BARS Consulting

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Content

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
C-ESMP	Contractor's Environmental and Social Management Plan
CAPS	Central Asian Power System
CEP	Committee for Environmental Protection
CS	Consulting Services
CWWTP	Central Wastewater Treatment Plant
DC	Design Consultants
EA	Environmental Assessment
EAF	Environmental Assessment and Overview Framework
EIA	Environmental Impact Assessment
EMR	Environmental Monitoring Report
ESCP	Environmental & Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
FM	Financial Management
GBV	Gender Based Violence
GDF	Gender Development Framework
GRM	Grievance Redress Mechanism
GRT	Government of the Republic of Tajikistan
IEA	Initial Environmental Assessment
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
OHS	Occupational Health and Safety
OP	Operational Policy
PA	Public Association
PC	Public Consultation
PCB	Polychlorinated Biphenyls
PIU*	Project Implementation Unit
PMG**	Project Management Group
PO	Public Organization
POM	Project Operations Manual
POPs	Persistent Organic Pollutants
RAP	Resettlement Action Plan
ROW	Right-of-Way
RPF	Resettlement Policy Framework
RT	Republic of Tajikistan
SEA	Sexual Exploitation and Abuse
SEE	State Environmental Expertise
SEP	Stakeholder Engagement Plan

* The PIU is OJSK Shabakahoi intiqoli barq, which bears full responsibility for the implementation of this project before the Ministry of Energy and Water Resources.

** The project management group is formed and operates under the OJSK Shabakahoi intiqoli barq.

SIA	Social Impact Assessment
SPNA	Specially Protected Natural Areas
SPZ	Sanitary Protection Zone
WB	World Bank

Executive Summary

Introduction

REMIT represents a pivotal step towards establishing and ensuring the effective functioning of a regional energy market in Central Asia. The project aims to address the region's growing energy demand by optimizing the use of available, more affordable energy sources, while enhancing the security and reliability of energy supplies. These efforts will drive economic growth. REMIT is expected to deliver both direct and indirect benefits. The direct impacts will include addressing the rising electricity demand in the region by increasing interregional power transmission capacity by augmenting the existing transmission infrastructure including addition of new transmission corridors for uninterrupted power exchange to meet the ever-increasing power demand. The regional electricity market will also facilitate commercial electricity trade, enabling investment in the energy sectors of Central Asian countries by ensuring the power grid is sufficiently robust to support growing trade volumes.

The regional electricity market will also support greater trade in renewable energy sources and promote the sustainable use of water resources. The implementation of the project will create new employment opportunities, improving livelihoods for local communities and boosting household incomes.

Framework Approach and Due Diligence

Since the complete details of the subprojects are not yet known, carrying out subproject-specific Environmental and Social Impact Assessments (ESIA) and preparing project-specific Environmental and Social Management Plans (ESMP) is not possible at this stage. Therefore, a framework approach is being followed. The ESMF serves as the overarching document that sets out the processes and mechanisms to manage environmental and social risks across all subprojects.

For the implementation of the REMIT MPA project, it is not only mandatory to comply with applicable national legislations and regulatory frameworks on environmental and social issues but also to carry out due diligence in accordance with the World Bank's Environmental and Social Framework (ESF). The ESF outlines the requirements for sustainable development, ensuring that project activities are conducted in an environmentally and socially responsible manner. As the technical / feasibility studies, detailed designs) are underway, and specific intervention locations under the project are not finalized and their specific impacts are not known by project appraisal, a framework approach is adopted. In this context, in accordance with the ESS1, an Environmental and Social Management Framework (ESMF) has been prepared.

This ESMF defines the mechanisms for integrating environmental and social considerations into the planning and execution of the REMIT Project. It provides processes for planning, implementing, and managing environmental and social safeguards, and sets out the protocols for identifying, assessing, and mitigating risks at both the organizational and project levels. The ESMF provides guidance for assessing project-specific risks and impacts and includes triggers for specialized studies, such as ESIA, SIA/RAP, and Biodiversity Assessments, when required for more detailed attention.

Additionally, the ESMF includes guidelines and procedures to address issues related to gender, labor, and stakeholder engagement, along with the institutional mechanisms for monitoring environmental and social performance during both the project execution and operation phases. The primary purpose of the ESMF is to outline the expected environmental and social risks and impacts and to provide a system for monitoring and managing these impacts throughout the project lifecycle. The framework also details the institutional roles and responsibilities for risk management and describes the feedback and grievance mechanisms through which citizens and stakeholders can interact with the project implementation agency.

The Project being financed by the International Development Association will be implemented by the Ministry of Energy and Water Resources (MEWR) of the Government of Tajikistan.

Project Overview

Central Asia possesses a highly complementary mix of regional energy sources and generation structure that can unlock significant benefits through regional energy cooperation. Jointly addressing the electricity needs of Central Asian economies is a more economically viable option than each country independently managing its energy requirements. Enhanced market integration among Central Asian countries will reduce the need for individual investments in new generating capacities by enabling the shared use of existing reserves. Tajikistan's power system, formerly part of the CAPS, has been operating in isolation from it since 2009. Currently, active negotiations on its connection are underway between the power systems of the CAPS and the power system of Tajikistan. Connection schemes and necessary design studies for emergency automation in both the southern and northern parts of the power system are being worked out.In addition, there is a need to strengthen national and regional interconnections to ensure sustainable exports of electricity to be generated by new regional projects such as the Rogun HPP.

Components under the proposed REMIT MPA are framed along the following three components:

(i) Component 1: Pilot regional electricity market;

(ii) Component 2: Reinforcing interconnections and system resilience; and

(iii) Component 3: Strengthening the enabling environment and institutional capacity further described below:.

i. Component 1: Pilot regional electricity market. This component aims to support the implementation of a Pilot Short-term Market platform to promote regional electricity trade in Central Asia.

The proposed pilot aims to have strong demonstrational effect on how a regional market could work in Central Asia, ensuring the satisfaction of the growing energy demand in the region through efficient deployment of lower-cost energy, enhancing security and reliability of supply, and thereby also spurring the economic growth and green transition in the region.

ii. Component 2: Reinforcement and digitalization of regional interconnections. REMIT MPA will support the development of regional market with soft and hard infrastructure. This project will also finance critical investments to enhance regional electricity trade both at the regional and national levels. Potential investments in Tajikistan are summarized below:

a. Construction of a new approx 50 km 500kV OHL from Regar SS to Dushanbe SS.

b. Upgrade of Switchyard and associated systems at 500kV Regar SS by replacing group of 3rd AT (3x267MVA).

c. Upgrade / Expansion of 500kV Dushanbe SS by installing 2nd group of autotransformers (3x167MVA).

iii. Component 3 of the REMIT MPA: Strengthening enabling environment and institutional capacity. As effective cross-border trade depends on reliable power sectors at domestic level, this component will support activities aimed at: (i) strengthening the financial viability and governance of national power sectors (e.g. tariff reform); (ii) reinforcing regulatory authorities – through training, capacity building, specific activities. This component will also support project supervision, management and coordination. The summary of key responsibilities and procedures for implementing ESMF requirements can be found in Table 14 'ESMF Regulations'

PROJECT BENEFICIARIES

The REMIT project aims to bring significant benefits to various stakeholders. Local communities will gain improved access to reliable electricity, which will enhance living standards, support businesses, and create economic opportunities. Employment will be generated during both construction and operation phases, contributing to household income growth. On a regional level, the project will foster economic growth through strengthened energy infrastructure, promoting regional cooperation and electricity trade, which will enhance economic integration and competitiveness in Central Asia. Government institutions will benefit from

capacity building and improved governance, as well as support for regulatory reforms to strengthen the energy sector framework. Environmental outcomes include a reduced reliance on coal-based energy and increased use of renewable sources, aligning with global environmental goals. The private sector and investors will also benefit, as the development of a regional electricity market will attract investment in renewable energy and infrastructure, fostering a favorable business environment.

