESMF, reporting on ESMF/ ESMP, as well as on specific topics such as the medical waste management, biosafety during labs operation and others.

PMU has experience in implementation of investment projects funded by the WB. Under these projects sets of training were provided as a part of capacity building. Nevertheless, taking into account specificity of the project, wide range of planning activities it is essential to increase capacity of implementation agency in implementation of safeguards requirements.

For the said purpose, PMU will hire one environmental and one social development specialists with knowledge of the national environmental and social management requirements, as well as substantial knowledge of the policies and requirements of the World Bank's safeguards, who will develop training materials and trainings themselves. The training will include basic WB requirements, national rules and procedures for safeguards, as well as case studies in this regard. All developed training materials, after the first series of trainings by the Consultant will be transferred to the Implementation Agency for further application. It is recommended to hire short-term international Environmental and Social development specialist who will assist in implementation of environmental

The proposal for capacity-building of the Project on environmental and social issues will focus on the following key areas:

i) ***PMU Capacity for ESMF Implementation.*** The capacity of the PMU to implement the ESMF during the sub-project selection process, construction stages, and the operational phase will be a primary focus. A qualified consultant will be hired to provide targeted training for the PMU, as well as for the Environmental and Social Development Specialists. The training will cover the World Bank's Environmental and Social Framework (WB ESF), including the preparation of Environmental and Social Impact Assessments (ESIA) and Environmental and Social Management Plans (ESMP), Checklists based ESMP and will also include ongoing assistance with the monitoring of the ESMP during implementation.

ii) ***The Ministries potential capacity***. Even though the agency conducts trainings on the environmental and social requirements implementation within the framework of currently implemented projects, on general environmental activities during the operation of projects - Consultant together with PMU Environmental and Social Development Specialist will develop and conduct a training program on the overall review of WB ESF, ESMF and national environmental and social requirements. The purpose of this training will be to present the ESF and national environmental requirements for different types (categories) of projects and further necessary actions.

Table 11: Preliminary capacity-building plan and training program

#	The name of the training	Time and estimated duration of training	Target group	Arranger	Tentative cost, USD
1	Development of ESMP, checklist based ESMP, ARAP/RAP, LMP, SEP	During the first year of the Project implementation Duration - 1.5 days	Contractors' EHS specialists	PMU	10,000.0
2	GBV training and awareness-raising / implementation of GBV action plan	Half-day workshop for each target group (to be delivered in combined manner where feasible)	Contractors' workers Local government/ community members	PMU	5,000.0
3	Regular training on EH&S	Training on SEMP and OHSP implementation	Contractors' workers	PMU	10,000
4	Stakeholder Engagement Plan	Continuously during the program implementation	PMU	Consultant	30,000.0
	Total				**55,000.0**

7.5.2. Capacity Building and Training on animals' health, zoonotic diseases, medical waste management

Besides the capacity building program on ESF requirements implementation the Project will conduct substantial program on increasing knowledge and awareness on animals' health, zoonotic diseases, medical waste management for staff of MOHSPP, MoA, CEP. Training on the following topics will be developed and implemented under the project:

- On rational use of antimicrobials for clinicians
- Update existing Field Epidemiology training program (FETP) and CDP (for laboratory and surveillance) curriculums based on latest international guidelines and priority diseases in Tajikistan. The MOHSPP has updated training curriculums to provide pre- and in-service training to improve preparedness and response capacities.
- Update existing FETP and CDP (for laboratory and surveillance) curriculums based on latest international guidelines and priority diseases in Republic of Tajikistan. The MOHSPP has updated training curriculums to provide pre- and in-service training to improve preparedness and response capacities.
- The MOHSPP will hire expert(s) to help assess the current health sector workforce (i.e., mapping) and design a contingency health sector workforce plan that: (1) address surge needs to prevent, detect, and respond to priority diseases; and (2) enables existing service providers to maintain essential health service delivery during health emergencies. The MOHSPP has a contingency health sector workforce plan that they can use for functional assessments, training, and responses

during health emergencies.

Besides this the Project, will finance operational costs to help implement such training programs. In addition, the Project will finance the MOHSPP staff participating in master's classes for One Health. The MOHSPP will be able to train nine health professionals at Master's level, 12 staff at intermediate FETP level, and 45 staff in field epidemiology for a period of three years. In addition, 15 laboratory staff will be trained in the application of One Health knowledge to core tasks related to prevention, detection, and response to priority diseases.

7.5.3. ESMF Implementation Costs

Table 12 below summarizes the estimated costs for the items associated with the implementation of the ESMF. The preparation of Site-specific ESIA/ESMP will take place once details become available during the design phase and may however require the services of an external consultant. Expenses related to conduction of environmental monitoring (air, noise and water quality) will be needed per complaints from the population. Contractor will need to outsource certified company for conduction these types of measurements.

Table 12: Estimated costs for ESMF implementation

#	Activity	Unit	Rate	Tentative cost, USD
	ESMP implementation			
1	Hiring expert for development of bankable ESIA and ESMP (month)	2	6000	12 000
2	PPE and equipment for implementation of Asbestos containing materials handling mitigation measures for construction and rehabilitation of labs (Lab	10	2000	20 000
3	Air (NO_x, SO_2, dust) noise, water quality (TSS, oil and grease) measurement (outsourcing certified laboratory) - in case of complaints from population - Contractor will hire	20	500	10 000
4	Acoustic screens	2	5000	10000
5	Dust suppression	2	3000	6000
6	Contractors' EH&S officers (Development of C-ESMP, monitoring, reporting and etc.)			Included in Contractors' scope of work
7	PPE equipment for contractors' workers			Included in Contractors' scope of work
6	Watering of the territory			Included in Contractors' scope of work

#	Activity	Unit	Rate	Tentative cost, USD
	Subtotal			**58 000**
	PMU's ESMP budget			
1	PMU Environmental Specialist	60	1400	84000
2	PMU Social Development Specialist	60	1400	84000
	Subtotal			**168 000**
	Specialists under Component 2			
1	Waste Management specialist for regulatory framework updates	6	500	3000
2	Environmental specialist for regulatory framework updates	3	500	1500
3	International Specialist on National Emergency Response Plan for Foodborne Illness Outbreaks (NERPFIO) and SOPs	3	10000	30000
4	National Specialist for development of NERPFIO and SOPs	6	1000	12000
	Subtotal			**46 500**
1	**Capacity building program**	1		**55 000**
	Total			**327500**
	Contingency 10%			**32 750**
	Grand Total			**360 250**

8. MONITORING AND REPORTING

8.1. General Requirements for Environmental and Social Monitoring and Reporting

Environmental and social monitoring during the implementation of sub-projects should contain information on key environmental and social aspects of sub-projects, their impact on the environment, social consequences of impacts and the effectiveness of measures taken to mitigate the consequences. This information allows the PMU to monitor the performance of project beneficiaries' obligations to implement environmental measures, assess the effectiveness of mitigation measures, and allow timely implementation of corrective action(s) that need to be observed how often, where and by whom monitoring should be carried out.

Monitoring of the implementation of environmental and social measures should be carried out by PMU's Environmental and Social Development Specialists. Representatives of the Committee for Environment Protection (CEP) under the Government of the Republic of Tajikistan may also be involved in monitoring. The aim is to verify the main points of compliance with the ESMF, RFP, SEP and LMP the progress of implementation, the scope of consultations and the participation of local communities. The standard checklist prepared during the evaluation studies will be used for the activities report.

Monitoring for social part will be done on the continuous bases by the PMU Environmental and Social Development team to ensure, that there is not any unanticipated impact during construction works on land, productive assets, illegal users, people's livelihood, assess to the assets etc. Monitoring will also cover health and labor issues. If some issues are identified, the mitigated measures will be proposed in the progress reports or separate Corrective Action Plans (CAP) (details are presented in the below section on the Environment and Social reporting).

8.2. Environmental and Social Monitoring

The monitoring should be carried out as follows:

- *Visual monitoring - during the construction stage of the sub-projects.* PMU Environmental and Social Development Specialists (E&S team) should continually monitor the performance of ESMP by Contractors. This will be achieved through monthly inspections of construction / reconstruction projects by specialists throughout the whole construction period. The PMU's E&S team has the right to suspend work or payments if the sub-borrower breaches any obligation on ESMP implementation. For monitoring, it is recommended to use special checklists, that can be compiled based on ESMP with the attachment of photos from the monitoring site.
- *Instrumental monitoring of environmental quality*, such as air quality, noise level and water quality. Taking into consideration the types of activities that will be implemented within the framework of this Project, instrumental monitoring may not be carried out. However, in the case of complaints of violations or inconveniences from the local population, instrumental measurements should be carried out by the PMU through the hiring of a certified laboratory. In case of national standards exceeding, the Contractors should be obliged to take additional measures to reduce the detected exceedances to meet the standards.

Environmental and social issues included in the mitigation framework are monitored by designated specialists through the PMU's E&S team. Although the environmental and social impacts are expected to be not significant, the potential negative impacts on the environment are planned to be prevented or mitigated during the construction phase. Monitoring is based on impact / mitigation / monitoring issues as defined in the ESMP and/or ESMP checklists of subprojects. Observation monitoring will be carried out

through weekly audits of the environmental performance by Contractors throughout the construction period. The PMU has the right to suspend work or payments if the Contractor is in breach of any of its obligations to implement an ESMP.

Separately, the World Bank experts will also regular visit certain sites to monitor the compliance. As has been mentioned above, in the case of non-compliance, PMU will investigate the nature and cause(s) of the non-compliance and, if necessary, decide what is necessary to ensure the compliance with the sub-project or financing should be suspended.

8.3. Environmental and Social Reporting

Environmental and social activities performance, including monitoring, should be properly documented and reported. In accordance with national legislation for the facilities under construction each Contractor should keep a log with information on HSE training for workers and another log for the registration of accidents during construction works.

For sub-projects related to construction / rehabilitation, it is recommended that Contractors, with the assistance of the PMU E&S team, develop a format (checklist) for site inspection to optimize the environmental supervision process before commencement of the work. The format can be in the form of a checklist with a list of mitigation measures to be implemented at construction sites, the status of their implementation and some explanations on the status of implementation, as required. On monthly basis the Contractors will present short reports on ESMPs implementation. The list of measures that are checked by the PMU E&S team when visiting the site should correspond to the measures specified in the ESMP for the controlled sub-project. Information on the results of the monitoring of the construction / rehabilitated facilities should be submitted to the PMU on a quarterly basis. Based on received reports on semiannually basis the PMU will prepare a brief report on ESMF and ESMPs implementation to be included in the progress reports to be submitted to the WB.

For operating facilities that have received sub-loans for the equipment procurement, environmental and social reporting will consist in submitting by the Contractors copies of environmental and social reports to be submitted to the CEP in accordance with national regulation.

Monitoring reports during the project implementation will provide information on key environmental and social aspects[46] of the project activities, especially regarding environmental impacts and the effectiveness of mitigation measures. Such information will allow the PMU and the World Bank to evaluate the success of measures to mitigate the consequences within the framework of project supervision, and allow, if necessary, to take corrective actions.

If social monitoring identified any impacts, it should be mitigated immediately. If there is an impact on land, productive assets, illegal users, people's livelihood, access to the assets etc. the subproject construction works should be stopped, and the PMU needs to be informed immediately. A Corrective Action Plan (CAP) needs to be developed. The CAP should contain information on the subproject, status of the civil works, impact types and social impact assessment, proposed mitigation measures. CAP should be prepared by the subproject implementer and approved by the PMU. All unanticipated impacts under the subproject, which have occurred out of the RoW (for associated facilities), should be compensated/mitigated by the Contractor. This needs to be reflected in the bidding documents.

[46]Including the impact on the labor force, gender issues, impact on socially vulnerable groups, the standard of living of the population, impact on land resources and others.

9. INFORMATION DISCLOSURE

Extensive consultations have been held with various stakeholders including the public communities, local/ district/ regional authorities, other departments and service providers. The draft ESMF and RPF in English and Russian languages were disclosed on November 2024, on the Executive Agency website. Consultation workshops were held online on 14 November 2024.

Representatives of various stakeholders, specialists from the Ministries (both national and regional levels) involved in the project, local administration (Hukumats) and NGOs attended the workshops.

Before the workshop, the project features, planning works and mitigations measures have been discussed with specialists from relevant agencies.

Based on suggestions received during the consultation workshops, the ESMF, LMP, SEP and RPF documents have been updated, finalized and published on the Executive Agency website and will be published on the external WB website. Minutes of consultations held are given in **Appendix 12**: Minutes of Consultations *(Appendix 12a - Stakeholder Meetings; Appendix 12b - Stakeholder Consultations and Disclosure)*.

10.APPENDIXES

Appendix 1: Environmental and Social Screening Form

This form is to be used by the PMU to assess the various environmental and social risks and impacts that different sub-project will pose, and to select the right environmental and social instruments, plans that will be applicable for those sub-project activities. Use of this form will allow the PMU to form an initial view of the potential risks and impacts of a subproject. Using this form, the PMU will need to prepare separate screening forms for each type of support: a) civil works; b) laboratory goods and equipment. **It is not a substitute for project-specific E&S assessments or specific mitigation plans.**

A note on *Considerations and Tools for E&S Screening and Risk Rating* is included in this Annex to assist the process.

Sub-project Name	
Sub-project Location	
Sub-project Proponent	
Estimated Investment	
Start/Completion Date	

Questions	Answer		Due diligence / Actions
	Yes	No	
ESS 1			
1. Is the subproject likely to have significant adverse environmental impacts that are sensitive and unprecedented that trigger the 'Ineligible Activities' or other exclusion criteria?			If "Yes": Exclude from project.
2. Does the subproject involve civil works including new construction, expansion, upgrading or rehabilitation of laboratory facilities?			If "Yes" 1. Prepare a site-specific ESIA and ESMP for the proposed subproject, based on the template in Appendixes Appendix 3: Indicative Outline of ESIA and Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents. 3. Prepare SEP

Questions	Answer		Due diligence / Actions
	Yes	No	
3. Does the subproject involve renovation or rehabilitation of any small-scale infrastructure, such as healthcare, veterinary and scientific?			If "Yes": 1. Prepare ESMP in accordance with template provided in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents. 3. Include E&S risk management measures in bidding documents.
4. Will construction or renovation works require new borrow pits or quarries to be opened?			If "Yes": 1. Prepare ESMP in accordance with template provided in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP.
5. Does the project lead to any risks and impacts on, individuals or groups who, because of their particular circumstances, may be disadvantaged or vulnerable.			If "Yes": Apply relevant measures described in the ESMF and SEP.
ESS 2			
6. Does the subproject involve uses of goods and equipment involving forced labor, child labor, or other harmful or exploitative forms of labor?			If "Yes": Exclude from project
7. Does the subproject involve recruitment of workforce including direct, contracted, primary supply, and/or community workers?			If "Yes": Apply LMP.
8. Will the workers be exposed to workplace hazards that need to be managed in accordance with local regulations and EHSGs? Do workers need PPE relative to the potential risks and hazards associated with their work?			If "Yes": Apply LMP
9. Is there a risk that women may be underpaid when compared to men when working on the project construction?			If "Yes": Apply LMP
ESS 3			
10. Is the project likely to generate solid or liquid waste that could adversely impact soils, vegetation, rivers, streams or groundwater, or nearby communities?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents

Questions	Answer		Due diligence / Actions
	Yes	No	
11. Do any of the construction works involve the removal of asbestos or other hazardous materials?			If "Yes": Apply specific guidelines on Asbestos-Containing Materials Management
12. Are works likely to cause significant negative impacts to air and / or water quality?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents.
13. Does the activity rely on existing infrastructure (such as discharge points) that is inadequate to prevent environmental impacts?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents.
ESS 4			
15. Is there a risk of increased community exposure to communicable disease (such as COVID-19, HIV/AIDS, Malaria), or increase in the risk of traffic related accidents?			If "Yes": Apply LMP and relevant measures in SEP.
16. Is an influx of workers, from outside the community, expected? Would workers be expected to use the health services of the community? Would they create pressures on existing community services (water, electricity, health, recreation, others?)			If "Yes": Apply LMP.
17. Is there a risk that SEA/SH may increase because of project works?			If "Yes": Apply LMP.
18. Would any public facilities, such as schools, health clinic, church be negatively affected by construction?			If "Yes": Apply relevant measures (unless one of the other questions in the screening form raises specific environmental and social risks and requires a site-specific ESMP).
19. Will the subproject require the government to retain workers to provide security to safeguard the subproject?			If "Yes": Prepare a site-specific ESMP for the proposed subproject, including an assessment of potential risks and mitigation measures of using security personnel.
ESS 5			

Questions	Answer		Due diligence / Actions
	Yes	No	
20. Will the subproject require the involuntary acquisition of new land (will the government use eminent domain powers to acquire the land)?[47]			If "Yes": Refer to and apply the project Resettlement Framework (RF).
21. Will the subproject lead to temporary or permanent physical displacement (including people without legal claims to land)?			If "Yes": Refer to and apply the project RF.
22. Will the subproject lead to economic displacement (such as loss of assets or livelihoods, or access to resources due to land acquisition or access restrictions)?			If "Yes": Refer to and apply the project RPF.
23. Has the site of the subproject been acquired through eminent domain in the past 5 years, in anticipation of the subproject?			If "Yes": Refer to and apply the project RPF.
24. Are there any associated facilities needed for the subproject (such as access roads or electricity transmission lines) that will require the involuntary acquisition of new land?			If "Yes": Refer to and apply the project RPF.
25. Is private land required for the subproject activity being voluntarily donated to the project?[48]			If "Yes": Refer to and apply the project RPF.
ESS 6			

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

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

Questions	Answer		Due diligence / Actions
	Yes	No	
26. Does the subproject involve activities that have potential to cause any significant loss or degradation of critical habitats[49] whether directly or indirectly, or which would lead to adverse impacts on natural habitats[50]?			If "Yes": Exclude from project.
27. Will the project involve the conversion or degradation of non-critical natural habitats?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents.
29. Will this activity require clearance of trees, including inland natural vegetation?			If "Yes": 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Appendix Appendix 5: Indicative Outline of Checklist-based ESMP. 2. Include E&S risk management measures in bidding documents.
30. Will there be any significant impact on any ecosystems of importance (especially those supporting rare, threatened or endangered species of flora and fauna)?			If "Yes": Exclude from project.
ESS 7			
N/a			
ESS 8			
32. Is the subproject to be located adjacent to a sensitive site (historical or archaeological or culturally significant site) or facility?			If "Yes": Apply Chance Find Procedures in Appendix 9: Chance Finds Procedure.
33. Locate near buildings, sacred trees or objects having spiritual values to local communities (e.g. memorials, graves or stones) or require excavation near there?			If "Yes": Apply Chance Find Procedures in Appendix 9: Chance Finds Procedure.