Project Locations.

Currently identified investments include the construction of a new 500 kV overhead line from Regar PS to Dushanbe SS (2nd circuit of the overhead line); modernization of the open switchgear and related systems at PS 500 kV Regar by replacing the 3rd SS group (3x267 MVA); and modernization/expansion of PS 500 kV Dushanbe by installing the 2nd group of AT (3x167 MVA). Project activities will be implemented in the districts of Tursunzade, Shahrinav, Hissar, Varzob, and Rudaki.

PROJECT IMPLEMENTATION ARRANGEMENTS

The PIU along with PMG will play a central role in project coordination, project implementation and supervision of project activities, ensuring compliance with both national regulations and the World Bank Environmental and Social Standards (ESS). MEWR the Project Implementing Agency will also oversee and manage the project through the PIU, and for ensuring unhindered and high-quality implementation of the project. It will also be the responsibility of the MEWR to review and approve the annual work plans and budget (prepared by the PIU), providing relevant technical inputs, especially at the strategic and policy level. The PIU and its PMG will ensure that environmental and social requirements are effectively integrated into all project phases. The PIU have significant experience in managing large-scale energy projects, including environmental and social (E&S) components, which provides a solid foundation for handling the E&S issues related to the REMIT MPA project. The MEWR's PIU shall also be responsible to ensuring compliance of ESCP which specifies the main responsibilities and actions to be undertaken by MEWR with regard to WB ESSs as agreed between the MEWR and the Bank.

POLICY/LEGAL FRAMEWORK

The policy and legal framework governing the project is built upon a robust combination of national laws and international standards, supported by the World Bank's Environmental and Social Framework (ESF). Tajikistan's Constitution emphasizes state ownership of natural resources and the right to a healthy environment, while key laws such as the Law on Environmental Protection and the Law on State Environmental Expertise establish a foundation for environmental governance, impact assessments, and sustainable resource use. Complementing this, international treaties such as the UN Framework Convention on Climate Change and the Basel Convention highlight the country's commitment to global environmental standards. The World Bank's ESF further strengthens this framework by ensuring alignment with international best practices. Together, these frameworks ensure comprehensive environmental and social governance throughout the project lifecycle.

The World Bank's Environmental and Social Standards relevant to proposed the project have been identified and gaps in national or state regulations considered while formulation of ESMF.

THE PROJECT RISK RATING AND RELEVANCE OF THE WORLD BANK ENVIRONMENTAL AND SOCIAL STANDARDS (ESS)

The project is being developed in accordance with the World Bank Environmental and Social Framework (ESF), which sets out the standards that must be met for environmental and social issues. Both the environmental and social risks are rated as Substantial, based on the project's potential impacts, and this overall rating guides the necessary environmental and social management measures. The relevant World

Bank Environmental and Social Standards (ESS) applicable to this project include ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, and ESS 10.

The proposed activities are expected to bring economic, environmental, and social benefits:

(i) Economic benefits include stimulating economic growth through job creation and infrastructure development. The development of a regional electricity market will allow for more efficient utilization of energy resources, thereby improving regional competitiveness and attracting investment.

(ii) Environmental benefits include reducing pollutant emissions and decreasing dependence on coal-based energy sources. The development of regional electricity markets will increase the share of renewable energy sources in the energy mix, which in turn will reduce negative environmental impacts.

(iii) Social benefits include increased accessibility and reliability of energy supply for the population of the region. Infrastructure development and job creation will improve the quality of life of the local population and contribute to social stability

Potential negative impacts and risks cover a wide range of environmental, social, economic, and occupational health and safety concerns during both the construction and operational phases of the project.

Environmental risks include potential damage to ecosystems, such as habitat disruption, biodiversity loss, and soil erosion, particularly during construction activities. Pollution risks are also significant, with the possibility of contamination of air, water, and soil due to the use of heavy machinery, improper waste disposal, and other construction-related activities. During the operational phase, there are risks of chemical spills from transformers, which could lead to soil and water contamination. Fire hazards, especially near substations, are another concern due to potential equipment failure. Additionally, there is a risk of leakage of sulfur hexafluoride, a potent greenhouse gas used in electrical equipment, which can have severe environmental consequences if released into the atmosphere.

Social risks primarily concern the displacement of local populations due to the land acquisition required for building new infrastructure, such as substations and transmission lines. Resettlement can cause loss of livelihoods, housing, and access to local resources, which can lead to social tension and conflicts within affected communities. The construction process may disrupt the daily lives of local populations, leading to grievances, particularly if there is inadequate communication or compensation. Ensuring transparent resettlement procedures and engaging effectively with communities will be essential to mitigating these risks.

Economic risks stem from the possibility of cost overruns and increased financial burdens due to construction delays, regulatory hurdles, or changing market conditions. These delays could result in unforeseen expenses, affecting the financial viability of the project. Furthermore, shifts in the energy market, such as fluctuations in demand, price volatility, or changes in government policies, could impact the project's financial outcomes. Long-term risks may arise if the infrastructure becomes outdated or inefficient due to advancements in technology, which could reduce its competitiveness in the regional energy market.

Occupational health and safety risks are critical, especially during construction. Workers face hazards such as accidents related to working at heights while installing transmission lines and operating heavy machinery in difficult terrain. Falls from heights pose a significant danger, and proper safety measures, including training and the use of protective equipment, are essential to minimizing these risks. The handling of hazardous materials, such as fuels and chemicals, could expose workers to toxic substances, respiratory issues, and burns. Even in the operational phase, risks such as electrical shocks, fire hazards, and equipment malfunctions persist, which could lead to serious injuries or fatalities. Ensuring that safety protocols are in place, conducting regular inspections, and providing personal protective equipment (PPE) will be crucial for safeguarding workers throughout the project.

Addressing these risks will require comprehensive planning and management, including thorough environmental and social impact assessments, strong occupational health and safety plans, and continuous monitoring throughout the project's lifecycle. Effective public consultation and stakeholder engagement will also be essential in addressing social issues and ensuring that affected communities are well-informed and

adequately compensated. In addition, sound financial planning must account for potential economic fluctuations and delays to secure the project's long-term success.

POTENTIAL ENVIRONMENTAL & SOCIAL IMPACTS & MITIGATION MEASURES

Screening of potential environmental & social risks & impacts of proposed project components has been undertaken considering the existing baseline environmental and social setting of project area. The proposed sub-projects are likely to create positive as well as negative impacts on the environmental and social setting.

The nature of impacts and extent of physical interventions will become clearer once the final designs of subprojects will be finalized. The following E&S instruments are being prepared by appraisal: (i) Environmental and Social Management Framework (ESMF), including generic ESMP; (ii) Resettlement Policy Framework (RPF); (iii) Stakeholder Engagement Plan (SEP); (iv) Labor Management Procedures (LMP) and (v) Environmental and Social Commitment Plan (ESCP). The ESMF will assess risks and impacts and guide appropriate mitigation measures to be taken for all components. The ESMF will include procedures to screen environmental and social risks of the subprojects and guide the preparation of subproject-specific ESIAs and ESMPs, including Biodiversity Assessment and Management Plans, if needed. It will include standard ESMP checklists, plans to manage hazardous waste, PCB waste, traffic management plans and other known E&S impacts and risks, as well as describe relevant legislations, institutional arrangements, and proposed capacity building measures. However, these likely impacts will be addressed through many measures including avoidance, minimization in that order of priority to the extent possible. The above listed risks is a key reason for classification of environmental and social risk of the project as High.

On the other hand, the proposed activities and subprojects financing will also enhance sustainability of the energy supply, which in general combines the introduction of new technologies, policies and activities aimed to integrate socio-economic principles with environmental concerns in order to increase electricity transmission, and thus improve the quality of electricity in the regions of Tajikistan.

In the screening process as per ESS 1, scoping of key environmental and social risks and impacts of the Project has been undertaken and appropriate mitigation measures identified, as laid out in this ESMF. Sub-project specific ESIAs will be conducted prior to the implementation of activities. Specific risks and impacts are outlined in the ESMF and will be elaborated in the subsequent ESIAs and ESMPs. Sub-component activities will employ contracted workers who will be subject to the provisions of LMP, SEP, GRM and World Bank Group Environment, Health and Safety Guidelines in compliance of ESS 2. The Project will provide GRM for the community as well as to contracted workers. Additionally, each sub-project contractor will prepare a Construction-ESMP with labor protocol to address such issues. Measures to comply with ESS3 stipulations have been identified in light of the construction activities proposed. These include measures to mitigate air pollution including noise, land and water pollution, management of construction wastes such as muck/debris as well as hazardous waste. All activities will be compliant with the applicable regulations and ESS 4. The legislations and policy related to land acquisition and resettlement as well as provisions of ESS 5 shall be implemented in accordance with provisions of RPF. To ensure that ESS6 requirements are met, additional studies will be undertaken as part of site-specific ESIAs, where required. The findings of the studies will inform the consequent ESMPs and relevant portions of the same will be integrated with the bidding documents and contracts. To facilitate compliance with ESS8, guidance on 'chance find' procedure, in line with Kyrgyz requirements are included to manage impacts on any artefacts found during construction / rehabilitation works.

The process of preliminary consultation has already commenced during the ESMF development to know the people's opinion about project, which will be further expanded during finalization of ESMF. However, a detailed Stakeholder Engagement Plan (SEP) with mapping out all the different types of stakeholders, timings and modes of communication and consultation has also been prepared for implementation during ESIA and project execution. The Plan linked the GRM with the SEP to address the issue of transparency and feedback. ESS 10 recognizes the importance of open and transparent engagement vis-à-vis project stakeholders by the borrower.

ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN

The basic purpose of the ESMF is to design/formulate mitigative measures and plan for assessment and management protocol to address identified/potential environmental & social risk/impacts during implementation & operation stage. The ESMF is designed on the principles of avoidance, minimization & mitigation, including offsetting /compensating any residual issues to meet the requirement of sustainable development and compliance of Bank's ESSs.

The nature of impacts and scope of activities will be clarified once the subproject designs under components 2 are finalized. Site specific ESIA will assess the risks and impacts and provide recommendations on appropriate mitigation measures to be performed for each site by results of which ESMP will be prepared. Moreover, vulnerable and aggrieved groups have been identified through the SEP, and will be consulted, and their concerns and views considered in ESIA, RAP, GAP and project design.

CAPACITY BUILDING AND TRAINING:

The project will conduct special trainings to ensure effective project implementation and a clear understanding of the environmental and social risk management requirements under the World Bank's ESS. Due to the substantial E&S risk associated with the proposed project, a comprehensive training/skill enhancement program is needed for IA staff in general and E&S staff in particular to ensure effective implementation of safeguard issues as well as to meet the requirements of the WB ESS.

To meet above requirements, MEWR/PIU will involve a consultant with knowledge of national environmental and social management requirements, as well as substantial knowledge of the World Bank ESSs requirements for developing different training modules for PIU and PMG staff including the E&S specialist after assessing the requirement and will than conduct the same. The broad training topics will include the basic requirements of the World Bank's ESS, ESIA, ESMP, OHS, LMP and RAP implementation etc. including exposure to best international practices on E&S management. The budget provision of USD 104,000 has also been made in ESMF. The trained E&S staff of PIU and PMG shall act as trainer for E&S staff of Contractors on E&S requirements and specific contract conditions on safeguards. In addition, the World Bank will organize training during project implementation to respective PIU and PMG staff and other involved agencies within the first year of the project implementation, in order of relevance, followed by, at minimum, annual refresher trainings as needed throughout project implementation. Also, training for project workers is expected to be delivered by the contractors at the commencement of engagement of project workers, followed by, at minimum, one annual refresher training.

INSTITUTIONAL ARRANGEMENT

The Project Implementing Agency (IA) is the Ministry of Energy and Water Resources of the Republic of Tajikistan (MEWR). The project will utilize the existing Project Implementation Units (PIUs), which are currently involved in the implementation of various energy sector projects including the modernization of energy infrastructure and the development of regional interconnections. These PIUs have significant

experience in managing large-scale energy projects, including environmental and social (E&S) components, which provides a solid foundation for handling the E&S issues related to the REMIT MPA project. To further strengthen project coordination and management capacity in the field, a dedicated group viz. A Project Management Group (PMG) with additional staff and offices will be established in the project areas at the regional level under the coordination of the respective PIUs. The MEWR will also generally manage the project through the PIU, and for ensuring unhindered and high-quality implementation of the project. It will also be the responsibility of the MEWR to review and approve the annual work plans and budget prepared by the PIUs operating under its oversight, providing relevant technical inputs, especially at the strategic and policy level or on issues related to economic stimulus.

The PIU shall be responsible for all fiduciary functions (e.g., purchasing, financial management, preparation of annual reports, budgets, etc.). It will also be responsible for coordinating and supervising technical, and environmental and social (E&S) standards-related requirements of relevant components. As brought out above, PIU's environmental, social and OHS specialists are experienced and capable of managing E&S risks and OHS, and will also be working closely with each of the Project beneficiary institutions. The type and number of specialists to be hired as local staff and additional consultants (if needed) will be decided during the project preparation stage. The PIU and its PMG will oversee the overall coordination of the implementation of project specific ESIA, ESMP, RAP etc., and will report to the MEWR and the WB on the integration of E&S requirements into procurement documents and contracts. The MEWR's PIU shall also be responsible to ensuring compliance of ESCP which specifies the main responsibilities and actions to be undertaken by MEWR regarding WB ESSs as agreed between the MEWR and the Bank.

Grievance Redress Mechanism (GRM)

To facilitate timely, effective and efficient resolution of grievances and complaints to the satisfaction of all parties involved a multi-level Grievance Redress Mechanism is developed for the proposed project. The GRM provides a transparent and credible process for achieving fair, effective and lasting results. GRM also enhances trust and cooperation as an integral component of broader community consultation that promotes corrective action.

Level 1 (local) This level involves receiving grievances and other types of feedback that may be received as part of the implementation of infrastructure measures, i.e. construction/modernization works from the local community located in the project area.