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

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

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

a)
b)

Name and title of person who conducted screening:
Date of screening:

Social Screening Form

Sub-project Information

Sub-project name	
Procurement Plan Item No	
Type of sub-project	
Implementing authority/ies	
Location of sub-project (Neighborhood(s), District, Province)	
Brief Description of Subproject activities: (construction and operation/ implementation activities)	
Geographical coordinates of the Site:	
Area of land that will be used for the sub-project:	
Current Land use	
Land ownership	
Access routes to the Site	

Social Impacts on Communities

Will the subproject or its components cause any of the following impacts on nearby communities?

Impacts	Yes	No	Details
1. Health & Safety risks in nearby communities (major accident risks such as explosions, fires, toxic releases, etc.)			
2. Potential noise/vibration to nearby communities			
3. Potential damages to common property, roads, etc.			
4. Potential risks of traffic accidents			
5. Labor risks			
6. Other risks (please specify)			

Impacts on Land Use and Assets

	Activities	Yes	No	Notes
1	Acquisitions of land, buildings (residential and business)			If yes, provide more details
2	Acquisitions or expansion of the business, which will be implemented by the demolition/ relocation homeowners, renters, formal and informal user assets			If yes, provide more details
3	Acquisition of assets, which will cause the loss of access of people or a particular community/group, especially ethnic minorities to: • Natural resources			If yes, provide more details

	Activities	Yes	No	Notes
	• The traditional habitat • The traditional activities • Communal utilities			
4	Acquisitions/or expansion of a business that can promote/ increase the risk of: • Violation of the labor code and laws including the use of child labor • Harassment of ethnic minority groups in the areas of project (related to their identity, dignity and livelihoods of the system of subsistence, cultural identity) • Human trafficking and forced labor			If yes, provide more details
5	Will there be land acquisition using eminent domain law?			If yes, provide more details
6	Will there be permanent or temporary loss of shelter and residential land due to land acquisition?			If yes, provide more details
7	Will there be permanent or temporary loss of agricultural and other productive assets due to land acquisition?			If yes, provide more details
8	Will there be losses of crops, trees, and fixed assets due to land acquisition?			If yes, provide more details
9	Will there be permanent or temporary loss of businesses or enterprises due to land acquisition?			If yes, provide more details
10	Will there be permanent or temporary loss of income sources and means of livelihoods due to land acquisition?			If yes, provide more details
11	Will there be permanent or temporary removal or displacement of renters, or leaseholders?			If yes, provide more details
12	Will there be permanent or temporary removal or displacement of informal land-users (people without legal rights on the land) or squatters?			If yes, provide more details

	Activities	Yes	No	Notes
13	Will the project involve any permanent or temporary restrictions in land use or access to legally designated parks or protected areas and cause people or any community to lose access to natural resources, traditional habitats, communal land, or communal facilities?			If yes, provide more details
14	Will the project use government land or any public land or property, which will require the permanent or temporary removal of informal occupants or users (residential or economic)?			If yes, provide more details

Risks of exclusion/discrimination

	Impacts	Yes	No	Details
1	Have the potential beneficiaries/stakeholders been clearly defined and documented, including vulnerable groups?			
2	Are there specific risks related to gender, ethnicity, disability, or other factors that may impact access to project benefits?			
3	Are there different sub-groups within the affected population/stakeholders that may be at higher risk of exclusion or discrimination?			
	Are there any language barriers, lack of awareness, cultural biases or possible inadequate participation risks?			
4	Does the project address the needs and priorities of different groups within the affected population, such as women, young people, people with disabilities, and low- income groups?			
5	Are there mechanisms to address the concerns and needs of different stakeholder groups?			
6	Are there mechanisms in place to monitor the distribution of project benefits?			

	Impacts	Yes	No	Details
7	Are there mechanisms to capture concerns of project beneficiaries?			

The Social Development Specialist confirms that the assigned land / proposed subproject:

- ☐ **Has Involuntary Resettlement (IR) impact, a Resettlement Action Plan is required**
- ☐ **Will not have IR impact**

Completed by (full name and contacts):_____

Signature: _____ Date: _____

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

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

Risk rating justification:

Appendix 2: The Exclusion List

The World Bank has an exclusion list that defines activities that cannot be included in its programs due to their potential significant adverse impacts on the environment and/or people. Here are some of the key activities excluded:

Radioactive Materials:

Production or trade in radioactive materials, except for the purchase of medical equipment, quality control equipment, and any equipment where the radioactive source is considered trivial and/or adequately shielded.

Asbestos:

Production or trade in unbounded asbestos fibers. The purchase and use of bonded asbestos cement sheeting with less than 20% asbestos content is allowed.

Drift Net Fishing:

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

Protected Areas:

Any construction in protected areas or priority areas for the conservation of biodiversity, as defined in national legislation.

High-Risk Areas:

Construction in high-risk areas due to natural hazards such as floods, landslides, earthquakes, and tsunamis.

Critical Natural Habitats:

Activities that have the potential to cause significant loss or degradation of critical natural habitats, either directly or indirectly, or that may generate adverse impacts on these habitats, including urban or rural wetlands.

Prohibited Chemicals:

Purchase or use of chemicals prohibited or restricted for medical use.

Cultural Heritage:

Any activity that affects physical cultural heritage, such as tombs, temples, churches, historical relics, archaeological sites, or other cultural structures.

Environmental Impact:

Activities that, due to their magnitude and scale, require an Environmental Impact Study (EIA) according to the Environmental Impact Assessment System of the respective country.

Pollution:

Activities that cause significant air, water, or land pollution that may have significant adverse impacts on the health or safety of individuals, communities, or ecosystems.

Labor and Human Rights:

Activities that may cause or lead to forced labor, child abuse, child labor exploitation, or human trafficking, or that employ or involve children in connection with the program.

Land Disputes:

Any activity on land that has disputed ownership or tenure rights.

Displacement:

Any activity that causes significant physical and/or economic displacement.

Free, Prior, and Informed Consent (FPIC):

Any activity that requires FPIC as defined in the World Bank Environmental and Social Framework.

These exclusions are designed to ensure that the World Bank's Projects do not cause significant adverse impacts on the environment and the communities they aim to serve. A reasonableness test will be applied when the activities of the Project company have a significant development impact, but circumstances of the country require adjustment to the Exclusion List.

Appendix 3: Indicative Outline of ESIA

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

(a) Executive Summary

- Concisely discusses significant findings and recommended actions.

(b) Legal and Institutional Framework

- Analyzes the legal and institutional framework for the project, within which the environmental and social assessment is carried out, including the issues set out in ESS1, paragraph 26[51]
- Compares the Borrower's existing environmental and social framework and the ESSs and identifies the gaps between them.
- Identifies and assesses the environmental and social requirements of any co-financiers.

(c) Project Description

- Concisely describes the proposed project and its geographic, environmental, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, power supply, water supply, housing, and raw material and product storage facilities), as well as the project's primary suppliers.
- Through consideration of the details of the project, indicates the need for any plan to meet the requirements of ESS1 through 10.
- Includes a map of sufficient detail, showing the project site and the area that may be affected by the project's direct, indirect, and cumulative impacts.

(d) Baseline Data

- Sets out in detail the baseline data that is relevant to decisions about project location, design, operation, or mitigation measures. This should include a discussion of the accuracy, reliability, and sources of the data as well as information about dates surrounding project identification, planning and implementation.
- Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions.
- Based on current information, assesses the scope of the area to be studied and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences.
- Takes into account current and proposed development activities within the project area but not directly connected to the project.

(e) Environmental and Social Risks and Impacts

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

- Takes into account all relevant environmental and social risks and impacts of the project. This will include the environmental and social risks and impacts specifically identified in ESS2–8, and any other environmental and social risks and impacts arising as a consequence of the specific nature and context of the project, including the risks and impacts identified in ESS1, paragraph 28.

(f) Mitigation Measures

- Identifies mitigation measures and significant residual negative impacts that cannot be mitigated and, to the extent possible, assesses the acceptability of those residual negative impacts.
- Identifies differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable.
- Assesses the feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of proposed mitigation measures, and their suitability under local conditions; and the institutional, training, and monitoring requirements for the proposed mitigation measures.
- Specifies issues that do not require further attention, providing the basis for this determination.

(g) Analysis of Alternatives

- Systematically compares feasible alternatives to the proposed project site, technology, design, and operation—including the "without project" situation—in terms of their potential environmental and social impacts.
- Assesses the alternatives' feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of alternative mitigation measures, and their suitability under local conditions; and the institutional, training, and monitoring requirements for the alternative mitigation measures.
- For each of the alternatives, quantifies the environmental and social impacts to the extent possible, and attaches economic values where feasible.

(h) Design Measures

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

(i) Key Measures and Actions for the Environmental and Social Commitment Plan (ESCP)

- Summarizes key measures and actions and the timeframe required for the project to meet the requirements of the ESSs. This will be used in developing the Environmental and Social Commitment Plan (ESCP).

(j) Appendices

- List of the individuals or organizations that prepared or contributed to the environmental and social assessment.
- References—setting out the written materials both published and unpublished, that have been used.

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

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

- Tables presenting the relevant data referred to or summarized in the main text.
- List of associated reports or plans.

Appendix 4: Indicative Outline of ESMP

Description of the of the Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) identifies feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESMP (a) identifies and summarizes all anticipated significant adverse environmental impacts (including those involving indigenous people or involuntary resettlement); (b) describes with technical details each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; (c) estimates any potential environmental impacts of these measures; and (d) provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, or cultural property) required for the project.

ESMP should consists of the following content:

1. **Introduction and Background**:
    - Project description and objectives.
    - Purpose and scope of the ESMP.
2. **Legal and Institutional Framework**:
    - Relevant national and international environmental and social regulations.
    - Institutional responsibilities for ESMP implementation.
3. **Environmental and Social Baseline**:
    - Description of the current environmental and social conditions of the project area.
4. **Potential Environmental and Social Impacts**:
    - Identification and assessment of potential adverse impacts.
    - Enhancement plans for positive impacts.
5. **Mitigation Measures**:
    - Detailed measures to mitigate identified adverse impacts.
    - Conditions under which each measure would apply.
6. **Monitoring Plan**:
    - Objectives, indicators, mechanisms, frequency, locations, and reporting process for monitoring.
    - Cost estimates and sources of funds for monitoring activities.
7. **Institutional Arrangements**:
    - Roles and responsibilities for implementing mitigation and monitoring measures.
    - Organizational structure, including specific personnel and management representatives.
8. **Implementation Schedule**:

- Phasing and coordination with overall project implementation.
- Cost estimates and sources of funds for implementing the ESMP.

9. **Capacity Development and Training**:
    - Training programs to increase the capacity of stakeholders to manage environmental and social requirements.
10. **Reporting Procedures**:
    - Procedures for reporting on ESMP implementation.
    - Grievance redress mechanisms for addressing environmental and social issues.
11. **Specific Management Plans** (if applicable):

Tentative Environmental and Social Management Plan (ESMP) Matrix (The Matrix could be fulfilled by mitigation measures indicated in **Table 10, Chapter 5.2**) and include additional information under specific expected environmental and social impacts and propose respective mitigation measures:

Activity	Expected Environmental and Social Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Cost estimate
Construction Phase				
Earth works (land leveling, digging)	Air pollution	• apply watering of construction sites and roads inside settlements during dry season; • cover transported bulk materials; • control speed limitation for vehicles during movement inside of settlements - no more than 40 km/h; • all vehicles and techniques must comply with technical requirements and have to pass regular inspection as indicated into the national standards; • prohibit open burning of solid wastes generated particularly from labor camps and construction activities; • Clean wheels and under carriage of haul trucks prior to leaving construction site; • Restrict demolition activities during period of the high winds or under more stabile conditions when winds could nevertheless direct dust towards adjacent communities;	Contractor	
Vegetation cleaning	Loss of vegetation	• Desing the project facilities in the way to minimize the cutting trees; • Conduction of a preliminary survey together with Contractor and respective representative of Ministry of Natural Resources to define trees for cutting and payments in accordance with national regulations. • If cutting trees is unavoidable, to compensate losses as indicated in the LARP for this project (for new construction with land acquisition elements); • Do not use chemicals or burning for removal of vegetation;	Contractor	

Activity	Expected Environmental and Social Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Cost estimate
Traffic movements		• ensure an alternative road bypassing the construction site, if any;	Contractor	
Construction of building	Waste generation (non-hazardous)	• Separation of waste into recyclable and non-recyclable; • Recyclable waste shall be passed out / sold to relevant organizations; • Non-recyclable waste shall be disposed at municipal landfills; • Avoid the waste storage outside the territory of the facility; • Ensure timely disposal of all waste from the site under construction (within 1 day).	Contractor	
	Waste generation (hazardous)	• Develop a Waste Management Plan. The plan will include information about the type and amounts of wastes generated, and the procedure of their collection and disposal. The plan also will include information about responsible persons and training, and contain an action plan for emergencies; • A spill response plan will be developed and implemented; • The refueling of vehicles and replacement of oils will be conducted at specially designated and properly equipped locations. Emergency procedures will be provided for fuel and oil spill accidents; • Used oils from vehicles and machinery will be stored for collection by designated oil recyclers.	Contractor	
	Noise and vibration	• Construction work that produces noise shall only be carried out from 7:00 to 19:00; • Speed limit of vehicles within settlements • In case of complaints from population install acoustic barriers	Contractor	

Activity	Expected Environmental and Social Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Cost estimate
		• Schedule construction so as to minimize the multiple use of the most noisy equipment near sensitive receivers (living houses or school); • Use of Personal Protective Equipment (PPE) by workers involving in demolishing and construction works in conditions of increased noise level (more than 80dB) is mandatory;		
Operation Phase				
1. Lab operation	Waste generation	Develop measures in accordance with national regulation		
	OHS			
	Community Health and safety			

Monitoring Plan

Construction Phase				
What *parameter is to be monitored ?*	**Where** *is the parameter to be monitored?*	**How** *is the parameter to be monitored (what should be measured and how)?*	**When** *is the parameter to be monitored (timing and frequency)?*	**By Whom** *is the parameter to be monitored– (responsibility) ?*
1. Dust level	Construction site	Visually In case of compliance from population - conduct instrumental monitoring of dust level	Daily As per receiving complaints from population	Contractor PMU will hire certified laboratory
2. Waste disposal	Construction site	Visually	Daily	Contractor

Construction Phase				
3. Water Pollution	Water courses closest to the construction site	Visually In case of observing visible pollution of water surface - conduct instrumental monitoring	Daily As per observing pollution of water courses	PMU will hire certified laboratory
4. Noise level	Residential building or sensitive receptors located close to construction sites	In case of compliance from population - conduct instrumental monitoring	As per receiving complaints from population	PMU will hire certified laboratory
5. …				
Operation Phase				
1.Medical and biological disposal practice	Laboratories	As per national regulation (revised within the Project)	As per national regulation (revised within the Project)	As per national regulation (revised within the Project)
2.				
…				

Appendix 5: Indicative Outline of Checklist-based ESMP

Introduction

The PMU's Environmental and Social Development Specialists will need to develop an Environmental and Social Management Plan (ESMP) checklist, setting out how the environmental and social risks and impacts will be managed throughout the Project lifecycle. This ESMP checklist includes several matrices identifying key risks and setting out suggested E&S mitigation measures. The Borrower can use the matrices to assist in identifying risks and possible mitigations.