Level 2 (Regional) The review of applications submitted by stakeholders during project implementation is carried out with the involvement of NGOs and PMG representatives. At this level, applications that could not be resolved at the local level are reviewed. The process includes collecting and analysing information about the application, meeting with the applicant and stakeholders, and making recommendations to resolve the problem. NGO representatives play an important role in providing independent assessment and advocacy for applicants, while PMG representatives coordinate the process and ensure that decisions are implemented.

Level 3 (National) At the national level, the GRM aligns with the Law of the Republic of Tajikistan on Appeals of Citizens and Legal Entities. This ensures that grievances unresolved at regional levels are addressed within the legal framework of the country, maintaining compliance with both national and World Bank standards. This level will be based on the existing WB mechanism and national legislation, where, in accordance with the legislation of the Republic of Tajikistan, legal provisions reflected in the "Law of the Republic of Tajikistan on Appeals of Citizens and Legal Entities" are used. Within the framework of the Project implementation, information on the GRM for the Project will be placed on the websites of implementing organizations.

All grievances will be processed within clearly defined timeframes. The established deadlines for grievance resolution are as follows:

Grievances will be resolved within the following timeframes: 10 days at the local level, 15–20 days at the regional level, and up to 30 days at the national level.

In addition, a Conflict Resolution Commission may also be established at the request of the applicant, from the PIU or local Hukumat (in the districts of the project area). Decisions made by the Commission and agreed between all parties are formalized in the form of an order by the participating Hukumats. If the beneficiary has any objections to the CRC decision, the case can be taken to court by the affected party.

World Bank Grievance Redressal Service

Communities and individuals who feel that they are adversely affected by a World Bank (WB)-financed project may submit complaints to existing project-level grievance mechanisms or to the WB's Grievance Redress Service (GRS). The Grievance Redressal Service ensures that grievances received are promptly addressed to resolve project-related issues. Project-affected communities and individuals can submit their grievance to the WB's independent Inspection Panel, which determines whether harm has occurred or is likely to occur as a result of the WB's failure to comply with its policies and procedures.

INFORMATION DISCLOSURE AND CONSULTATIONS

Through the process of consultation and disclosures, MEWR/PIU would envisage to build participation of stakeholders at each stage of project planning and implementation. MEWR would be responsible not only for ensuring participation of the community in the consultation process but to make it effective ensure integration of the feedback received from stakeholder into the project plans where it deems fit. A dedicated and comprehensive Stakeholders Engagement Plan (SEP) is being developed for the REMIT Project. The SEP is developed in accordance with the recommendations and requirements of the Environmental and Social Standard, ESS 10 of the World Bank and is a part of social and environmental assessment of the Project. The SEP as one of the main Project documents will support the Project management and implementation. Along with measures to minimize adverse impacts of the Project, the open social engagement is part of the Project's cohesive approach to maintaining positive relationships with the local community and other stakeholders under the Project.

During project preparation an extensive mapping of the stakeholders shall be carried out to identify individuals and groups likely to be affected directly or indirectly, vulnerable groups and other interested parties such as government agencies/ authorities and NGOs, which may differ between subprojects, will be done during implementation. Meaningful consultation will be carried out on an ongoing basis as the nature of issues, impacts and opportunities evolves. Meaningful consultation is a two-way process, that: (a) Begins early in the project planning process to gather initial views on the project proposal and inform project design; (b) Encourages stakeholder feedback, particularly as a way of informing project design and engagement by stakeholders in the identification and mitigation of environmental and social risks and impacts; (c) Continues on an ongoing basis, as risks and impacts arise; (d) Is based on the prior disclosure and dissemination of relevant, transparent, objective, meaningful and easily accessible information in a timeframe that enables meaningful consultations with stakeholders in a culturally appropriate format, in relevant local language(s) and is understandable to stakeholders; (e) Considers and responds to feedback; (f) Supports active and inclusive engagement with project-affected parties; (g) Is free of external manipulation, interference, coercion, discrimination, and intimidation; and (h) Is documented and disclosed by the Borrower.

The information disclosure would provide citizen centric information on the policies and the details of sub-projects along with its implementation process of REMIT. It would be carried out in accordance to the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement and Information Disclosure. The REMIT Information Disclosure Procedure would ensure that information concerning safeguard documents of REMIT's activities is made available to the public in the local language without any

confidentiality. The feedback of the project affected persons/citizens would be captured through the PIU and conveyed to MEWR/Contractors for necessary action.

MONITORING AND EVALUATION

The MEWR/PIU will ensure the overall coordination of the Project. The PIU will be staffed with highly qualified specialists in environmental and social measures who will deal with ESMF/ESIA/ESMP implementation. The MEWR/IU would monitor the implementation of the environmental and social safeguards in all subprojects to ensure conformity to the requirements of the ESMF/ESIA and ESMP.

In addition, the PIU safeguards and engineering team will monitor compliance of environmental and social safeguards and submit regular quarterly monitoring reports on implementation of ESCP. The MEWR/ PIU will also comply with the provisions of any other E&S documents required under the ESF, such as Environmental and Social Management Framework (ESMF), Resettlement Policy Framework (RPF), Environmental and Social Management Plans (ESMP), Resettlement Action Plans (RAP), Labor Management Procedures (LMP) and Stakeholder Engagement Plan (SEP), and the timelines specified in those E&S documents.

Compliance to ESMP should be reported by contractors to the MEWR/PIU, and then the PIU submits to the WB a semi-annual report. Environmental and social monitoring during implementation of subprojects should provide information on the key environmental and social aspects of subprojects, particularly its impact on the environment, social impacts of activities and the effectiveness of mitigation measures undertaken. This information will enable the PIU to assess the success of mitigation measures and monitoring under the Project, and will allow to update activities, if necessary, in a timely manner.

In addition to above, to ensure coordination and information sharing and timely decision-making on strategic and the program aspects at the highest level. Further, many Key Performance indicators (KPI) have also been developed to ensure effectiveness of monitoring and compliance status.

BUDGET FOR ESMF IMPLEMENTATION

A budget for the ESMF implementation will be allocated for PIU safeguards team hiring, as well as for training and awareness and the monitoring activities of Executive Agency – MEWR and Implementing Agency. This is currently estimated to be 104,000 USD. This includes the cost of hiring specialists, training, and preparation of site-specific ESIAs.

INTRODUCTION

1.1. PROJECT DESCRIPTION

Central Asia has enormous untapped potential to improve energy security, expand energy connectivity and trade, and accelerate the transition to clean energy. Improved geopolitical relations in Central Asia over the past six years have opened new opportunities for regional energy linkages and trade. Uzbekistan has expressed interest in joint hydropower development in Tajikistan and the Kyrgyz Republic. Kazakhstan has also expressed support for the development of large hydropower facilities in the Kyrgyz Republic to improve integrated management of water and energy resources in the region. Tajikistan is completing the resynchronization of its energy system with the Central Asian Power System (CAPS). Turkmenistan is currently the main supplier of energy resources in the region, especially in winter. Electricity exports from Tajikistan to Uzbekistan also resumed in 2018 after a nine-year hiatus. The increased interest in electricity trade in Central Asia has made energy links and trade an important regional agenda for Central Asian countries.