The ESMP checklist should also include other key elements relevant to delivery of the Project, such as institutional arrangements, plans for capacity building and training plan, and background information. The Borrower may incorporate relevant sections of the ESMF into the ESMP, with necessary updates.

The matrices illustrate the importance of considering lifecycle management of E&S risks, including during the different phases of the Project identified in the ESMF: planning and design, rehabilitation/recovery, operations and decommissioning.

The issues and risks identified in the matrix are based on experience of other Bank financed healthcare sector Projects. The Borrower should review and add to them during the environmental and social assessment of a subproject.

The WBG EHS Guidelines, WHO technical guidance documents and other GIIPs set out in detail many mitigation measures and good practices and can be used by the Borrower to develop the ESMP. Proper stakeholder engagement should be conducted in determining the mitigation measures, including close involvement of medical and healthcare waste management professionals.

The Laboratory Biosafety and Waste Management Plan forms part of the ESMP. The ESMP should identify other specific E&S environment management tools/instruments, such as the Stakeholder Engagement Plan (SEP), labor management procedures (LMP), and Laboratory Biosafety and Waste Management Plan.

PART A: General Project, institutional and administrative

<table>
<tr><th colspan="6">PART A: INSTITUTIONAL & ADMINISTRATIVE</th></tr>
<tr><td>Country</td><td colspan="5">Tajikistan</td></tr>
<tr><td>Project title</td><td colspan="5">ONE HEALTH FOR PANDEMIC PREVENTION FOOD SYSTEMS RESILIENCE AND ECOSYSTEM HEALTH IN CENTRAL ASIA</td></tr>
<tr><td>Scope of Project and activity</td><td colspan="5">The regional One Health Multi-phase Programmatic Approach (MPA) aims to strengthen capacity to prevent, detect, and respond to priority zoonotic diseases, AMR, and food safety issues in Central Asian countries through a regional One Health approach</td></tr>
<tr><td>Institutional arrangements (Name and contacts)</td><td>WB (Project Team Leader)</td><td colspan="2">Project Management (PMU Director)</td><td colspan="2">Local Counterpart and/or Recipient (name of relevant ministry)</td></tr>
<tr><td>Implementation arrangements (Name and contacts)</td><td>ESF Supervision

Mrs/Mr</td><td colspan="2">Local Counterpart Supervision</td><td>Local state institutions Supervision</td><td>Contactor</td></tr>
</table>

PART A: INSTITUTIONAL & ADMINISTRATIVE	
SITE DESCRIPTION	
Name of facility (healthcare, veterinary, scientific labs)	
Describe site location, including Attachment with the Site Map	Address; location within the settlements; distance from residential or industrial areas.
Brief Geographic description	Brief characteristics of climate conditions, relief; geology and surface and ground waters, nearby green areas.
Describe the participating organization ***Describe the design requirements of the laboratories***	• Type: healthcare, veterinary or scientific laboratory; • Functions and requirement for the level infection control, e.g. biosafety levels; • Describe the design requirements of the laboratories, which may include specifications for general design and safety, separation of wards, heating, ventilation and air conditioning (HVAC), autoclave, and waste management facilities • Location and associated facilities, including access, water supply and sanitation, district heating
Medical/Veterinary laboratory Infection Control and Waste Management	Overview of *infection control and waste management in the laboratory*: • Type, source and volume of Medical Wastes (MW)) generated in the laboratory, including solid, liquid and air emissions (if significant); • Classify and quantify the MW (infectious waste, pathological waste, sharps, liquid and non-hazardous) following WGB EHS Guidelines for Healthcare Facilities. • Describe the healthcare waste management system in the HO/POE, including material delivery, waste generation, handling, disinfection and sterilization, collection, storage, transport, and disposal and treatment works; • Describe applicable performance levels and/or standards; • Describe institutional arrangement, roles and responsibilities in the HO/POE for infection control and waste management. *Applied Management Measures:* • Waste minimization, reuse and recycling: practices and procedures to minimize waste generation. • Delivery and storage of specimens, samples, reagents, pharmaceuticals and medical supplies: practices and procedures to minimize risks associated with delivering, receiving and storage of the hazardous medical goods. • Waste segregation, packaging, color coding and labeling: conducting waste segregation at the point of generation and applying internationally adopted method for packaging, color coding and labeling the wastes should be followed. • Onsite collection and transport: adopting practices and procedures to timely remove properly packaged and labelled wastes using designated trolleys/carts and routes and disinfection of pertaining tools and spaces, ensuring hygiene and safety of involved supporting medical workers such as cleaners. • Waste storage: having multiple waste storage areas designed for different types of wastes and their proper maintenance and disinfection as well as removing infectious wastes from HO's storage area for disposal within 24 hours. • Onsite waste treatment and disposal (e.g. an incinerator): conducting the due diligence of the existing incinerator and examining its technical adequacy,

PART A: INSTITUTIONAL & ADMINISTRATIVE	
	process capacity, performance record, and operator's capacity, based on what, - providing corrective measures. • Transportation and disposal at offsite waste management facilities: these offsite waste management facilities may include hazardous wastes landfill, pyrolysis, which also need a due diligence to examine its technical adequacy, process capacity, performance record, and operator's capacity, providing, if needed, corrective measures agreed with the government agency or the private sector operators. • Wastewater treatment: as wastewater is discharged into municipal sewer sewerage system, please provide evidence that the laboratory ensures that wastewater effluent comply with all applicable permits and standards, and the municipal wastewater treatment plant (WWTP) can handle the type of effluent discharged.
Emergency Preparedness and Response	Provide an overview of the existing practices to deal with the emergency situations (due to spillage, occupational exposure to infectious materials, accidental releases of infectious or hazardous substances to the environment, medical equipment failure, failure of solid waste and wastewater treatment facilities, and fire), and if an Emergency Response Plan (ERP) that is commensurate with the risk levels is recommended is in place or needs to be developed. The key elements of an ERP are defined in ESS 4 Community Health and Safety (para. 21).
LEGISLATION	
Identify national & local legislation & permits that apply to Project activity	The regulatory framework for the Project includes a series of National laws and regulations, WBG Environmental and Social Standards and Guidelines, as well as WHO Guiding documents: NATIONAL LEGISLATION: [Can use information in ESMF above] WB Environmental and Social Standards: ESS1 – *Assessment and Management of Environmental and Social Risks and Impacts*; ESS2 – *Labor and Working Conditions*; ESS3 – *Recourse and Efficiency, Pollution Prevention and Management*; and ESS4 – *Community Health and Safety*; The WBG *Environmental Health and Safety (EHS) Guidelines* **(**General EHS Guidelines: (a) EHS 2.5 – Biological Hazards; (b) EHS 2.7 – Personal Protective Equipment (PPE); (c) EHS 3.5 – Transportation of Hazardous Materials; and, (d) EHS 3.6 – Disease Prevention); IFC *Environment, Health and Safety Guidelines for Health Care Facilities;* World Health Organization *technical guidance* on the following issues: (i) laboratory biosafety, (ii) infection prevention and control, (iii) rights, roles and responsibilities of health workers, including key considerations for occupational safety and health, (iv) water, sanitation, hygiene and waste management, (v) quarantine of individuals, (vi) rational use of PPE
ESMP DISCLOSURE AND PUBLIC CONSULTATION	
Identify when / where the document has been disclosed	Provide information when and where the ESMP document has been disclosed and the results of virtual consultation (an overview and/or attaching the minutes with the summary of received comments and answers)

PART A: INSTITUTIONAL & ADMINISTRATIVE	
and conducted public consultation	
INSTITUTIONAL ARRANGEMENTS AND CAPACITY BUILDING	
Implementing institutional arrangements And proposed/conducted capacity building activities	The following aspects should be described: • Define roles and responsibilities along each link of the chain along the cradle-to-crave infection control and waste management process; • Ensure adequate and qualified staff are in place, including those in charge of infection control and biosafety and waste management facility operation. • Stress the chief of a laboratory takes overall responsibility for infection control and waste management; • Involve all relevant departments in a laboratory, and build an intra-departmental team to manage, coordinate and regularly review the issues and performance; • Establish an information management system to track and record the waste streams in v; and • Capacity building and training should involve medical workers, waste management workers and cleaners. Third-party waste management service providers should be provided with relevant training as well.

PART B: ENVIRONMENT AND SOCIAL INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following:	**Activity**	**Status**	**Triggered Actions**
	A. Building rehabilitation	[ ] Yes [ ] No	If "Yes", see Section **A** below
	B. Small scale new construction	[ ] Yes [ ] No	If "Yes", see Section **A** below
	C. Individual wastewater treatment system	[ ] Yes [ ] No	If "Yes", see Section **B** below
	D. Hazardous or toxic materials	[ ] Yes [ ] No	If "Yes", see Section **E** below
	E. Handling / management of medical waste	[ ] Yes [ ] No	If "Yes", see Section **H** below
	F. Social Risk Management (Worker Health and Safety, Community Safety, Labour and Exclusion Risks)	[ ] Yes [ ] No	If "Yes", see Section **G** below
	G. Traffic and Pedestrian Safety	[ ] Yes [ ] No	If "Yes", see Section **F** below

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
	Air Quality	(a) Use debris-chutes during interior demolition above the first

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
A. General Rehabilitation and /or Construction Activities		floor (b) Keep demolition debris in controlled area and sprayed with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep the surrounding environment (sidewalks, roads) free of debris to minimize dust (e) Disallow open burning of construction / waste material at the site (f) Disallow excessive idling of construction vehicles at sites (g) Dust suppresses by watering
	Noise	(a) Limit construction noise to daytime unless extreme urgency. Notify health workers on the civil works schedule if it deviates from standard working hours (b) Ensure that during operation, engine covers of generators, air compressors and other powered mechanical equipment are closed, and equipment placed as far away from residential areas as possible
	Water Quality	(a) 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.
	Waste management	(a) Identify waste collection and disposal pathways for all major waste types expected from demolition and construction activities (b) Separate mineral construction and demolition wastes from general refuse, organic, ll2Quid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Collect construction waste and dispose properly to the designated locations (d) Whenever feasible, reuse and recycle appropriate and viable materials (except asbestos)
	Resource efficiency and material supply	(a) Efficient use of water and other resources; (b) Safe materials should be used in construction (certificates)
B. Individual wastewater treatment system	Water Quality	(a) Ensure that the approach of handling sanitary wastes and wastewater and the design of the treatment system is approved by relevant authorities (b) Ensure that before discharging into receiving waters, effluents from individual wastewater systems are treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Undertake monitoring of newly established wastewater treatment systems and report to Employer on the monitoring outcome (d) Wash construction vehicles and machinery only in

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		designated areas where runoff will not pollute natural surface water bodies.
E. Toxic Materials	Asbestos management	(a) If asbestos is located on the subproject site, mark it clearly as hazardous material (b) When possible, appropriately contain and seal asbestos to minimize exposure (c) Treat asbestos prior to removal (if removal is necessary) with a wetting agent to minimize asbestos dust (d) Handle and disposed asbestos using skilled & experienced professionals (e) If asbestos material is being stored temporarily, securely enclosed it inside closed containments and mark appropriately. Take security measures against unauthorized removal from the site (f) Do not reuse the removed asbestos
	Toxic / hazardous waste management	(a) Temporarily store all hazardous or toxic substances on site in safe containers labeled with details of composition, properties and handling information (b) Place containers of hazardous substances in leak-proof containers to prevent spillage and leaching (c) Transport waste to official landfills and dispose excess excavated material at sites agreed with the local authorities. (d) No not use paints with toxic ingredients or solvents, or lead-based paints
F. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(a) Signpost, place warning signs, arrange barriers and traffic diversions so that the work site is clearly visible, and the public is warned of all potential hazards (b) Establish traffic management system and conduct staff training, especially for site access and near-site heavy traffic. Provide safe passages and crossings for pedestrians where construction traffic interferes. (c) Adjust working hours to local traffic patterns, e.g. avoid major transport activities during rush hours or times of livestock movement (d) Actively manage traffic if required for safe and convenient passage for the public. (e) Ensure safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.
G. Social Risk Management	Public relationship management	(a) Implement and update as needed the Project-based Stakeholder Engagement Plan (b) Assign local focalpoints who are in charge of communication with and receiving requests/complaints from local population. (c) Consult local communities to identify and proactively manage potential conflicts between an external workforce and local people.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		(d) Raise local community awareness about sexually transmitted disease risks associated with the presence of an external workforce and include local communities in awareness activities. (e) Limit construction activities at night. When necessary, carefully schedule night work and inform affected community beforehand. (f) Properly mark and fence work site (g) No temporary storage of construction materials and waste occurs within cultivated land plots or any type of private property (h) Allocate areas for temporary storage of construction materials and waste so that free movement of traffic and pedestrians is not hindered.
	Public Safety	(a) Share information on Project activities and construction schedule prior to the start of works; (b) Notify local construction and environment inspectorates and communities on the upcoming activities (c) Notify public on the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (d) Acquire all legally required permits for construction and/or rehabilitation (e) Formally agree with Employer that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (f) Appropriately signpost construction site to inform workers on key rules and regulations. (i) Inform the community about the established grievance redress mechanisms and share contact numbers of focal points
	Labor Management	(a) Include the Checklist ESMP and LMP into the bidding documents; (b) Ensure contractors and subcontractors comply with labor laws and standards and implement fair work practices, giving preference to local labor force, if qualified; (c) Inform the contractors about the established grievance redress mechanisms and share contact numbers of focal points; (d) Instruct and train contractor assigned staff on GBV/SEA monitoring, GRM, no child/forced labor use, code of conduct and other labor requirements as per ESS2 and Tajik Labor Code; (e) To the extent possible, do not locate work camps in close proximity to local communities. (f) Locate and operate workers' camps in consultation with neighboring communities. (g) Recruit unskilled or semi-skilled workers from local

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		communities to the extent possible. Where and when feasible, worker skills training, should be provided to enhance participation of local people. (h) Provide adequate lavatory facilities (toilets and washing areas) in the work site with adequate supplies of hot and cold running water, soap, and hand drying devices. Establish a temporary septic tank system for any residential labor camp without causing pollution of nearby watercourses. (i) Raise awareness of workers on overall relationship management with local population, establish the code of conduct in line with international practice and strictly enforce them, including the dismissal of workers and financial penalties of adequate scale. (j) Ensure neither child (up 18 years old) labor nor forced labor applied; and (k) Inform the laborers about the established grievance redress mechanism and share contact numbers of focal points
	Worker health and safety requirements	(a) Ensure contractors and subcontractors comply with occupational safety local laws and requirements as per ESS 2; (b) Provide detailed information to the personnel about the activities foreseen in the Project; (c) Conduct safety trainings carried out by specialists in different fields; (d) Ensure that workers' PPE complies with international good practice (masks, gloves and safety glasses, for civils works also hardhats, harnesses and safety boots); (e) Provide adequate sanitary conditions (lavatories and washing areas) in the work site with adequate supplies of running water, soap, antiseptics and hand drying devices; (f) Secure working conditions meeting health and safety standards required by the Tajik legislation; (g) Ensure regular delivery and proper storage of goods, including samples, pharmaceuticals, disinfectant, reagents, other hazardous materials, PPE, etc.