Tajikistan's power system, formerly part of the CAPS, has been operating in isolation from it since 2009. Currently, active negotiations on its connection are underway between the power systems of the CAPS and the power system of Tajikistan. Connection schemes and necessary design studies for emergency automation in both the southern and northern parts of the power system are being worked out. In addition, there is a need to strengthen national and regional interconnections to ensure sustainable exports of electricity to be generated by new regional projects such as the Rogun HPP. This project aligns with the World Bank's Environmental and Social Framework (ESF), ensuring compliance with its Environmental and Social Standards (ESS1-ESS10). The Environmental and Social Management Plan (ESMP) provides detailed mitigation measures for environmental risks, while the Stakeholder Engagement Plan (SEP) outlines mechanisms for engaging affected communities.

1.2. PROJECT ACTIVITY DESCRIPTION

The following technical activities will be carried out as part of the project implementation:Installation of new 500 kV power transmission lines (transmission lines). The lines will be laid using modern technologies and materials ensuring high reliability and durability. The transmission lines will be equipped with monitoring systems for operational control of the lines' condition and quick response to possible accidents.

Figure 1. Transmission line route

The new transmission line will be approximately 50 km long and will pass through the districts of Tursunzade, Shahrinav, Hissar, Varzob, and Rudaki. This project will improve the reliability and increase the capacity of the power grid, allowing for more efficient electricity transmission between regions.

Key Technical Details:

Tower Base Area:

Each transmission tower will have a base area determined by the final assessment provided by Monenco, which will account for local topographical and environmental conditions. The foundations of the towers will be constructed using reinforced materials to ensure stability across various soil types and terrains, particularly where the transmission line passes through hilly and mountainous areas. Special care will be taken to avoid placing towers in flood-prone zones, near rivers, or in areas subject to landslides. If towers must be placed in such zones, additional protective measures will be implemented, such as reinforced foundations or retaining structures.

Right of Way (RoW):

The Right of Way (RoW) for the transmission line will extend approximately 30 meters on either side from the centerline of the transmission towers. This corridor is essential for the safe construction, operation, and maintenance of the transmission line. The RoW will impose restrictions on land use, including limitations on building structures, planting tall trees, or conducting activities that could interfere with the line’s performance and safety. The exact width and boundaries of the RoW will be confirmed based on Monenco's final evaluation. Special measures will be implemented to minimize disruptions, particularly in agricultural areas, and compensation will be provided for any land temporarily or permanently affected by the RoW.

Sanitary Zone Requirements:

In compliance with national safety and health regulations, a sanitary protection zone of 30 meters will be established from the edge of the conductor of the transmission line. This zone will impose restrictions on residential construction and certain agricultural activities to protect public health and safety. In non-urban areas, the minimum vertical clearance from the lowest point of the conductor to the ground will be at least 8 meters, and in difficult-to-reach areas, it will be at least 7 meters. The project will ensure that local communities are informed about these restrictions and the necessary safety measures to prevent accidents.

Corridor of Impact (COI):

The Corridor of Impact (COI) for the transmission line will be carefully defined based on the final assessment by Monenco, taking into account all potential environmental and social risks. This will include evaluating the impact on local ecosystems, land use, and community infrastructure. The project will ensure that sensitive areas such as wetlands, protected forests, and high-density residential zones are avoided where possible. The COI will account for the minimum horizontal distance of 30 meters between the transmission line and any buildings or structures. In forested areas, the width of the clearance will depend on the height of the trees and the risk of falling branches onto the transmission line, ensuring that trees near the line are pruned or removed where necessary.

Mitigation Measures:

For sections where the transmission line crosses rivers, valleys, or other sensitive areas, specialized foundations and tower structures will be used to prevent damage from natural events such as floods, landslides, or erosion. The towers will be equipped with additional protective measures in flood-prone or erosion-prone areas, such as water diversion channels and reinforced foundations. To minimize environmental impacts, metal parts of the transmission towers will be galvanized or painted with corrosion-resistant materials, providing long-term protection against environmental degradation. The design also includes clearances for the conductors of the transmission lines. For instance, the minimum allowable distance between conductors with hanging insulators at 500 kV will be 8 meters to ensure safety and prevent electrical discharges. Additionally, the lines will be transposed at regular intervals to minimize the effects of asymmetry in the currents and voltages, improving system stability.

Substation Modernization:

In addition to the transmission line, the project also involves upgrading outdated equipment in substations. This includes replacing outdated autotransformers with modern, more efficient models, upgrading switchgear, and installing advanced protection and control systems. The open switchgear at the 500 kV Regar substation will be modernized by replacing the 3rd AT group (3x267 MVA), and the 500 kV Dushanbe substation will be expanded by installing the 2nd group of autotransformers (3x167 MVA). These improvements will enhance the ability of the system to handle increased electrical loads and improve the overall stability and reliability of the network, reducing the likelihood of outages.

1.3. Components proposed under the MPA project

Components under the proposed REMIT MPA The proposed Project (MPA1) is framed along the following three components:

(i) Component 1: Pilot regional electricity market;

(ii) Component 2: Reinforcing interconnections and system resilience; and

(iii) Component 3: Strengthening the enabling environment and institutional capacity further described below:

i. Component 1: Pilot regional electricity market. This component aims to support the implementation of a Pilot Short-term Market platform to promote regional electricity trade in Central Asia.

The proposed pilot aims to have strong demonstrational effect on how a regional market could work in Central Asia, ensuring the satisfaction of the growing energy demand in the region through efficient

deployment of lower-cost energy, enhancing security and reliability of supply, and thereby also spurring the economic growth and green transition in the region.

ii. Component 2: Reinforcement and digitalization of regional interconnections. REMIT MPA will support the development of regional market with soft and hard infrastructure. This project will also finance critical investments to enhance regional electricity trade both at the regional and national levels. Potential investments in Tajikistan are summarized below:

a. Construction of a new approx. 50 km 500kV OHL from Regar SS to Dushanbe SS.

b. Upgrade of Switchyard and associated systems at 500kV Regar SS by replacing group of 3rd AT (3x267MVA).

c. Upgrade / Expansion of 500kV Dushanbe SS by installing 2nd group of autotransformers (3x167MVA).

iii. Component 3 of the REMIT MPA: Strengthening enabling environment and institutional capacity. As effective cross-border trade depends on reliable power sectors at domestic level, this component will support activities aimed at: (i) strengthening the financial viability and governance of national power sectors (e.g. tariff reform); (ii) reinforcing regulatory authorities – through training, capacity building, specific activities. This component will also support project supervision, management and coordination.

The ESMP outlines specific mitigation measures for each component, such as waste management protocols, biodiversity conservation, and ensuring community safety during implementation.

The purpose of the ESMF is to describe the expected environmental and social risks and impacts of the project, and to provide a system for monitoring and managing such impacts during project implementation. In addition, the framework describes the institutional roles and responsibilities for environmental and social risk management under the project, as well as the feedback and grievance mechanisms through which citizens and other stakeholders can interact with the project implementation agency.

Project areas.

Currently identified investments include the construction of a new 500 kV overhead line from Regar PS to Dushanbe SS (2nd circuit of the overhead line); modernization of the open switchgear and related systems at PS 500 kV Regar by replacing the 3rd SS group (3x267 MVA); and modernization/expansion of PS 500 kV Dushanbe by installing the 2nd group of AT (3x167 MVA). Project activities will be implemented in the districts of Tursunzade, Shahrinav, Hissar, Varzob, and Rudaki.

Institutional arrangements.

The Project Implementing Agency (PIA) is the Ministry of Energy and Water Resources of the Republic of Tajikistan (MEWR). The project will utilize the existing Project Implementation Units (PIUs), which are currently involved in the implementation of various energy sector projects, including those related to the construction and operation of the Rogun Hydropower Plant (HPP), as well as the modernization of energy infrastructure and the development of regional interconnections. These PIUs have significant experience in managing large-scale energy projects, including environmental and social (E&S) components, which provides a solid foundation for handling the E&S issues related to the REMIT MPA project. To further strengthen project coordination and management capacity in the field, additional offices will be established in the project areas at the regional level to support effective oversight and coordination of the environmental and social management aspects of the project.

The main activities to be carried out for the ESMF include:

The main activities that have been carried out for the development of the Environmental and Social Management Framework (ESMF) include: (i) ensuring a framework for identifying and assessing potential environmental and social impacts for the construction of a new 500 kV overhead line from the Regar Substation to the Dushanbe Substation (2nd circuit overhead line), modernization of the open switchgear and associated systems at the 500 kV Regar Substation by replacing the 3rd AT group (3x267 MVA), and modernization/expansion of the 500 kV Dushanbe Substation by installing the 2nd AT group (3x167 MVA);

(ii) establishing environmental and social baseline conditions to guide project-specific interventions; (iii) providing a structure for environmental and social impact assessments, forecasting, and evaluation as part of the project's subsequent phases; (iv) conducting an alternatives analysis to explore different project scenarios; (v) identifying mitigation measures and guiding the preparation of Environmental and Social Management Plans (ESMPs) for specific project sites; (vi) supporting public consultations and information dissemination as part of the stakeholder engagement process; (vii) establishing a framework for monitoring and preparing environmental and social monitoring reports; and (viii) defining institutional arrangements and capacity development for effective E&S management.

As the technical assessments (e.g., feasibility study, detailed design) and specific project site interventions are not fully identified or ready, and their specific impacts will be determined during the project preparation stage, a framework approach is adopted to manage environmental and social risks in a structured and adaptable manner.

Potential environmental and social risks and impacts:

The project is being developed in accordance with the World Bank Environmental and Social Framework (ESF), which sets out the standards that must be met for environmental and social issues. Both the environmental and social risks are rated as **Substantial**, based on the project's potential impacts, and this overall rating guides the necessary environmental and social management measures. The relevant World Bank Environmental and Social Standards (ESS) applicable to this project include ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, and ESS 10.

The project is being developed in accordance with the World Bank Environmental and Social Framework (ESF), which establishes the standards to be met for environmental and social issues. Both environmental and social risks are rated as Substantial, based on the assessment provided in the C-ESRS (Concept Environmental and Social Review Summary). The relevant Environmental and Social Standards (ESS) applicable to this project include ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, and ESS 10.

The proposed activities are expected to bring economic, environmental, and social benefits:

(i) Economic benefits include stimulating economic growth through job creation and infrastructure development. The development of a regional electricity market will allow for more efficient utilization of energy resources, thereby improving regional competitiveness and attracting investment.

(ii) Environmental benefits include reducing pollutant emissions and decreasing dependence on coal-based energy sources. The development of regional electricity markets will increase the share of renewable energy sources in the energy mix, which in turn will reduce negative environmental impacts.

(iii) Social benefits include increased accessibility and reliability of energy supply for the population of the region. Infrastructure development and job creation will improve the quality of life of the local population and contribute to social stability.

Potential negative impacts and risks cover a wide range of environmental, social, economic, and occupational health and safety concerns during both the construction and operational phases of the project.

Environmental risks include potential damage to ecosystems, such as habitat disruption, biodiversity loss, and soil erosion, particularly during construction activities. Pollution risks are also significant, with the possibility of contamination of air, water, and soil due to the use of heavy machinery, improper waste disposal, and other construction-related activities. During the operational phase, there are risks of chemical spills from transformers, which could lead to soil and water contamination. Fire hazards, especially near substations, are another concern due to potential equipment failure. Additionally, there is a risk of leakage of sulfur hexafluoride, a potent greenhouse gas used in electrical equipment, which can have severe environmental consequences if released into the atmosphere.

Social risks primarily concern the displacement of local populations due to the land acquisition required for building new infrastructure, such as substations and transmission lines. Resettlement can cause loss of livelihoods, housing, and access to local resources, which can lead to social tension and conflicts within affected communities. The construction process may disrupt the daily lives of local populations, leading

to grievances, particularly if there is inadequate communication or compensation. Ensuring transparent resettlement procedures and engaging effectively with communities will be essential to mitigating these risks.

Economic risks stem from the possibility of cost overruns and increased financial burdens due to construction delays, regulatory hurdles, or changing market conditions. These delays could result in unforeseen expenses, affecting the financial viability of the project. Furthermore, shifts in the energy market, such as fluctuations in demand, price volatility, or changes in government policies, could impact the project's financial outcomes. Long-term risks may arise if the infrastructure becomes outdated or inefficient due to advancements in technology, which could reduce its competitiveness in the regional energy market.

Occupational health and safety risks are critical, especially during construction. Workers face hazards such as accidents related to working at heights while installing transmission lines and operating heavy machinery in difficult terrain. Falls from heights pose a significant danger, and proper safety measures, including training and the use of protective equipment, are essential to minimizing these risks. The handling of hazardous materials, such as fuels and chemicals, could expose workers to toxic substances, respiratory issues, and burns. Even in the operational phase, risks such as electrical shocks, fire hazards, and equipment malfunctions persist, which could lead to serious injuries or fatalities. Ensuring that safety protocols are in place, conducting regular inspections, and providing personal protective equipment (PPE) will be crucial for safeguarding workers throughout the project.

Addressing these risks will require comprehensive planning and management, including thorough environmental and social impact assessments, strong occupational health and safety plans, and continuous monitoring throughout the project's lifecycle. Effective public consultation and stakeholder engagement will also be essential in addressing social issues and ensuring that affected communities are well-informed and adequately compensated. In addition, sound financial planning must account for potential economic fluctuations and delays to secure the project's long-term success.

Most of the physical works are planned under Component 2, the currently identified investments include construction of a 500 kV overhead transmission line from Regar to Dushanbe (2nd circuit of overhead transmission line) (over 50 km passing through settlements), modernization of the open switchgear and related systems at 500 kV Regar by replacing the 3rd AT group (3x267 MVA); modernization/expansion of 500 kV Dushanbe by installing the 2nd group of autotransformers (3x167 MVA).

Social risks associated with project implementation may arise due to various factors. I) this includes the need for eviction and displacement of population due to construction of new transmission lines. Ii) there may be discontent due to environmental pollution and health impacts. Iii) Construction activities may cause conflicts due to competition for jobs and resources and increase risks of construction accidents.

To address environmental risks such as habitat disruption and pollution, the ESMP provides detailed measures, including monitoring air and water quality and ensuring proper waste management. Social risks, such as displacement, are managed through stakeholder engagement and grievance redress mechanisms outlined in the SEP.