PART D: MONITORING PLAN

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
REHABILITATION/RECOVERY PHASE						
Provision of construction materials	Purchase of construction materials from the licensed provider	In the provider's office or warehouse	Verification of documents	During conclusion of supply contracts	Provide technical order of facility and its safety for human health	PMU 's Environmental and Procurement Specialists
Transportation of construction materials and waste Movement of construction machinery	- Technical condition of vehicles and machinery; - Confinement and protection of truck loads with lining; - Respect of the established hours and routes of transportation	- Construction site; - Routes of transportation of construction materials and wastes	Inspection of roads adjacent to the construction object in the direction of the movement rout	Undeclared inspections during work hours and beyond	- Limit pollution of soil and air from emissions; - Limit nuisance to local communities from noise and vibration; - Minimize traffic disruption.	- Contractors' EHS specialist - Traffic Police, - the Committee for Environmental Protection under the Government of the Republic of Tajikistan (CEP)
Maintenance of construction equipment	- Washing of cars and construction equipment outside the construction site or on maximum distance from natural streams; - Refueling or	Construction site and construction base adjacent to it (if any)	Inspection of activities	During operation of equipment	- Avoid pollution of water and soil with oil products due to operation of equipment; - Timely localize and decrease	- Contractors' EHS specialist - PMU 's Environmental Specialist - CEP

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	lubrication of construction equipment and outside the construction site or at the predetermined arranged point; - Technical order of the construction equipment maintenance point: • solid impenetrable floor or adsorbent (sand fine gravel, membrane) cover; • enough area and impenetrable barriers around fuel containers; • basic fire extinguish				expected damage in case of fire	

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	ing means.					
Generation of construction waste	- Temporary storage of construction waste in especially allocated areas; - Timely disposal of wastes to the formally designated locations	Construction site; Waste disposal site	Inspection of activities	Periodically during construction and upon its completion	- Prevent pollution of soil, surface water and ground water, - Avoid accidents at the construction site due to scattered fragments of construction materials and debris, - Retain esthetic appearance of the construction site and its surroundings	- Contractors' EHS specialist - PMU 's Environmental Specialist - CEP - Municipality
Production of domestic wastes	- Placement of waste collection containers at the construction site and construction base (if any)	Construction site and construction base (if any)	Visual observation	Total period of construction	Prevent pollution of soil and water with domestic waste	- Contractors' EHS specialist - PMU 's Environmental Specialist - CEP - Municipality

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	- Agreement with the relevant Municipality on regular disposal of domestic wastes					
Construction site re-cultivation and landscaping	Final cleaning of the construction site	Construction site	Inspection of activities	Final period of construction	Reduce loss of aesthetical value of the landscape due to construction activities	- Contractors' EHS specialist - PMU 's Environmental Specialist - CEP
Workers' health and safety, labor issues	- Provision of constructors with working clothes and PPE; - Strict compliance with the rules of construction equipment operation and usage of PPE; - Strict compliance with the national regulations for	Construction site	Inspection of activities	Total period of works	Reduce probability of traumas and accidents to constructors	- Contractors' EHS specialist - PMU 's Environmental Specialist

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	construction works; - Presence of basic fire extinguishing means; - Availability of labor safety training and instruction records; - Compliance with labor laws and requirements as per ESS2.					
GRM	- Ensuring a channel for filing appeals and complaints	Project site	Regular inspections	Constantly	To eliminate the negative impact of the Project on the population, contractor and healthcare organization	- Contractors' EHS specialist - PMU 's Environmental Specialist, - Laboratory 's designated specialist

Prepared By: ……(Signature) Position: …… Date ……	

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

Appendix 6: Medical Waste Management Procedure in Tajikistan (SanPiN 190.010.090)

Classification of HCW. Waste from medical institutions means all types of waste generated in:

- hospitals (municipal, clinical, specialized, departmental, research and educational institutions);
- polyclinics (including adult, children's, dental);
- dispensaries;
- emergency medical care centers;
- blood transfusion centers;
- long-term care hospitals;
- medical research institutes and universities;
- veterinary clinics;
- pharmacies;
- pharmaceutical industry;
- recreational facilities (sanatoriums, rest homes, boarding houses);
- sanitary and preventive institutions;
- judicial institutions - medical examination;
- medical laboratories (including anatomical, pathological, biochemical, microbiological, physiological).

All items classified as health-care waste must be handled and disposed of according to color coding and standards stipulated in the local guidelines of Sanitary norms and rules for the collection, neutralization, transportation, storage and disposal of waste in medical institutions.

Between 75% and 90% of the waste generated by healthcare workers is commonly referred to as "non-hazardous" or "general healthcare waste". They are produced mainly during administrative, kitchen and household functions in medical institutions, and packaging waste and waste generated during the maintenance of buildings of medical institutions can also be included in this category. The remaining 10-25% of medical waste is considered "hazardous" and may pose various environmental and health risks.

As per the National Standards of HCWM in Tajikistan set in SanPiN 190.010.090, health-care waste is divided into 5 different classes as below:

- class A: general non-hazardous waste;
- class B: infectious waste, sharps waste and pathological waste;
- class V: highly infectious waste;
- class G: pharmaceutical and chemical waste;
- class D: radioactive waste (paragraphs 10 and 11 of SanPiN 190.010.090. "Sanitary norms and rules for the collection, neutralization, transportation, storage and disposal of waste in medical institutions").

These classes are described in the table below, which also provides descriptions of these categories under “non-hazardous and hazardous” medical wastes.

Table 13: Classification of health-care waste (with examples)

Class	Waste Category	Description
Non-hazardous medical waste		
A (A)[52]	General waste	Wastes that do not include any biological, chemical, radioactive or physical hazard, e.g. food waste from all departments of healthcare facilities (excluding patient waste/infectious disease departments), recycled paper,

[52] Analogue of the waste class symbol in the original document

Class	Waste Category	Description
		glass and plastic, small debris after cleaning rooms, construction waste.
Hazardous medical waste		
B (Б)	Infectious waste	All wastes suspected of containing pathogens and presenting a risk of disease transmission, such as waste contaminated with blood and other body fluids; waste, including food, sputum, excrement, and any materials that have been in contact with infected patients.
	Sharps	Used or unused sharps, such as hypodermic, intramuscular, intravenous or other needles; disposable syringes; infusion sets; scalpels; pipettes; knives; blades; broken glass.
	Pathological waste	Human tissues, organs or fluids; body parts; unused blood products.
V (B)	Highly infectious waste	Means all waste materials containing, blood, fluids with **viable biological agents** from infected person or artificially cultivated in significant elevated numbers; Waste from infected patients in isolation wards, cultures and stocks; dishes, devices used to transfer, inoculate and mix cultures of infectious agents. In case of notifiable highly infectious diseases i.e. Viral Haemorrhagic fever, such waste materials are to follow extra treatment procedure.
G (Г)	Radioactive waste	These are materials contaminated with radionuclides. They are produced because of procedures such as in vitro analysis of body tissue and fluid, in vivo organ imaging and tumour localization, and various investigative and therapeutic practices. includes liquids, gas and solids contaminated with radionuclides whose ionizing radiations have genotoxic effects. The ionizing radiations of interest in medicine include X- and y-rays as well as cx- and B- particles. An important difference between these types of radiations is that X-rays tubes only when generating equipment is switched on whereas y-rays, cx- and B- particles emit radiations continuously.
D (Д)	Pharmaceutical waste, cytotoxic waste	Pharmaceutical waste includes expired, unused, spilt and contaminated pharmaceutical products, prescribed and proprietary drugs, vaccines and blood sera that are no longer required, and, due to their chemical or biological nature, need to be disposed of carefully. The category also includes discarded items heavily contaminated during the handling of pharmaceuticals, such as bottles, vials and boxes containing pharmaceutical residues, gloves, masks and connecting tubes. Cytotoxic waste containing substances with genotoxic properties, such as waste containing cytotoxic drugs (often used in cancer therapy); genotoxic chemicals
	Chemical wastes	Waste containing chemicals, such as laboratory reagents;

Class	Waste Category	Description
		film developer; disinfectants that have expired or are no longer needed; solvents; wastes with a high content of heavy metals, such as batteries; broken mercury-containing thermometers and blood pressure gauges.

General rules for management of medical waste. The chief physician of the hospital and the head of medical institutions are fully responsible for the management of medical waste in a medical institution. The head physician initiates the creation of the Infection Control Commission (ICC), which includes a team, in particular, a person responsible for the management of medical waste is appointed. The employee responsible for the management of medical waste is appointed by the head physician.

To organize the process of waste management and daily monitoring of large and medium-sized medical institutions, a person responsible is appointed by order of the head of the institution (epidemiologist, senior nurse, deputy head physician for technical issues). This employee must undergo training in a specialized waste management center and receive a standard certificate for the right to organize waste management work.

The medical waste management system includes the following stages:

- segregation and collection of waste within organizations engaged in medical and / or pharmaceutical activities;
- transportation of waste on the territory of the facility/medical institution;
- storage of waste on the territory of the facility/medical institution;
- processing and disposal of waste on the territory of the facility/medical institution;
- disposal and burial of medical waste on the territory of the facility/medical institution.

Segregation and collection of health-care waste. Segregation of health-care waste must be done at the point of waste-generation according to the types of waste generated, i.e. sharps, highly infectious, infectious and noninfectious.

All items classified as health-care waste in the previous section are expected to be handled and disposed of according to color coding and standards stipulated in local guidelines and as described in **Table 14** below. Health-care facilities are expected to provide adequate colored and coded containers with liners and always covers for HCW segregation.

Table 14: Packaging, color coding and collection frequency

Class	Waste category	Container colour and labelling	Container type	Collection frequency
A	General medical waste	Black or white, marked on the container: “Class A waste”	A plastic bag is placed inside container, or the container is infected after use	When the container is three-quarters full or at least once a day
B	Infectious waste	Yellow, with biohazard symbol and marked on container “Class B waste”	Not leaking a hard plastic bag is placed inside the container	When the container is three-quarters full or at least once a day

Class	Waste category	Container colour and labelling	Container type	Collection frequency
	Sharp waste	Yellow, with biohazard symbol	Container with hard, puncture-resistant walls	When it is full at specified mark, line, or three-quarters full
	Pathological waste	Yellow, with biohazard symbol	Not leaking a hard plastic bag is placed inside the container	When the container is three-quarters full or at least once a day
V	Highly infectious waste	Red, with biohazard symbol and marked on container "Class B waste"	Not leaking a hard plastic bag is placed inside the container	When the container is three-quarters full or at least once a day
G	Radioactive Waste	Marked with a radiation hazard symbol	Lead box	On demand
D	Chemical and pharmaceutical waste	Any colour other than yellow or red, and with the appropriate hazard symbol	Plastic bag or hard container	On demand

The following actions are prohibited when collecting medical waste:

- manually destroying or cutting class B and C waste, including used intravenous infusion systems, for the purpose of disinfecting them;
- manually disconnecting the needle from the syringe after use, putting the cap on the needle after an injection;
- placing disposable and reusable containers near electric heaters;
- manually compacting any waste;
- using soft disposable packaging to collect sharp medical instruments and other sharp objects;
- collecting waste without appropriate personal protective equipment.

Staff engaged in the segregation of HCW shall wear appropriate personal protective equipment at all times of interaction with wastes.

Waste disinfection rules in medical facilities. Class B waste must be disinfected at the point of its generation. Chemical disinfection methods may only be used to disinfect food waste and patient excreta. Removal of non-disinfected Class B waste outside the medical facility is not permitted.

The storage area for Class B waste must be marked with a biohazard symbol as an infectious waste zone. The floor and walls in these zones must be hermetically cemented or tiled so that they can be easily cleaned and disinfected. The storage time for infectious waste (e.g. the time between generation and processing) must not exceed 72 hours in winter and 48 hours in summer. If a refrigerated storage room is available, infectious waste may be stored for more than a week, cooled to a temperature of no higher than 3-8°C.

Highly infectious Class B waste must be disinfected on the premises of the medical facility. Class B infectious waste may be treated centrally or in healthcare facilities (decentralized). Chemical

disinfection is suitable for treating liquid waste such as blood, pus, urine or feces before disposing of it into the sewer system.

Steam-based treatment technologies are widely used to destroy pathogens contained in infectious and sharps waste by applying heat (thermal energy) for a certain period of time, depending on its volume and contents. Typically, low-temperature thermal waste treatment methods operate at temperatures between 100°C and 180°C, and the decontamination processes occur in a wet or dry heat environment. Wet (or wet) thermal treatment involves the use of steam to disinfect waste and is usually performed using an autoclave or steam cleaning system.

This process must be verified to ensure complete inactivation of infectious materials. The verification (validation) procedure consists of confirming, using certified and clearly documented methods, that the decontamination process meets the requirements that were developed for it. Part of this verification is regular testing of biological, chemical and physical parameters.

Once class B or V waste has been decontaminated using low-temperature processes, such waste is no longer considered hazardous and can be handled in accordance with the requirements for class A waste. When packaging decontaminates medical waste of classes B and V, an appropriate certificate must be attached to it indicating that the waste has been decontaminated.

Waste handling and transportation rules in medical facilities. The right to education and training should be provided to all employees who are responsible for both waste sorting and collection. Appropriate waste containers (bags, bins, sharps boxes) should be available in each healthcare service area and in any other area of the healthcare facility where waste is generated.

A waste transportation and collection plan are developed separately for each healthcare and/or pharmaceutical facility. When developing the plan, the following rules must be observed:

- analysis of the quantity and quality of waste, waste counting by class;
- determination of the number of packages required for the primary waste collection site;
- disposable packages and internal containers, as well as internal waste storage areas, must comply with the standards of the established Sanitary Rules;
- a special system developed for the collection and transportation of waste in accordance with the rules and regulations.

Transport of waste within the healthcare facility should be carried out, if possible, at less busy times. Established routes should be used to prevent contact with staff and patients, and to minimise the passage of loaded trolleys through patient care areas and other clean areas.

Personnel responsible for transport should wear appropriate personal protective equipment, gloves, sturdy and closed footwear, coveralls and masks.

Hazardous and non-hazardous waste should always be transported separately. In general, there are three different transport systems:

- general waste transport trolleys should be painted black, used only for non-hazardous waste and clearly marked as "General Waste" or "Non-Hazardous Waste";
- infectious waste can be transported together with used sharps waste. Infectious waste should not be transported together with other hazardous waste to avoid the possible spread of infectious agents. The trolleys must be painted in a colour corresponding to the class of infectious waste (yellow) and must be marked with the sign "Infectious waste"; - other hazardous waste, such as chemical and pharmaceutical waste, must be transported separately in boxes to central storage facilities.

Waste storage rules in medical facilities. Inside each medical facility, a special place for storing medical waste must be allocated and must comply with the requirements of SanPiN 190.010.090. The space for storing waste must be included in the building design when carrying out new construction. The dimensions of these storage facilities must correspond to the amount of waste generated and the frequency of its collection. Such areas must be completely closed and separated from rooms where various supplies are stored or from food preparation areas. Only authorized personnel should have access to waste storage areas. Equipment required to eliminate accidental spills/leakages must be stored in an accessible place.

General non-hazardous waste (class A) should be collected and disposed of in ordinary metal containers for further removal to a general dump/landfill. The place for collecting general waste should be at least 25 m from the building of the medical facility, and at least 50 m from the kitchen block. General waste must be removed at least once a week. The general waste collection and storage area should be fenced, cemented and have a good access route connected to the public road.

Pharmaceutical waste should be separated from other waste. International and local regulations should be followed when storing it. In general; "pharmaceutical waste can be hazardous or non-hazardous, liquid or solid in nature", so each type of waste should be handled differently. Classification should be carried out by a pharmacist or other expert in pharmaceuticals. Highly infectious waste of class B should not be stored temporarily but should be processed immediately at the point of generation. In cases where this class of waste has to be stored for a certain period of time before processing, it should be stored separately from other waste. In this case, the same requirements as for the storage of class B waste should apply.

When planning storage areas for hazardous chemical waste of class G, the characteristics of the various chemicals to be stored and disposed of (flammable, corrosive, explosive) should be taken into account. The storage area must be closed and separated from other waste storage areas.

Disposal of medical waste. General non-hazardous and hazardous waste should not be disposed of on the premises of medical institutions. Non-hazardous waste should be collected regularly by the municipal service, or the medical institution should arrange for its transportation to a known and safe public disposal site. Waste collection is recommended to be carried out daily.

Disposal of pathological waste: the destruction of pathological waste may be associated with sociological, cultural, religious and aesthetic norms and practices. The traditional option is internment (burial) in cemeteries. Placenta pits can also be an effective solution in resource-limited settings. They should be in specific locations to avoid groundwater contamination, covered and fenced for safety reasons. The processes of natural decay and liquid seepage into the deep soil layers significantly reduce the volume of waste in the pit and facilitate the inactivation of pathogens. Pathological waste can also be buried in a landfill when other disposal options are not available. However, such disposal should be carried out in a pre-defined area to prevent scavengers or other waste handling personnel from coming into contact with pathological waste. This waste should also be covered with a layer of soil as soon as possible.

Disposal of sharps and piercing waste: Even after decontamination, sharps waste may pose a physical risk. In addition, there is always a risk of reuse. Decontaminated sharps can be disposed of in special safe pits on the premises of the healthcare facility or encapsulated before disposal by mixing it with a fixing material such as cement. These procedures are only recommended in cases where the waste must be handled manually, and the general waste landfill is not secure and safe.