Key proposed risk mitigation tools. The following documents have been prepared to manage the environmental and social risks and impacts identified during all phases of project implementation:

- Environmental and Social Management Framework (ESMF);
- Stakeholder Engagement Plan (SEP);
- Resettlement Policy Framework Document (RPF);
- Labor Management Procedures (LMP);
- Gender Development Framework (GDF);

The resettlement activities under the project are aimed at assisting, resettling and rehabilitating affected persons as a result of the various project activities in a manner that will improve or at least maintain their previous living standards, income earning capacity and production levels. Specifically, the Resettlement Policy Framework (RPF) has been developed to guide detailed resettlement planning to address land acquisition and resettlement issues. This framework sets out the land acquisition and resettlement

procedures, compensation principles, institutional arrangements that will be applied to address the needs of people who may be affected by project activities in terms of loss of land, housing, assets or livelihoods and/or loss of access to economic resources. The Resettlement Policy Framework (RPF) has been prepared in accordance with national regulations as well as World Bank Environmental and Social Standards (ESS), particularly ESS5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement. The Resettlement Policy Framework (RPF) includes a grievance redress mechanism (GRM) established for the project.

The project's Labor Management Procedures (LMP) provide a structured framework for managing labor-related aspects of the project in the Central Asian energy sector. The LMP outlines strategies for ensuring fair treatment, safe working conditions, and clear communication with all workers involved in the project. It also includes provisions for optimizing resource utilization and improving staff performance, in line with the overall objectives of the ESMF. These procedures ensure that the project complies with national labor laws and the World Bank's Environmental and Social Standards, particularly ESS 2, which addresses labor and working conditions.

A good communication strategy between the contractor and the community needs to be established to ensure sustainable project implementation. The Stakeholder Engagement Plan (SEP) has two main objectives. First, to inform all stakeholders about project activities, potential positive and negative impacts. Second, to ensure that stakeholders are actively involved at all levels of the project cycle, i.e., that they can share information and provide inputs in the preparation and implementation of project activities, including safeguards management; participate in implementation and monitoring activities where appropriate.

The Gender Development Framework (GDF) within the above components is a strategic approach to integrating gender equality and mainstreaming gender into all phases of the project. This includes analyzing the gender impact of the project, designing and implementing activities to address gender discrimination and inequality, and creating equal opportunities for women and men within the project.

Grievance Redress Mechanism (GRM). In line with the World Bank's ESS 10 requirements, the project will support a grievance redress mechanism and other forms of grievance. The feedback mechanism will be implemented as one of the main tools for social risk prevention/exclusion. These mechanisms are necessary to enable project beneficiaries at all stages of project implementation to submit their appeals in the form of complaints, requests for improvement of project activities, or proposals to correct problems at no additional cost and with a guarantee of timely resolution. The project envisages three levels of implementation of the grievance redress mechanism: local, regional and national. Details of the mechanisms at the national and district levels will be determined at the project inception phase and will be disclosed on the Executive Body's websites.

After consultations and public hearings, taking into account the views of stakeholders, the project materials were published on the website of the Ministry of Energy and Water Resources of the Republic of Tajikistan at the following link: https://www.mewr.tj/.

1.4. Rationale and purpose of the ESMF

This ESMF defines a mechanism for integrating environmental and social concerns into the planning and execution of the proposed REMIT Project. The ESMF establishes processes for planning and implementing environmental and social safeguards, and it outlines management procedures and protocols for identifying, assessing, and managing environmental and social risks at both the organizational and project/subproject levels. The goal is to avoid, reduce, minimize, and mitigate project-related environmental and social risks and impacts. The ESMF provides guidance for assessing project-specific environmental and social risks and impacts and also includes triggers for specialized studies, such as Environmental and Social Impact Assessments (ESIA), Social Impact Assessments (SIA), Resettlement Action Plans (RAP), and Biodiversity Assessments, which are to be conducted when sub-projects encounter these specific issues.

In addition, the ESMF addresses the management of operational and maintenance-related environmental and social impacts, particularly during the project's operational phase, to ensure that long-term risks are properly managed. This includes the potential for operational hazards, such as chemical spills, transformer leaks, and other environmental impacts that may arise during the maintenance of project infrastructure. Guidelines, procedures, and plans for managing issues related to gender, labor, and stakeholder engagement are also included, along with the institutional mechanisms for monitoring and implementing environmental and social management during the project's execution, operational, and maintenance phases.

The ESMF objectives are to outline expected environmental and social risks and impacts of the project and to provide a system for monitoring and managing such impacts during project implementation. Additionally, this framework describes institutional roles and responsibilities for managing environmental and social risks under the project, and the feedback and grievance mechanisms by which citizens and other interested parties can interact with the project implementation agency.

For implementation of proposed REMIT MPA project, it is not only mandatory to comply with applicable national legislations/regulatory framework on environment and social issues but to carry out due diligence on such issues as per the provisions of World Bank's Environmental and Social Framework (ESF) to meet the overall requirement of sustainable development. To address these requirements, this Environmental and Social Management Framework (ESMF) has been prepared

ESMF preparation methodology

Project Review and Stakeholder Discussions:

The initial phase involved a detailed review of project specifics, followed by meetings and discussions with the Project Management Group (PMG) under the Ministry of Energy and Water Resources of the Republic of Tajikistan, as well as representatives from the World Bank (WB). These discussions were crucial in aligning the ESMF with the project's goals and requirements.

Policy and Regulatory

A thorough review of both national and international policy and regulatory frameworks was conducted. This review ensured that the ESMF aligns with all relevant legal and regulatory requirements, including World Bank Environmental and Social Standards (ESS).

Field Reconnaissance and Screening:

Experts carried out reconnaissance field visits to the project areas. During these visits, initial scoping and screening activities were conducted to identify key environmental and social parameters likely to be impacted by the project. This step was critical in gathering firsthand information and setting the foundation for more detailed assessments.

Baseline Data Collection and Analysis

Baseline environmental and social data were collected through secondary literature reviews and field data collection. This data provided a snapshot of the current conditions in the project areas, serving as a benchmark for assessing potential impacts.

Stakeholder Consultation Process

The preparation of the ESMF involved consultations with stakeholders, including beneficiary and affected communities. These consultations were essential for understanding local concerns and ensuring that the ESMF addresses the needs and expectations of those impacted by the project.

Impact Assessment and Management Strategy Development

The potential and likely impacts of project activities were assessed, and corresponding environmental and social management issues were outlined. This step was conducted in accordance with the 10 Environmental and Social Standards (ESS) of the World Bank's Environmental and Social Framework (ESF).

Compilation of Thematic Reports

The final step involved the compilation of individual thematic reports into a comprehensive ESMF document. This document includes detailed checklists and guidelines for determining when Environmental

and Social Impact Assessments (ESIAs), Environmental and Social Management Plans (ESMPs), and Resettlement Action Plans (RAPs) will be necessary for specific project sites.

The structure of the Environmental and Social Management Framework (ESMF) is organized into several key chapters and sections, each addressing different aspects of environmental and social management within the framework of the project. Below is a brief description of the main chapters and sections:

Introduction:

This section provides an overview of the project, including its objectives, scope, and the rationale for developing the ESMF. It explains the importance of integrating environmental and social considerations into project planning and implementation.

Project Description:

This chapter outlines the components and activities of the project, including the construction of infrastructure, potential areas of impact, and the geographical locations where the project will be implemented.

Environmental and Social Regulatory and Policy Frameworks

This section reviews the relevant national and international legal frameworks, conventions, and policies applicable to the project. It includes a detailed discussion of the World Bank Environmental and Social Standards (ESS) and their relevance to the project.