Disposal of hazardous ash: Fly ash and residual ash from incineration are generally considered hazardous due to their possible content of heavy metals as well as dioxins and furans. In this regard, it is preferable to dispose of ashes and cinders in places designated for hazardous waste, such as in

designated areas of specially equipped landfills, or by encapsulation and placement in specialized mono-landfills, or burial in the ground in ash pits.

Healthcare facility managers are responsible for ensuring that there is a suitable waste sorting, transport and storage system in place and must ensure that all staff adhere to the correct procedures.

In agreement with the head of the State Sanitary and Epidemiological Surveillance Service (SSES) (or the State Sanitary and Epidemiological Surveillance Centres (SSESC)), the head of a medical and/or pharmaceutical institution approves waste management guidelines and describes the principles of personal responsibility of employees, as well as a waste management scheme, including the following information: the qualitative and quantitative composition of waste, waste placement locations, installation and types of waste collection containers, intermediate waste storage locations, costs of waste collection, transportation and disposal.

Immunization-related waste. Special attention should be paid to the regulation of vaccination-related waste. Safe collection, processing and final disposal of medical waste will eliminate the potential risk to healthcare workers, the population and the environment.

In the case of centralized destruction of large volumes of vaccines and toxoids, they are incinerated by organizations that have a license in the established manner for handling class "G" waste according to the hazard class, in the furnaces of large waste incineration plants. If it is impossible to destroy vaccines and toxoids in waste incineration furnaces, destruction is carried out in parts on an individual basis.

The head of the organization sending medical immunobiological preparations for destruction enters into an agreement with the waste incineration organization and issues a work permit for these works.

Standard operating procedures. To control risk and disseminate information to personnel, Standard Operating Procedures (SOPs) should be in place to describe the safest and most effective ways to perform certain activities. SOPs should be in place to describe the safe sorting, storage and handling of waste, as well as standard universal precautions for hand washing, personal protection, handling of injuries and spill response.

Medical waste management in emergency situations and infectious disease outbreaks. In emergency situations (ES) due to infectious disease outbreaks, medical institutions inevitably experience a multiple increase in the volume of medical waste, in particular class B waste associated with the diagnosis of pathology, treatment and care of patients. This requires ensuring a response that would allow localizing the source of infection in the shortest possible time and preventing further spread of the disease in the institution, including through an established, effective and safe medical waste management system.

In medical institutions, to successfully respond to emergency situations due to the risks of infectious disease outbreaks and effectively manage medical waste, it is necessary to take appropriate measures in advance[53].

[53] SanPiN 190.010.090. "Sanitary norms and rules for the collection, neutralization, transportation, storage and disposal of waste in medical institutions".

Appendix 7: Laboratory Biosafety and Waste Management Plan

Biosafety Plan for Veterinary and Healthcare Laboratories

1. Introduction

- **Purpose**: This biosafety plan outlines the necessary precautions and procedures to minimize risks associated with biological agents in veterinary and healthcare laboratories in compliance with Tajikistan regulations.
- **Scope**: This plan applies to all personnel working in the laboratory and covers all biological agents, including zoonotic diseases and other pathogens.

2. Definitions

- **Biosafety** deals with all aspects of containment to prevent any exposure and accidental release of pathogens.
- **Biosecurity** measures may be implemented to prevent the theft, misuse or intentional release of pathogens. **Toxins of biosecurity concern** are agents that originate from biological systems and can induce harm
- Fulfill as required

3. Regulatory Framework

- **Applicable Regulations**:
    - Law of the Republic of Tajikistan on Biological Safety[54]
    - Sanitary Rules and Norms for Handling Biological Materials (SanPiN)
    - Guidelines from the Ministry of Health and Ministry of Agriculture (Chapter 3.1.4)
    - World Health Organization (WHO) Guidelines for Biosafety (Chapter 3.2.1)
- **Institutional Policies**: Reference institutional biosafety policies, including roles and responsibilities of laboratory staff.

4. Risk Assessment

- **Identification of Biological Agents**:
    - List all pathogens handled in the laboratory, such as rabies, anthrax, and other zoonotic agents.
- **Risk Levels**:
    - Assess each agent based on virulence, mode of transmission, and host range.
    - Categorize risks using a matrix (e.g., low, moderate, high).
- **Potential Hazards**:
    - Identify exposure routes (inhalation, ingestion, skin contact).
    - Consider impacts on human health, animal health, and the environment.

Risk management methodology can be used to identify the need for a laboratory biosecurity program.

A risk management approach to laboratory biosecurity:

1. Establishes which, if any, agents, technology, and/or research-related information require biosecurity measures to prevent loss, theft, diversion, or intentional misuse; and
2. Ensure the protective measures provided, and the costs associated with that protection, are proportional to the risk.

[54] The law has been posted on the parliament's website for public discussion.

The need for a laboratory biosecurity program should be based on the possible impact of the theft, loss, diversion, or intentional misuse of the materials, recognizing that different agents and toxins will pose different levels of risk. Resources are not infinite. Laboratory biosecurity policies and procedures should not seek to protect against every conceivable risk. The risks need to be identified and prioritized, and resources allocated based on that prioritization. Not all institutions will rank the same agent at the same risk level. Risk management methodology takes into consideration available institutional resources and the risk tolerance of the institution.

4. Biosafety Levels

- **Biosafety Level Designations**:
    - Describe the biosafety level requirements for the laboratory (BSL-1 to BSL-4).
    - Include specific practices for each level according to local guidelines:
        - **BSL-1**: Basic laboratory practices; no special containment.
        - **BSL-2**: Enhanced practices, limited access, biological safety cabinets (BSCs) recommended.
        - **BSL-3**: Controlled access, respiratory protection, and specialized BSCs.
        - **BSL-4**: High-containment facilities for dangerous pathogens; specific architectural and engineering controls.

5. Laboratory Practices and Procedures

- **Personal Protective Equipment (PPE)**:
    - Specify required PPE based on risk assessment (e.g., gloves, goggles, masks, lab coats).
    - Include procedures for proper use and disposal of PPE.
- **Hygiene Practices**:
    - Implement strict hand hygiene protocols.
    - Establish cleaning and disinfection procedures for work surfaces.
- **Waste Disposal Procedures**:
    - Detail waste segregation (biomedical waste, sharps).
    - Specify disposal methods according to local regulations (e.g., autoclaving, incineration).

6. Training and Competency

- **Training Requirements**:
    - Outline required biosafety training for all laboratory personnel.
    - Include orientation for new staff and periodic refresher training (tentative training program are presented in.
- **Documentation of Training**:
    - Maintain records of training attendance and content covered.

7. Emergency Procedures

- **Incident Reporting**:
    - Establish a protocol for reporting accidents, spills, and exposures.
    - Designate a biosafety officer for incident management.
- **Emergency Contacts**:
    - Create a contact list for local health authorities, emergency services, and key laboratory personnel.
- **Response Plan**:

- Develop specific procedures for handling biological spills and exposure incidents.
- Include evacuation routes and emergency procedures specific to laboratory location.

For this section template WHO guidance "Laboratory Biosecurity Guidance", Appendix 2. Biosecurity emergency response templates could be used

8. Facility Design and Engineering Controls

- **Laboratory Design Features**:
  - Describe ventilation systems (e.g., negative pressure, HEPA filtration).
  - Specify essential safety features (sinks, handwashing stations).
- **Equipment**:
  - List required safety equipment (BSCs, centrifuges, PPE).
  - Ensure regular maintenance and safety checks.

9. Monitoring and Review

- **Compliance Monitoring**:
  - Establish procedures for regular audits of biosafety practices and compliance with local regulations.
- **Plan Review and Update**:
  - Schedule annual reviews of the biosafety plan or after significant changes in procedures or regulations.

10. Documentation and Record-Keeping

- **Biosafety Manual**:
  - Ensure all biosafety procedures are documented in an accessible manual.
- **Records**:
  - Maintain records of training, incidents, waste disposal, and equipment maintenance.

11. Appendices

Appendix A: List of Biological Agents and Risk Assessment. *For risk assessment is recommended to use the WHO guidance "Laboratory Biosecurity Guidance", Appendix 1. Biosecurity risk assessment guidance*[1].

Appendix B: Emergency Contact List

Appendix C: Training Program Outline

Appendix D: Waste Disposal Protocols

Appendix E: Incident Reporting Forms

Appendix C. Training Program Outline[55] (recommended)

Training	Areas to be covered
General familiarization and awareness training	• Mandatory to ALL personal, an introduction • Laboratory layout, features and equipment • Laboratory code(s) of practice • Applicable local guidelines

[55] **World Health Organization**, Fourth Edition: Laboratory Safety Manual, 2020, https://www.who.int/publications/i/item/9789240011311?sequence=1&isAllowed=y

	• Safety or operations manual(s) • Institutional policies • Local and overarching risk assessments • Legislative obligations • Emergency/incidents response procedures
Job specify training	• Training to be determined based on job function: training requirements are varied between personnel of the same job title but performing different functions • All personnel involved in the handling of biological agents must be trained on GMPP • Competence and proficiency assessment must be used to identify any other specific training required, for example, by observation and/or qualification • Proficiency in any procedure must be verified before working independently, which may require a mentorship period • Competencies must be reviewed regularly, and refresher training undertaken • Information on new procedures, equipment, technologies and knowledge must be communicated to applicable personnel as and when available
Safety and security training	Mandatory for ALL personnel: • Awareness of hazards present in the laboratory and their associated risks • Safe working procedures • Security measures • Emergency preparedness and response

Appendix 8: Asbestos-Containing Materials Management Plan Template

The Asbestos-Containing Materials Management Plan (ACMMP) describes and evaluates the risk of contractors (and others) encountering asbestos-containing material (ACM) at the Project construction sites during the implementation stage of the project; and it provides a procedure for dealing quickly and safely with any ACM that may be found.

The WB *Environmental and Social Framework* (WB ESF) requires that WB-funded projects apply pollution prevention and control technologies and health and safety measures that are consistent with international good practice, as reflected in international standards such as the IFC/World Bank *Environmental, Health and Safety General Guidelines* (2007). If national legislation differs from these standards, the Borrower is required to achieve whichever is more stringent.

The World Bank Guidelines for the Management of Asbestos and Asbestos-Containing Materials state that repair or removal and disposal of asbestos-containing materials should be performed only by specially trained personnel.

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/cm.

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 of 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 of 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.*

Appendix 9: Chance Finds Procedure

Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings and may be above or below land or under the water. Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith— that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

According to the *Law of the Republic of Tajikistan No. 178 of 03.03.2006 "On the Protection and Use of Historical and Cultural Heritage Sites"*, state management in the field of protection and use of historical and cultural heritage sites is carried out by the Government of the Republic of Tajikistan, authorized bodies of the Republic of Tajikistan in the field of protection and use of historical and cultural heritage sites and local government bodies[56].

According to *Appendix 1 of the Regulation of the Ministry of Culture of the Republic of Tajikistan, approved by the Decree of the Government of the Republic of Tajikistan dated December 28, 2006 No. 604*, the Ministry of Culture of the Republic of Tajikistan is the authorized body for the implementation of state policy in the field of protection, popularization and use of the historical and cultural heritage of the Republic of Tajikistan[57].

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 finds 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 finds 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

[56] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=4230#A000000011
[57] http://portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=7389#A0OA0LITZ5

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 comes to lift during execution of the works, the contractor shall stope 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 Finds 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 accordingly.

Arrival and Actions of Cultural Authority

Depending 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.

Appendix 10: Incident Reporting Toolkit

Introduction

The E&S incident response procedure drafted to guide the PMU and the World Bank on how to respond to incidents in terms of internal reporting; where Contractors and PMU and World Bank's staff can seek additional support and the respective contractors; the roles of PMU and the World Bank in relation to on the ground remedies. This draft of the procedure was developed in alignment with the Law of The Republic of Tajikistan "On the Protection of the Population and Territories from Emergency Situations of Natural and Man-Made Nature; Labor Code of the Republic of Tajikistan dated July 23, 2016, No. 1329; Resolution of the Government of the Republic of Tajikistan No. 462 "On the Procedure for conducting investigations and recording accidents at work and occupational diseases" dated July 5, 2014 (The Procedure for conducting investigation and recording of industrial accidents and occupational diseases is an Annex to this Resolution).

Resolution of the Government of the Republic of Tajikistan No. 146 "Procedure for examination of temporary disability of citizens in medical and preventive institutions" (dated March 30, 2013) and the World Bank's Environmental and Social Incident Response Toolkit (ESIRT), which is an internal guideline for the World Bank's staff in the event of incidents that occur as the result of the World Bank investments.

An incident is defined as an accident, incident or negative event resulting from failure to comply with the Project's ESS requirements, or conditions that occur as the result of unexpected or unforeseen risks or impacts during project implementation. Examples of such incidents include fatalities, serious accidents and injuries, social impacts from labor influx, sexual exploitation and abuse (SEA) or other forms of gender-based violence (GBV), major environmental contamination, child labor, loss of biodiversity or critical habitat, loss of physical cultural resources and loss of access to community resources. The procedure is concerned with accidents involving communities, construction workers, supervision consultants, suppliers, as well as PMU staff.

Management and Reporting Process

Internal and External Notifications

Internal Notifications

1. Initial (verbal) Notification of incident should be done immediately according to emergency notifications procedure and hierarchy of command.
2. Written Notification should be done within 24 hours - Initial Incident or Near Miss Information Reports in electronic form.
   - 2.1 Initial Incident Information Report - all events such as injury or illness, motor vehicle crash, fire/explosion, or property damage (except off-the-job incidents). This form shall be completed by assigned person within the organization within 24 hours from the time of an incident. Electronic English, Tajik and/or Russian versions of the report shall be approved by an Incident Owner (Contractor's PM/HSE Manager) and sent to PMU (cc Supervision Engineers).
   - 2.2 Near Miss or Unsafe Condition Report - shall be completed within 24 hours from the time of an event by assigned person within the Contractor's organization. The completed report shall be sent to PMU (cc Supervision Engineers).

External Notification

1. Notification of RoT Government Agencies – Contractor's PM/HSE Manager completes all reporting obligations to RoT government agencies upon receiving detailed information on an incident as per the established procedures for notifying RoT government agencies.

2. Notification of World Bank – PMU completes all reporting obligations to WB:
- Initial (Verbal) Notification of incident should be done immediately.
- Written Notification should be done not later than 48 hours.

The overarching incident management and reporting process comprises six steps *(*see **Figure 19 below)**. Details on activities for each step as well as the roles of the respective parties are provided in the **Table 15** below.

The incident response procedure may not apply beyond initial reporting and review when the project is completed, and the constructed and/or rehabilitated assets are transferred to the legal owner and/or local governments. Any subsequent incidents after the transfer will not be considered as a project related incident. These incidents are clearly outside the control of the project and while they can be documented, are not considered as a project related incident.

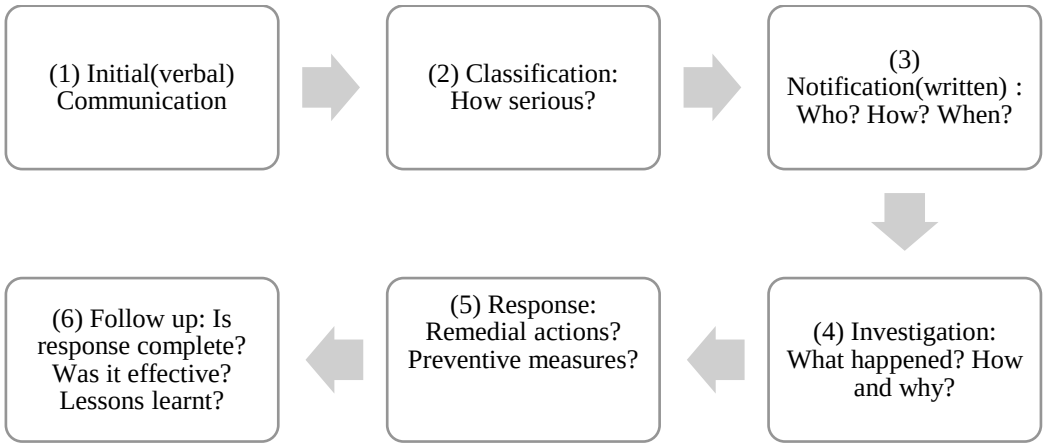


Figure 19: Overarching Incident Management and Reporting Process

Table 15: Incident Reporting Procedure

Incident Reporting Stage	Activities	Role of Relevant Parties		Tools
		PMU	World Bank	
Incident occurs: Initial (verbal) Communication	PMU to provide relevant information to WB	Inform the Bank, inform appropriate authorities in compliance with local regulations, secure the safety of workers and public, and provide immediate care	Ensure TTL is aware, advise PMU and/or government counterparts if not aware, and launch the SIRT process	Verbal/Written report answering above questions through call, email, letter or social media messaging services
2. Classify incident	Incident classification within 24 hours of receipt of the information; If it cannot be fully classified due to missing information, preliminary classification should be provided and confirmed as details become available	Promptly provide information about the incident to the Bank	TTL with support of E&S specialists classifies incident(s) to determine severity	Incident classification and communication (see **sub-appendix A.1**)
3. Notification	Communication process internally within the PMU and relevant officers at the PUPR and the Bank according to level of severity of the incident	PMU prepares incident report (within 24 hours) and circulates internally within MPWH and notifies the World Bank (through the Task Team Leader and Environmental and Social Development Specialists as per-Classification and Notification Guide.	Depending on the level of severity of the incident, take necessary actions to address the incident and inform the World Bank's Senior Management if the incident is classified as Serious or Severe.	Incident Report (see **sub-appendix A.2**) Incident Classification and communication (**see sub-appendix A.1**)
4. Investigation	Field investigation to understand facts on the ground;	Provide information requested by the Bank within 10 days* and facilitate incident site visit.	Join the field investigation and provide expertise required to conduct proper field investigations	

Incident Reporting Stage	Activities	Role of Relevant Parties		Tools
		PMU	World Bank	
		* *If not possible justification to be provided.*		
		Undertake root cause analysis (RCA) with the Bank to understand and document the root cause(s) of the incident. RCA should be completed as soon as possible, ideally within 10 days	Support the PMU to carry out RCA. An RCA or equivalent analysis will be required for all serious and severe incidents	ToRs for consultant(s) retained by PMU to undertake RCA and other analyses **(See sub-appendix A.3)**
		PMU Manager communicates to the Minister and/or DG as relevant	CD communicates to relevant Minister and/or DG (MPWH) orally and/or in writing to discuss findings of the RCA	
5. Respond	Develop Incident Corrective Action Plan (ICAP)	Agree on ICAP with Bank, including own actions, responsibilities and timelines for implementation, and PMU monitoring program	Work with the PMU to design and agree an appropriate ICAP	Example of the types of measures that can be included in an ICAP are included in sub- appendix A.4
6. Follow-up	ICAP implementation	Implement ICAP and ensure that contractors and sub-contractors follow and implement key action items in the ICAP	Monitor ICAP implementation and provide on-going technical support if necessary	ICAP template (sub-appendix 10.4)
		Conduct internal documentation and provide sections in the E&S performance report on the implementation of the ICAP	TTL reflects incident in Implementation Status Report (or interim ISR); ISR section relating to incident is reviewed by Country Lawyer	ICAP template (sub-appendix 1.4)
		For Serious and Severe cases, conduct a third-party (independent)	Monitor ICAP implementation and	

Incident Reporting Stage	Activities	Role of Relevant Parties		Tools
		PMU	World Bank	
		monitoring and supervision of the ICAP	provide on-going technical support if necessary	

Sub-appendix A.1: Incident Classification and Communication

Three levels of classification include indicative, serious and severe. Each of these classifications is briefly described as follows:

Indicative - A relatively minor and small-scale incident or non-compliance that is limited in its immediate effects but may be indicative of wider-scale issues within a project that could lead to serious or severe incidents. These may be escalated to serious or severe incidents, when, for example, there is recurrence of the incident within a six-month period, increasing severity of impact of the incident, or inability or unwillingness of the contractors to rectify the condition within the agreed timeframe.

Serious - An incident that is causing or will cause significant harm to the environment, workers, communities, or natural or cultural resources, is complex and/or costly to reverse and may result in some level of lasting damage or injury. This may include repeated non-compliance, injuries to workers that require off-site medical attention and result in lost time, improper treatment of vulnerable groups, inadequate consultation, consistent lack of OHS plans in a civil works environment, and medium-scale deforestation. These types of incidents require an urgent response.

Severe - An incident or repeated pattern of non-compliance of sufficient seriousness that may, in addition to the actual or potential harm caused, pose a corporate risk to the Bank. A severe incident is complex and expensive to remedy, and likely irreversible. A fatality is automatically classified as severe, as are large-scale deforestation, major contamination, forced or child labor, human rights abuses of community members by security forces or other project workers, including GBV, violent community protests against a project, kidnapping, and trafficking in endangered species.

If documented circumstances and relevant discussions between the PMU, contractors, supervision engineer and within the Bank team confirm that the incident is **Indicative**, **Serious**, or **Severe**, then a one to two-page Incident Report (IR) (see **sub-appendix A.2**) should be prepared and issued by the PMU Manager/Director, which shall be then forwarded to the WB Task Team (through Task Team Leader) within 24 hours of receipt of the information, with the support of the Project's E&S specialist(s), for internal communication.

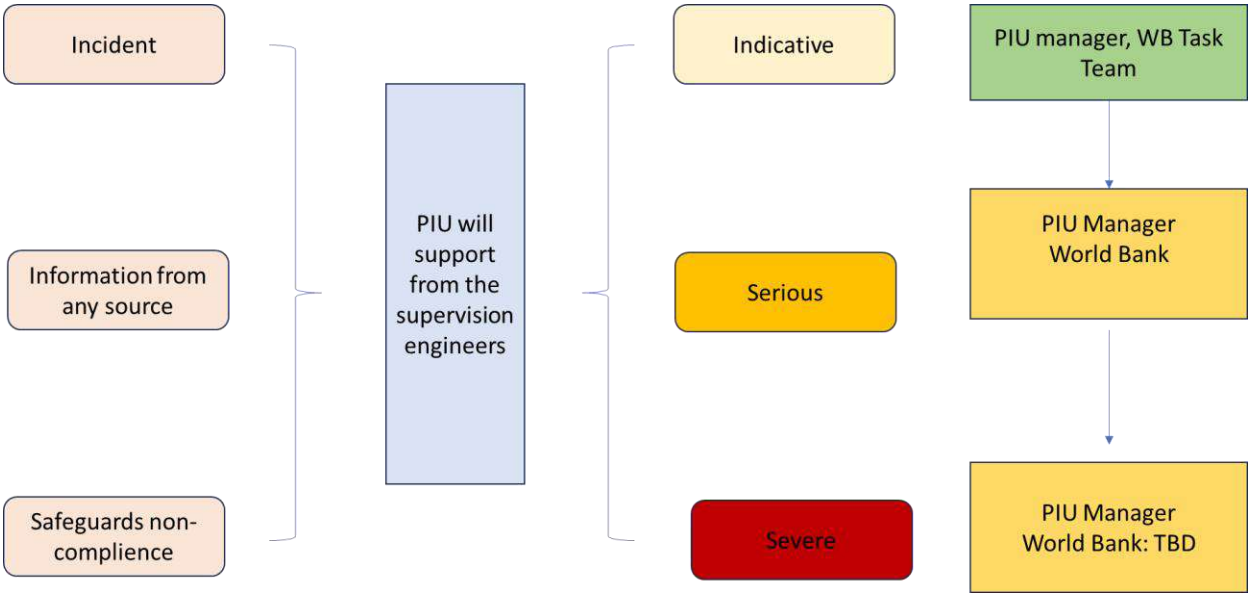


Figure 20: Classification and Communication of E&S Incident

Sub-appendix A.2: Template for Incident Report

Following classification as either Indicative, Serious or Severe, the PMU Manager is responsible for issuing an Incident Report for distribution according to the classification and notification guide (see **Figure** 20). The incident report should be 1 – 2 pages and include, at a minimum, the following information**:**

a. Country, name of project, name of PMU Manager and Environmental and Social Development Specialists in the PMU.
b. Preliminary classification of the incident
c. What was the incident? What actually happened? To what or to whom?
d. Where and when did the incident occur?
e. How did we find out about it and when?
f. Are the basic facts of the incident clear and uncontested, or are there conflicting versions?
g. What are those versions?
h. What were the conditions or circumstances under which the incident occurred (if known at this stage?
i. Is the incident still ongoing or is it contained?
j. Is loss of life or severe harm involved?
k. What measures have been or are being implemented?
l. Has anyone in the PMU or other government agencies been informed? If so, how specifically? What has response to date been?

Sub-appendix A.3: Samples of Terms of References

Sample 1: Terms of Reference for Consultant to Carry Out a Root Cause Analysis for a Workplace Accident

Background

The Project was approved by the Bank's board in (…) and was effective in (…). Construction Works started on (…) and are currently ongoing. The Project closing date is (…).

Environmental and Social Impact Assessments (ESIAs – or equivalent) (…) including Environmental and Social Management Plans (ESMPs – or equivalent) were prepared. All E&S documents included measures for mitigating Occupational Health and Safety (OHS) risks. The ESMP requires that workers should be trained to recognize potential hazards and use safe work practices (…).

According to preliminary information, a serious accident occurred during Construction Works in one of the Project sites (…) on (…). By way of background, according to the verbal report communicated by the PMU, *Description of event*.

The objectives of these TORs are to: 1) identify the root cause of the accident; 2) identify immediate measures to be taken to improve the safety at the site and at other Project sites throughout the Project; and 3) identify effective preventive measures to be implemented to reduce OHS risks.

Scope of work

- Conduct a Root-Cause Analysis of the incident and identify the sequence of events and factual circumstances. The analysis should identify what failing(s) led to the accident, what safety measures were in place, and the risk information/training provided to workers on site. The level of supervision of unskilled labor should also be assessed.

- Recommend actions to be taken to rectify the failure(s) that led to the incident.
- Review the safety procedures at different sites and identify the health and safety measures to be taken to minimize the risks of future accidents both to workers and to residents. Site visits should be carried out to a representative sample of construction sites, activities, regions and contractors as applicable. Health and safety representatives of the contractors and implementing agencies, as well as other technical counterparts as necessary should be interviewed to gain a comprehensive understanding about health and safety management.
- Review the OHS measures in E&S instruments and plans in construction contracts and recommend enhancements as needed. The assessment should identify what the existing procedures for safe performance of construction activities (excavation, scaffolding, working at heights, welding, etc.) are and should recommend appropriate procedures should the existing ones have gaps.
- Review the capacity of Contractors and supervision consultants to implement OHS standards. The assessment should review the training plans for skilled and unskilled labor for effectiveness and propose improvements to the training and communication program so that workers are adequately guided to safely perform their work.
- Review the existing arrangements for recruiting labor and what type of insurance (life or injuries and occupational health risks) and compensations are provided.
- Review compliance with the Labor Law and other international treaties by contractors or subcontractors.
- Assess the sufficiency of the measures that the contractors take to minimize risk on the local communities and communicate with them. Recommend improvements as necessary.

Consultant Qualifications

- Extensive experience in conducting social analysis and social impact assessment in the Project's sector(s) and country/region.
- Extensive experience in measurement and evaluation of development projects in the Project's sector(s). Focus on social performance and demand-side indicators.
- Established reputation and proven track record in carrying out activities related to OHS, labor, including forced or child labor.
- Experience with the design and implementation of feedback mechanisms in development projects.
- Robust quantitative and qualitative analysis capacity with strong quality control. Excellent track record on interviewing respondents in local communities, conducting surveys, random sampling, designing focus group discussions, etc.
- Robust staffing, including familiarity with country context, fluency in local languages, independence and knowledge of international standards.
- Extensive experience of collaborating with a diverse range of stakeholders involved in development projects (including governmental authorities, local and international civil society, international development agencies etc.)

Outputs

The consultant shall prepare the following outputs:

- A root-cause incident investigation report for the accident, including the recommended measures to improve OHS conditions at the site
- A diagnostic analysis of OHS measures and recommended measures for improvements

Timing

The draft incident investigation and OHS diagnostic analysis reports should be submitted within (…) days from commencement. The final report should be submitted within (…) days of receipt of comments on the draft.

Confidentiality

All documents provided to the consultant for carrying out this task should be considered confidential except if otherwise indicated.

Sample 2: Terms of Reference - Legal Consultant (Labor) for an Incident or Accident

Background

The (…) Project was approved by the Bank's board in (…) and was effective in (…). The Project Development Objective is to (…). The Project consists of (…) in (…). construction works started on (…) and are currently ongoing. The Project's closing date is (…).

An Environmental and Social Impact Assessment (ESIA – or equivalent) including Environmental and Social Management Plans (ESMPs – or equivalent), was prepared for each location (*adapt as necessary*). All E&S documents include measures for preventing and reducing Occupational Health and Safety (OHS) risks. The ESMP requires (*summarize relevant measures here*).

According to preliminary information, (*summarize what is known about the incident/accident*).

Objectives and activities

The objective of this consultancy is to provide an overview of the local legal context and institutions, as relevant to the incident or accident, as well as recommendations to ensure adequate, immediate responses as well as compensation and longer-term adjustments to the Project's legal arrangements.

The Legal Consultant will be part of a team of independent consultants (*if applicable*). The Legal Consultant will review documents, and conduct site visits, interviews, and any other activities and research deemed necessary.

Key responsibilities of the Legal Consultant in relation to the incident or accident:

- Identify key labor aspects and issues in the contracts between the PMU or implementing agency and the contractor, and between the contractor and the subcontractor(s), as applicable, and examine them against local laws. This must include, but should not be limited to, examining the employment agreements (nature of employment); wages; health; social, life and accident insurance for workers; age of workers; workers' qualifications against the needed tasks; and the information and training provided to skilled and unskilled workers to enable them to carry out the various tasks.
- Examine the contract between the PMU or implementing agency and the supervision engineer and identify any labor-related issues that the latter is mandated to follow up on.
- Assess the adequacy of labor conditions of the workers and provide background information on local practices, laws and enforcement mechanisms (e.g., level of skills needed for the job, capacity for carrying out the job, contractual relationship, etc.)
- Examine the sufficiency of the actions taken in response to the incident or accident and provide background information on local practice in similar situations (e.g., provision of compensation).
- Provide any immediate recommendation(s) as needed in response to the case.

Key responsibilities in relation to the systematic analysis for the Project at large:

- A systematic analysis should be conducted by the Legal Consultant for a representative sample of the contracts (e.g., different locations, different sizes, public and private contractor) to cover points 1 and 2 above. The consultant should also verify what is stipulated in the contracts against the actual practices on the ground using different sources.
- The consultant should provide analysis of the key findings, areas for improvement, and an action plan for the improvements to ensure that the contracts comply with the laws requirements.

Consultant Qualifications

- Legal background particularly in labor and OHS legal frameworks;
- Established reputation and proven track record in carrying out activities related to labor and OHS;
- Experience with legal processes, contract management and the design and implementation of feedback mechanisms in development projects.
- Robust quantitative and qualitative analysis capacity with strong quality control. Excellent track record on interviewing respondents in local communities, conducting surveys, random sampling, designing focus group discussions, etc.
- Familiarity with country context, fluency in local languages, independence and knowledge of international standards.
- Extensive experience of collaborating with a diverse range of stakeholders involved in development projects (including governmental authorities, local and international civil society, international development agencies etc.)

Outputs

The consultant shall prepare the following outputs:

- Report covering the legal aspects of the incident or accident
- Report covering the systematic legal analysis of the project at large

Timing

The draft incident or accident legal report should be submitted within (…) days from commencement. The final report should be submitted within (…) days of receipt of comments on the draft.

The draft legal report covering the entire Project should be submitted within (…) weeks of commencement. The final report should be submitted within (…) weeks of receipt of comments.

Confidentiality

All documents provided to the consultant for carrying out this task should be considered as confidential except if otherwise indicated.

Sample 3: Terms of Reference for Independent Monitoring for Potential Forced or Child Labor

Background

The (…) Project was approved by the Bank's board in (…) and was effective in (…). The Project Development Objective is to (…). The Project consists of (…) in (…). construction works started on (…) and are currently ongoing. The Project's closing date is (…).

An Environmental and Social Impact Assessment (ESIA – or equivalent) and associated Environmental and Social Management Plans (ESMPs – or equivalent) were prepared for Project Appraisal (*adapt as necessary*). All E&S documents include measures for preventing and reducing Environmental, Social and Occupational

Health and Safety (OHS) risks, including the potential for forced adult, or child labor. The ESMP requires (*summarize relevant measures here*).

Description of issue or allegation as applicable

Independent monitoring will be used to improve the development outcome of the project by providing timely and results-oriented information about project implementation to the PMU and World Bank. The objective is to monitor the project (or portfolio of projects) by regularly monitoring any issues related to the potential use of child or forced adult labor (as defined by international conventions and national legislation).

An independent firm or consultant will be engaged to periodically monitor any issues related to the potential use of child or forced adult labor in specific project areas. The consultant/firm will also design and manage a feedback system that will collect and scrutinize all reports on matters related to forced labor that might be associated with the project(s). The consultant or firm will prepare periodic reports and assessments to track any potential evidence of the use of forced labor in connection to the project(s) and provide recommendations on whether and how measures undertaken by the project(s) in this respect could be strengthened.

Activities

- Preparation phase: (i) description of project activities including work site, recruitment, human resources function for the relevant work sites or project areas under consideration; (ii) diagnostic analysis of labor practices and recommended measures for improvement, including areas where forced adult or child labor practices may be of concern; (iii) develop detailed methodologies and materials that will be used to implement a monitoring program and gather feedback.
- Site visits: (i) In collaboration with implementing agencies), identify possible areas where forced adult and/or child labor may be present; (ii) conduct announced site visits to gather feedback and any other evidence on the potential use of forced adult or child labor in specific project areas.
- Periodic assessment of local context and conditions: (i) develop a methodology for random selection of sites that will be visited as part of each mission; (ii) conduct in-depth interviews with local stakeholders as part of each visit.
- Design and management of a shared feedback mechanism: (i) design and manage a feedback mechanism on forced and child labor for the project(s) including update, processing of reports, investigation of reports and follow-up and (ii) design and lead awareness raising activities both within the project team and with local stakeholders.
- Analysis and reporting: (i) prepare detailed reports after each monitoring mission and (ii) prepare detailed periodic reports on the feedback mechanism process. The reports will be shared with the World Bank and implementing agencies. After the correction of any factual errors the report will be completed and publicly disclosed, if applicable.

The consultant/firm will develop the methodology for the implementation of this assignment in close consultation with the project teams and the implementing agencies. This will include a mechanism to distinguish between cases of forced labor and voluntary labor, and of child labor. It will rely on both quantitative and qualitative methods (e.g., surveys, questionnaires, focus groups, in-depth interviews, Information and Communications Technology (ICT)-enabled tools etc.), as appropriate, to gather feedback from project stakeholders who can contribute to the understanding of the potential use of forced or child labor in specific areas. The consultant/firm will also employ a blend of quantitative and qualitative analysis to evaluate the performance of the feedback mechanism.

Consultant Qualifications

- Extensive experience in conducting social analysis and social impact assessment in the Project's sector(s) and country/region.
- Extensive experience in measurement and evaluation of development projects in the Project's sector(s). Focus on social performance and demand-side indicators.
- Established reputation and proven track record in carrying out activities related to forced or child labor.
- Experience with the design and implementation of feedback mechanisms in development projects.
- Robust quantitative and qualitative analysis capacity with strong quality control. Excellent track record on interviewing respondents in local communities, conducting surveys, random sampling, designing focus group discussions, etc.
- Robust staffing, including familiarity with country context, fluency in local languages, independence and knowledge of international standards.
- Extensive experience of collaborating with a diverse range of stakeholders involved in development projects (including governmental authorities, local and international civil society, international development agencies etc.)

Outputs

The consultant shall prepare the following outputs:

- A report that describes relevant project activities including work site, recruitment, human resources function for the relevant work sites or Project areas under consideration.
- A diagnostic analysis of labor practices and recommended measures for improvement, including the potential for forced adult or child labor
- An appropriate monitoring program for forced adult and child labor in the Project areas including a feedback mechanism
- Regular reports based on feedback
- Regular monitoring reports as requested by the Task Team Leader (TTL)

Timing

The draft reports should be submitted on the following timeline: (……).

Confidentiality

All documents provided to the consultant for carrying out this task should be considered confidential except if otherwise indicated.

Sub-appendix A.4: Example Incident Corrective Action Plan (ICAP) Outline

The contents of the ICAP are driven by the findings of the Root Cause Analysis (RCA), and are specific to the type of incident, its location, severity, and incorporation of necessary measures to strengthen the Project's institutional capacity to implement corrective and preventative measures. The ICAP will be implemented by the PMU for Serious and Severe incidents, with Bank supervision and support.

Table 16: Possible Section for an ICAP

Example ICAP Sections		***Possible Actions***
Immediate to near term actions		Stop works, secure the site, provide medical care and counselling, pay compensation, remediate contamination, enforce anti-poaching, notify relevant authorities, design and implement response mechanism etc.

Example ICAP Sections		*Possible Actions*
Medium term/ongoing actions	Documentation, monitoring and reporting	Streamlines consolidate and review as necessary existing ESHS/OHS monitoring and reporting tools, with a focus on increased monitoring of leading indicators to increase effectiveness.
	Contractual agreements /enforcement	Review bidding/contractual arrangements to determine if existing language is adequate to ensure sufficient onsite presence of qualified and independent E&S professionals for adequate implementation of the heath safety plan and identify if any adjustments may be necessary for future agreements.
	Risk assessment, processes, procedures and training plans for managing risks	Update risk assessment and management plans to address: • Fire risk and adequate fire extinguishers placement • Electric risk should also be reviewed, and safe work procedures developed for handling, maintaining and checking electric equipment and extension cords. • Permit to work procedures should be developed for high-risk activities with daily verification and sign-off of competent health and safety officers or supervisors.
		Delayed Resettlement Compensation example – update risk assessment and management plans to address: • Based on the RCA determination of the reasons for the continued delays in payment of compensation, put in place an effective strategy for addressing them as necessary • Ensure that all outstanding and new claims are appropriately addressed • Determine whether there were impacts that have not previously been considered (livelihoods/loss of business income, vulnerable groups) for which compensation or assistance may be required • Ensure continuing consultation with Project-affected people and a well-functioning feedback and grievance redress mechanism (FGRM) • Monitor implementation and provide fortnightly progress reports • Recruit a separate expert to conduct an audit to confirm satisfactory implementation of the process above
	Competencies, roles and responsibilities:	Onsite staffing resources and organizational arrangements dedicated to E&S, health and safety by the implementer(s) (e.g., construction company and the supervision consultant) should be reviewed considering the updated risk assessment and findings. This may include adjustments in terms of number, competence, onsite presence, organization,

Example ICAP Sections		*Possible Actions*
		communication and reporting, so that project activities may comply with the EHSH/OHS plan requirements.
	High level monitoring and evaluation:	Once the monitoring and reporting system is consolidated, the supervision consultant and PMU should be able to monitor leading indicators such as near-misses (e.g., a heavy load that falls near a worker), and deviations with high-risk potential (e.g., absence of protective barriers, uninsured workers) based on daily observations by the contractor and the supervision consultant.

Sub-appendix A.5: Example of Response Mechanism following a Fatality

This example was developed and agreed to by the PMU and Bank following a fatality on a Bank project:

- Monthly site meetings attended by PMU and covering E&S updates
- The supervision consultants' monthly progress report will provide details on ESMP implementation status as well as accidents and grievances
- PMU will send to the Bank monthly progress reports within 1 week of receipt from the supervision consultants
- Accidents and grievance logbooks are placed in all construction sites
- Any severe injury (requiring off-site medical care) or fatality incident shall be reported to the Bank within 24 hours with basic information and a detailed incident report including the following will be submitted within 10 working days:
    a. root cause analysis; and
    b. corrective action plan on
        i. Immediate mitigation measures in case of continuing danger (e.g. fencing, signboard, guards)
        ii. Compensation to the affected family based on a clear rational
        iii. Risk assessment and correct application of ESHS management procedures, and

Medium and long-term mitigation measures including enhancement of safety measures, audits, and additional training.

Appendix 11: Procurement Requirements in ESMF

Under the contracts, the management measures outlined in the ESMP will inform the ESHS requirements of bidding documents in accordance with the World Bank's Standard Procurement Document (SPD) including:

- Considerations of E&S as part of the detailed design outputs, which includes E&S mitigation hierarchy.
- Submission of ESHS Management Strategies and Implementation Plans (MSIPs) required to manage the key ESHS risks of the project as part of the bid/proposal.
- If applicable, provisional sums for ESHS outcomes are included in the Bill of Quantities (BoQs).
- Key ESHS personnel and qualifications required to implement ESHS requirements; and
- ESHS reporting requirements.

The ESMP includes standard ESHS provisions which will form part of the bidding documents. Draft bidding documents, including the TOR for expected works (ESHS requirements, personnel requirements and qualifications) will be reviewed by the relevant E&S specialists within the PMU and submitted to the World Bank for review and no objection prior to announcement of Request for Expression of Interest (EOI).

The following table provides key requirements that must be performed by PMU E&S specialists who will be responsible for integrating key ESMP provisions and recommendations resulting from the ESMP in the overall procurement processes and contract implementation.

Table 17: Actions for Integrating Environmental and Social Measures in Contracts

Stage of Contractual Process	Actions by Environmental and Social Development Specialists and Procurement Specialists
Before bidding	• Ensure the team skills in the terms of reference clearly include key staff qualified and experienced in managing similar projects, and demonstrated capacity to manage social and environmental issues, including issues pertaining to community health and safety, labor, and OHS in general. • Construction Supervision Engineer under the PMU prior to the launch of the civil works contracts will ensure that the terms of reference clearly define the supervision engineer's responsibilities regarding oversight of, and reporting on, E&S aspects as required in the ESMP.
Preparation of bidding documents	• Review contract conditions included in bidding documents to: - Ensure that the relevant mitigation measures in the ESMP and its associated instruments, particularly the LMP and SEP and other technical recommendations and general provisions in the ESMP are reflected in the contract. - Identify relevant provisions (workers, camps, child and forced labor, safety, grievance redress, etc.) regulating the contractor's responsibility and identify any gaps, inconsistencies or areas of concern that could be addressed through additional provisions in the "particular conditions of contract" and/or technical specifications. - Include a requirement that all workers sign 'Codes of Conduct' governing behaviour and identifying sanctions.

Stage of Contractual Process	Actions by Environmental and Social Development Specialists and Procurement Specialists
	- Clearly identify that training programs on SEA/SH prevention, HIV/AIDS, implementing the Codes of Conduct, etc. will be undertaken by qualified service providers, organized by the selected contractors. • Ensure the contract conditions clearly specify what type of penalty the contractor will face if the provisions of the ESHS provisions for contractors and C-ESMPs are not adhered to—including by sub-contractors. This may include direct incentives to contractors in the form of penalties for poor performance on social and environmental matters or specific Performance Securities for C-ESMP compliance. • Ensure bidding documents clarify the responsibilities of the contractor to prepare and adhere to a C-ESMP based on the ESMP and that no civil works will commence until the C-ESMPs have been approved by the supervision engineer. The C-ESMPs will include, among others, the following mitigation measures: a) land clearing and land preparation plan, b) traffic and pedestrian safety management plan, c) noise and vibration management practices, d) ambient air quality management practices, e) erosion and sediment control practices, f) environmental and safety incident and reporting mechanism, g) emergency preparedness and response plan, h) environmental, health and safety training plan, i) community and worker grievance mechanism, j) community engagement plan, workers' accommodation plan, k) occupational health safety management practices or procedures, l) labor management plan, m) security management practices, n) waste management plan (general and hazardous wastes), o) water resources management practices, q) physical cultural resources management practices, r) periodic site inspections and audits, s) management of change. • Ensure the bidding documents detail how the contractor and supervision engineer will be required to monitor and report on the impacts on the local community, issues related to labor influx and workers' camps. • Propose Key Performance Indicators (KPIs) for Contract Management, reflecting issues and risks specific to the contract and the monitoring plan.
Bidding evaluation	• Ensure that the procurement panel formed by the project's proponent has sufficient experience and expertise in ESHS review of the bid proposals in the similar sector. • Review and verify the recommended bidder that documents related to the ESHS requirements and other relevant obligations of the contractor required to be submitted with the bid are sufficiently detailed and cover the contractual requirements. • Clarify with bidders on technical specifications and requirements for ESHS. • Ensure that the contractor meets the project's OHS requirements for capability and experience.
After contract signing	• Prior to commencing works, the contractor submits site-specific C-ESMPs as above and potential labor data based on the labor force plan and their hiring strategy. Ensure that all contractual provisions on labor hiring by the selected contractors, including through intermediate agencies are consistent with the

Stage of Contractual Process	Actions by Environmental and Social Development Specialists and Procurement Specialists
	requirements set forth in the ESMP and LMP. These include specific management plans for: (i occupational health and safety; (ii) non-discrimination; (iii) grievance management; (iv) minimum age; (v) terms and conditions; (vi) codes of conduct and (vii) labor and working conditions. • Supervision engineer reviews and approves the C-ESMPs – with inputs from appropriate Government agencies—before any works start. • Set up a process for contract management that plans for regular meetings of the parties to monitor the contractor's performance in all areas. • Ensure the C-ESMPs and mitigation plans are updated promptly and re-disclosed as appropriate to address new and emerging issues, including non-compliances and incidents and/or accidents. • Ensure that the following measures are fully documented for the World Bank's review as per the project's ESCP: - Training activities for workers on OHS, activities related to the Code of Conduct, etc. - Performance of recommended specific management plans. - FGRM reports. - KPIs (including the local community/stakeholder engagement plan, if applicable).

Appendix 12: Minutes of Consultations

Appendix 12a - Stakeholder Meetings

Meeting with representatives of the Ministry of Agriculture

Date: October 28, 2024
Time: 9:00 - 10:30
Place: Ministry of Agriculture, Dushanbe

Participants:
Ministry of Agriculture representatives:

- Nigina Radjabova - Focal point, project coordinator WB One Health

NBT representatives:

- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:

1. List of project activities and project history
2. Assessment of Ministry's capacity in the implementation of projects by International Financial Institutions.
3. Situation with waste management.

Meeting with Committee for Environmental Protection under the Government of the Republic of Tajikistan

Date: October 28, 2024
Time: 10:30 - 12:00
Place: Committee for Environmental Protection under the Government of the Republic of Tajikistan, Dushanbe

Participants:
Committee for Environmental Protection under the Government of the Republic of Tajikistan representatives:

- Solijon Mirzoev - WB One Health Project Coordinator
- Khurshid Shamsiddinzoda - Director of the State Administration for Protected Natural Areas
- Davlatov Abdulkodir - Enclosure Specialist, Chief Engineer of the Construction Project

NBT representatives:

- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:

1. List of project activities and project history
2. Assessment of Committee's capacity in the implementation of projects by International Financial Institutions
3. Information on Enclosures

4. Situation with Waste Management

Meeting with Committee for Food Safety under the Government of the Republic of Tajikistan
Date: October 28, 2024
Time: 13:30 - 15:00
Place: Committee for Food Safety under the Government of the Republic of Tajikistan, Dushanbe

Participants:
Committee for Food Safety under the Government of the Republic of Tajikistan representatives:
- Ismoil Andamov - Head of Veterinary and Breeding Supervision Department
- Sukhrob Nurov - Head of the Department, Senior Specialist in International Relations
- Farshid Nasimov - Senior Specialist in International Relations Department
- Furush Dustov - Senior Specialist in International Relations Department

NBT representatives:
- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:
1. List of project activities and project history
2. Assessment of the Committee's capacity in the implementation of projects by international financial institutions
3. Visit to the laboratories
4. Situation with waste management

Meeting with representatives of the National Center for Food Safety Diagnostics
Date: October 28, 2024
Time: 15:30-17:00
Place: National Center for Food Safety Diagnostics, Dushanbe

Participants:
National Center for Food Safety Diagnostics representatives:
- Muminov Mustafo - Head of the Center for Food Safety Diagnostics

NBT representatives:
- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:
1. List of activities for inclusion in the project
2. Visit to the laboratories
3. Situation with waste management

Photos:

Figure 21: Meeting with Head of the Food Security Diagnostics Center

Figure 22: Location of the laboratory #1 (38.566423°, 68.814673°)

Proposed area for construction

Incinerator

Figure 23: Condition of the National Food Security Diagnostic Center

Meeting with Ministry of Health and Social Protection of the Population

Date: October 29, 2024
Time: 9:30 - 11:00
Place: Ministry of Health and Social Protection of the Population, Dushanbe

Participants:

Ministry of Health and Social Protection of the Population representatives:

- Navruz Jafarov - Project Coordinator
- Mutriba Latipova – WB coordinator

NBT representatives:

- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:

1. List of project activities and project history
2. Laboratories to visit
3. Assessment of the Ministry's' capacity in the implementation of projects by international financial institutions

4. Situation with waste management

Meeting with Hisar Food Security Inspection Center

Date: October 29, 2024
Time: 12:30 - 14:00
Place: Hisar Food Security Inspection Center, Hisar city

Participants:
Hisar Food Security Inspection Center representatives:

- Murodkhon Kholdorov – Director of the Hisar Food Security Inspection Center

NBT representatives:

- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:

1. List of activities for inclusion in the project
2. Current situation of the laboratory
3. Situation with waste management

Photos:

Figure 24: Meeting with Director of the Hisar Food Security Inspection Center

Figure 25: Location of the laboratory #2 (38.519894°, 68.553231°)

Old transformer

Biothermic pit - beccari's pit

Cremator

Figure 26: Condition of the laboratory

Meeting with Hisar Sanitary and Epidemiological Service

Date: October 29, 2024
Time: 12:30 - 14:00
Place: Hisar Sanitary and Epidemiological Service, Hisar city

Participants:
Hisar Sanitary and Epidemiological Service representatives:

- Sadriddinov Ilkhomiddin – Director of the Hisar Sanitary and Epidemiological Service
- Kokilov Aloviddin - Sanitary Doctor

NBT representatives:

- Madina Khalmirzaeva – Project Manager
- Isroiljon Hakimjonov – Social/Gender Specialist
- Viktor Tsoy – Environmental Specialist

Discussed Topic:

1. List of activities for inclusion in the project
2. Current situation of the laboratory
3. Situation with waste management

Photos:

Figure 27: Meeting with Representatives of the Hisar Food Security Inspection Center

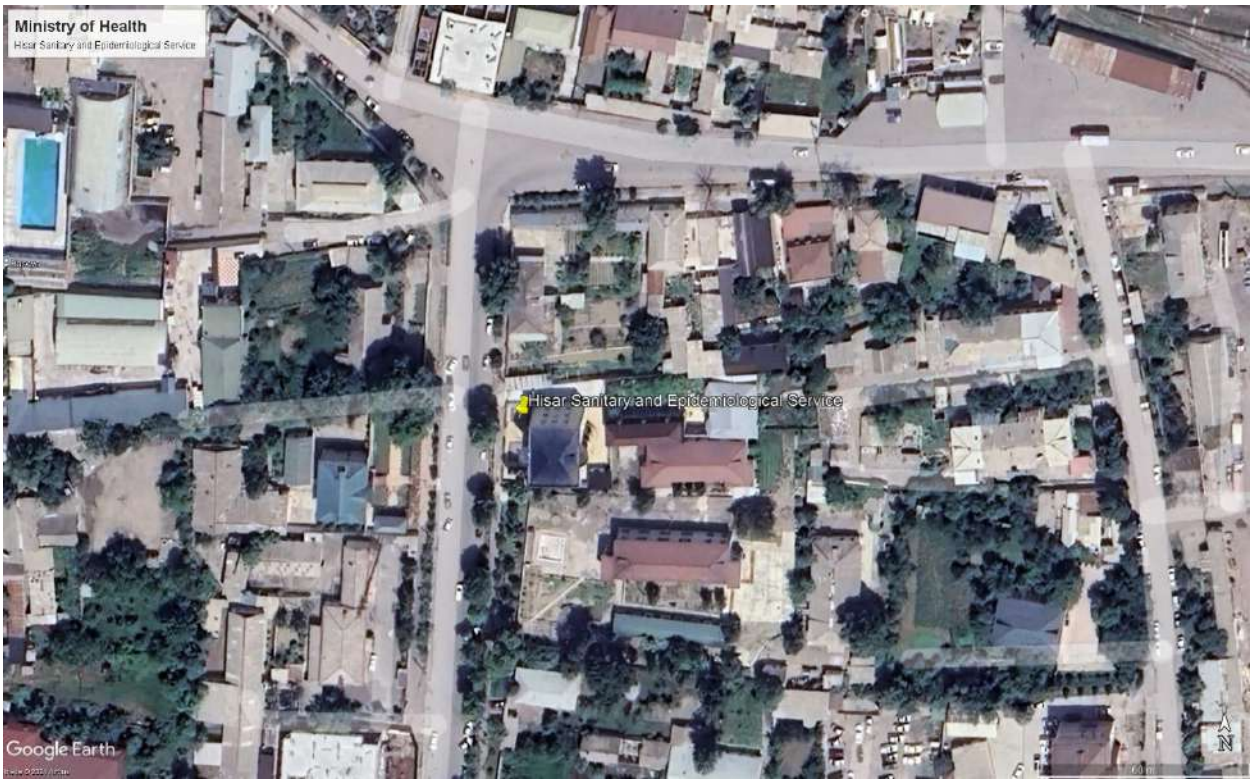


Figure 28: Location of the laboratory #3 (38.529136°, 68.550864°)

Appendix 12b - Stakeholder Consultations and Disclosure

Meeting Minutes

One of the main goals of the ESF is to facilitate the participation of all stakeholders and local communities at all stages of the project cycle: from the pre-construction phase and construction activities to its operation. In this regard, consultations were held in online format on 14th of November 2024 to capture the stakeholders' opinions about the project and agree on the project activities. In total, 7 persons have participated in these meetings as focal points from relevant agencies. The exact number of participants is shown in the table below.

Table 18: List of participants for the Public Consultations

№	Organization	Name
1	World Bank	Kimiyo Samieva
2	Ministry of Health and Social Protection of the Population	Navruz Muzafarov
3	Committee for Food Security	Imosil Andamov
4	Committee for Environmental Protection	Solijon Mirzoev
5	Ministry of Agriculture	Nigina Radjabova
6	PMU Social Specialist	Rano Akhmatova
7	PMU Development of entrepreneurship in agriculture	Monitoring and evaluation specialist
Total:		**7**

To deliver information about the Project components, its environmental impacts, and the grievance redress mechanism (GRM), the NBT consultants prepared presentation in the Russian language with brief information on ESF documents.

The main objectives of the public consultations were the following:

(i) to disseminate information to the people about the project and regarding its activities and scope of work;

(ii) to seek local peoples' views on minimizing probable adverse impacts on the environment and on livelihoods;

(iii) to make people aware of the process of the GRM;

(iv) to assess the willingness of people to get involved with the project, and enumerate the measures to be taken during the implementation of the project; and

(v) to make people aware of the relevant policy principles of national laws and WB ESF (2018) related to environment and social protection.

The main questions raised during the meetings with the public are presented in **Table 19**. Further information about the public consultation is in Appendix 1. Record of public consultation (List of the participants and photos of the meeting).

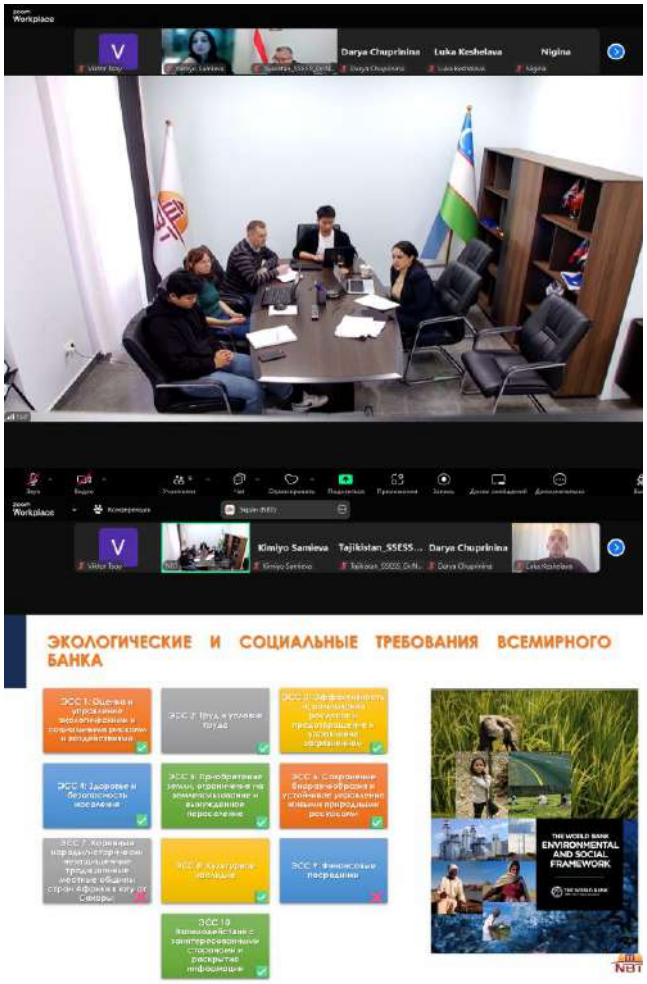
Table 19: Questions and Answers Raised During the Public Consultation

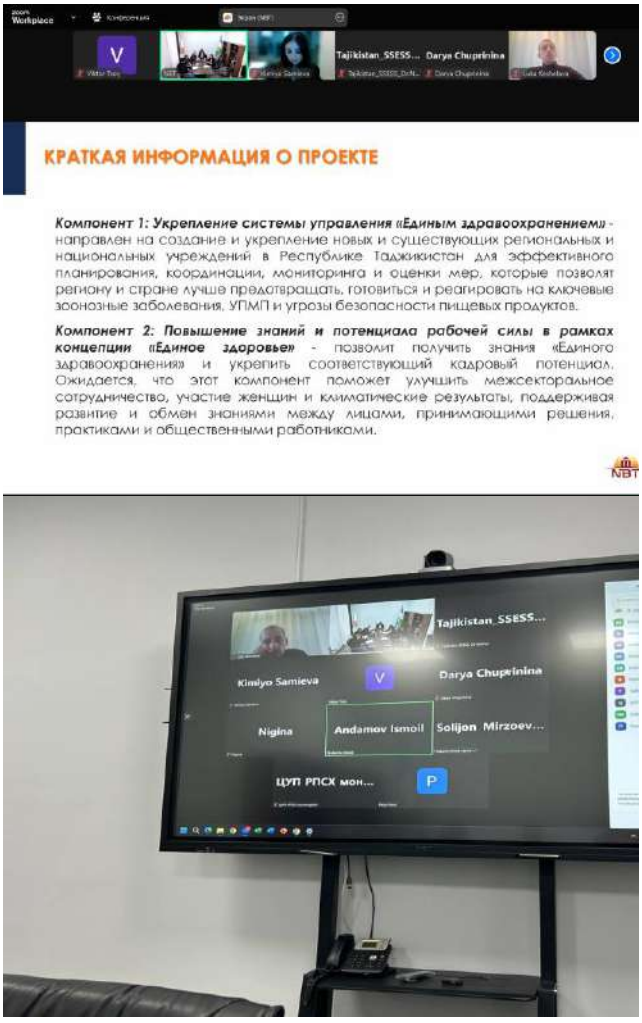
Issues Raised	Response
MHSPP	
Dear team, the presentation was excellent, all the points that were needed were covered. All recommendations were taken into account, and they are in line with the current requirements. For project implementation we will take this report into consideration, and I think there is no need to translate it into Tajik language, but some documents on other projects were published in Russian and Tajik language on official websites. Thank you very much for the work done	Thank you very much, we are very grateful for the support provided during the last visit. We will work out the issues with translations and hope that the PMU that will implement this project will be a good fit.
CFS	
Extensive work and assessment done in a short time so thank you very much, we will thoroughly review the work done and give our comments in writing. It is convenient for us to work in Russian and there is no need to translate into the local language.	Thank you very much for your feedback. Now the document is ready in English, as soon as the package of necessary documents is ready in Russian we will share it with you.
CEP	
I have a few questions. 1. On what assessment was the category of significant assigned. If categorized as significant, an EIA is required 2. Who will be involved in the preparation of this environmental impact assessment, and it is necessary that the ESF framework document should have this format of impact assessment and who will conduct this assessment. I do not think that the PMU will be in a position to conduct such assessments. 3. According to the requirements of the World Bank these are all issues of stakeholder engagement you	Thank you for your comments we will certainly take them into account, but as far as the questions you raised, we could give an answer. 1. Initially the categorization was given by the World Bank team that did the initial survey. We have discussed this issue several times and at the beginning of the presentation it was already said that within the framework of the project the works will be construction works, they will not be of a foundation character. Mainly repair of laboratories and in some cases construction of new laboratories and 10 cages in protected areas. The category essential has been left out because of the risk of spreading infectious diseases during operation. If the necessary measures are not taken during the implementation phase. After construction we can equip the laboratories with all the necessary equipment, but if the staff does not follow clear instructions on the handling of medical waste, etc., the project may bring a significant risk if not followed. Therefore, the project itself has a component on improving the capacity of the laboratory - training of staff on monitoring system. And Inter-ministerial cooperation is also

Issues Raised	Response
have to hold public hearings, not so that only with the management to hold a meeting, it is a requirement of the bank that you meet with the representatives of other ministries and get their opinion then prepare the SEP document. 4. Regarding GRM there are no levels how many levels of this mechanism or without levels. So, I would like to know these data because in all these framework documents first of all when they make categorization of social and environmental impacts if there is an EIA then there is a Management Plan for these activities and therefore who will control these plans because there are 5 ministries and many of them are controlling agencies so it was necessary to describe who is responsible for what. In the case of construction and other activities who is responsible. I think that the document still needs to be worked on, and it is ready to be signed. You know that there are certain degrees of safety. Who will be responsible for virology. Since it is a biological laboratory, it must comply with certain standards for laboratories at least 1km away from populated areas. So, I think the Food Safety Committee and the Ministry of Health should take all this into account.	a task of this project to improve inter-agency coordination to work on One Health systems to prevent this spread. 2. We know that the PMU has its own Environmental and Social Specialists, and we realize the importance and complexity of this document. Within the framework document we have budgeted for an external expert who has the skills and knowledge to develop such an ESIA document. Moreover, the framework document has an annex that describes the format of the environmental and social assessment, which describes what should be included in each section. At the same time, the document states that full compliance with the requirements of the Republic of Tajikistan on environmental impact assessment is required. The PMU employee will fulfill the role of complying with the requirements if the development of an environmental impact assessment is required. If not, an environmental management plan will be developed as a minimum. Therefore, the PMU officer will monitor compliance with all these requirements and will be assisted by an external consultant in the preparation of the environmental and social impact assessment. We are not putting everything on 1 specialist. 3. We would have liked to have more detailed meetings with the ministries on the ground, but we have done our best in the time available. We also visited the labs and familiarized ourselves with the current situation. The consultations do not end here, this is only the first round. Then they will be continued intensively, that is why SEP is developed to continue and to show with whom and at what level. If you have paid attention to the presentation we have shown the regional levels, then the PMU will identify and carry out the next consultations. 4.The GRM that was presented includes main steps which implies a staggered approach. At the subcontractor level, where the boxes and communication channels on the construction boxes during the construction works will be indicated. The contractor is required to maintain the GRM. PMU also has regional representatives, and they will also be involved in the GRM, they will counter complaints and resolve on the spot. If there is a more complex problem that the contractor and the regional representatives of the PMU cannot solve, then it goes to the second level, which is sent to the PMU in Dushanbe, they decide how to solve this complaint. Therefore, it is envisaged to involve external laboratories to conduct noise, air and soil pollution analysis, and therefore the budget for laboratory surveys by an independent and certified laboratory is foreseen. And the 3rd level if it is not solved, then apply further to the court if they are not satisfied with the actions of the 1st and 2nd level. All other comments will be taken into account. On biological parameters will be developed and analysed to date and if there is a need it will be improved and implemented within the framework of this project.

Issues Raised	Response
Once the construction is underway, the local district environmental authority must supervise. And all these stages should be scheduled and reflected in the SEP.	Thank you for all your comments, we will take everything into account. As for GRM this mechanism can also be updated further by the PMU as it is a living document. Regarding SEP, it specifies the GRM and the roles of the committee not only at the national level but also at the local level. All further issues will be worked out together with PMU.

Photos


Darya Chuprinina
Luka Kesheiava
Nigina
Kimiyo Samieva
Tajikistan_SSESS...
Darya Chuprinina
ЭКОЛОГИЧЕСКИЕ И СОЦИАЛЬНЫЕ ТРЕБОВАНИЯ ВСЕМИРНОГО БАНКА
THE WORLD BANK
ENVIRONMENTAL AND SOCIAL FRAMEWORK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Darya Chuprinina
КРАТКАЯ ИНФОРМАЦИЯ О ПРОЕКТЕ
Компонент 1: Укрепление системы управления «Единым здравоохранением» - направлен на создание и укрепление новых и существующих региональных и национальных учреждений в Республике Таджикистан для эффективного планирования, координации, мониторинга и оценки мер, которые позволят региону и стране лучше предотвращать, готовиться и реагировать на ключевые зоонозные заболевания, УПМП и угрозы безопасности пищевых продуктов.
Компонент 2: Повышение знаний и потенциала рабочей силы в рамках концепции «Единое здоровье» - позволит получить знания «Единого здравоохранения» и укрепить соответствующий кадровый потенциал. Ожидается, что этот компонент поможет улучшить межсекторальное сотрудничество, участие женщин и климатические результаты, поддерживая развитие и обмен знаниями между лицами, принимающими решения, практиками и общественными работниками.
Kimiyo Samieva
Darya Chuprinina
Nigina
Andamov Ismoil
Soljon Mirzoev...
ЦУП РПСХ мон...