Basic Environmental and Social Conditions

This chapter provides baseline information on the environmental and social conditions in the project areas. It includes data on climate, flora and fauna, land use, and the socio-economic characteristics of the local communities.

Assessment of Social and Environmental Risks and Impacts:

This section identifies potential environmental and social risks and impacts associated with the project. It includes an overview of these risks and proposes mitigation measures to address them. Specific topics covered include waste management, air pollution, noise, water pollution, biodiversity impacts, and community health and safety.

Rules and Procedures for Environmental and Social Assessment:

This chapter outlines the framework approaches to environmental and social assessment, detailing the processes for identifying, assessing, and managing risks. It also discusses the instruments required under national legislation and World Bank standards, such as Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs).

Implementation Structure of the ESMF

This section describes the institutional arrangements and responsibilities for the implementation of the ESMF. It includes details on the roles of various stakeholders, including the Project Implementation Units (PIUs), and the coordination mechanisms necessary for effective ESMF execution.

Monitoring and Reporting:

This chapter sets out the general requirements for monitoring and reporting on environmental and social safeguards. It explains the types of monitoring required, the objectives of these activities, and how monitoring results will be integrated into project documentation and decision-making.

Grievance Mechanism:

This section outlines the grievance redress mechanism (GRM) established for the project. It describes the procedures for stakeholders and affected parties to raise concerns or complaints and how these will be addressed at local, regional, and national levels.

Information Disclosure and Public Consultation:

This chapter explains the processes for public consultation and information disclosure. It details how stakeholders will be informed about project activities, how their input will be sought and incorporated, and the methods for ensuring transparency throughout the project lifecycle.

Annexes:

The annexes provide additional supporting documents, such as meeting minutes from public consultations, environmental and social screening checklists, and action plans for specific issues like COVID-19 protection.

Each of these chapters and sections is designed to provide a comprehensive framework for managing the environmental and social aspects of the project, ensuring that all potential impacts are identified, assessed, and mitigated effectively.

2. ENVIRONMENTAL AND SOCIAL REGULATORY AND POLICY FRAMEWORKS

This chapter describes the national and international legal framework that will apply to construction, modernization and operation, including the standards and policies applicable to the project.

2.1. National and international laws/conventions

Constitution of the Republic of Tajikistan. Guarantees exclusive state ownership of land, minerals, water, airspace, fauna and flora, and other natural resources and their sustainable use in the interests of all people (Article 13). Proclaims freedom of economic activity and private property, as well as the legal protection of all types of property, including private property (Article 12). Guarantees everyone the right to health and takes measures to improve the environment (Article 38). Imposes on everyone the duty to protect natural, historical and cultural sites (Article 44).

Relevance to REMIT: The project involves land acquisition and potential impacts on natural resources due to construction activities. These constitutional provisions are addressed in the Resettlement Policy Framework (RPF) and the Environmental and Social Management Framework (ESMF) to ensure the protection of property rights and sustainable resource use during implementation.

Law on Environmental Protection. This is the fundamental basic law regulating environmental protection. On June 22, 2011, the Parliament of the RT adopted a law (No. 485) replacing the old Law on Nature Protection of the RT (No. 905 of 27.12.1993) with amendments (No. 30, 10/2002; No. 75 2/12/2002; No. 58 15/4/2004). The Law defines the main objectives, principles and instruments of environmental protection in Tajikistan and proclaims the priority of environmental values in sustainable development of Tajikistan. Declares the right to a healthy environment (Article 10) and provides instruments for the realization of this right. It includes the right to environmental information (Article 11) and the right to public participation (Article 13). Provides a legislative framework for environmental regulation and establishes a system of state control over violations of environmental norms. Defines the state body for environmental protection. Provides economic mechanisms for environmental protection, including the obligation of enterprises to repair any damage caused to the environment and a system of payment for the use of natural resources and pollution. Provides a framework for setting environmental standards for maximum permissible concentrations of pollutants and the development of permits and emission limits. Establishes requirements for compensation for environmental damage from businesses and individuals (Section 16). Provides obligations on the use of environmental expertise for all potentially harmful activities, establishes scientifically proven principles of Tajikistan's environmental policy, which should prioritize environmental actions based on the combination of economic and other activities that have an impact on the environment with nature conservation and sustainable use of resources. Defines applicable legal principles, protected objects, competence and role of the Government, the Committee on Environmental Protection, local authorities, public organizations and individuals. It also provides for measures to ensure the rights of the public and individuals to a safe and healthy environment and requires a unified system of environmental expertise and environmental impact assessment of any decision on activities that may have a negative impact on the environment. The Law also defines environmental emergencies and environmental disasters and establishes the procedure for dealing with such situations, defines the duties of officials and enterprises to prevent and eliminate the consequences, as well as the liability of persons or organizations that have caused damage to the environment or otherwise violated the Law. The Law establishes several types of control over compliance with environmental legislation: state control, ministerial control, enterprise control and public control.

Relevance to REMIT: The environmental safeguards outlined in this law are integrated into the Environmental and Social Management Plan (ESMP), ensuring that all project activities comply with national environmental standards. Monitoring mechanisms in the ESMF align with this law's requirements for minimizing environmental impacts.

Law on State Environmental Expertise (No. 818 of 16.04.2012). The law replaced the old version (No. 20 of April 22, 2003). According to the law, all national and local projects, concepts, programs and schemes, which as a result of implementation require the use of natural resources and / or may adversely affect the environment, are subject to state environmental expertise. The law: regulates the general principles of environmental expertise. Defines the type and powers of environmental experts, including state and public environmental expertise. - Provides a list of activities subject to mandatory environmental expertise. Projects of republican and local levels, which may negatively affect the environment, are subject to state environmental expertise. - Provides procedures for submission and payment for environmental expertise and responsibility of the authorized state body (Article 18). Determines the schedule of environmental expertise. Decisions are made within 30 days after the documentation is accepted by the authorized state body. In the new version of the Law, the decision-making period is defined as 30 days after submission of project documentation; for complex projects, the period of project review is increased to 60 days. 22 Provision is made for public environmental expertise, which can be initiated by stakeholders, but the final decision is made by the state environmental expertise.

Relevance to REMIT: The REMIT project will be subject to this law for obtaining environmental clearances. The ESMP includes procedures for conducting environmental assessments in compliance with this law, and all necessary documentation will be submitted to the authorized state body for approval prior to construction.

Considering the type of project and its potential locations, sub-projects may require varying levels of environmental assessment depending on their specific characteristics and potential impacts. The timeline for obtaining environmental clearances will follow the legal requirements, with decisions made within 30 days after submission of project documentation to the authorized state body. For more complex projects, the review period may extend to 60 days. These timelines will be factored into the overall project schedule to ensure timely clearances, avoiding delays in the bidding process and the start of construction.

Law on Hydrometeorological Activities (December 2, 2002, No. 86) establishes the legal framework in the field of hydrometeorology in order to meet the needs of the state, individuals and legal entities in hydrometeorological information, as well as information on the state of the natural environment. The law defines organizational, legal and technical aspects of hydrometeorological activities, including the establishment and maintenance of an observation network, weather and climate forecasting, the study of the impact of natural phenomena on the environment, as well as the collection and dissemination of relevant information. The law defines the competence and responsibilities of relevant bodies and institutions, as well as the rights and responsibilities of citizens and legal entities in the field of hydrometeorological activities. (Article 5-7).

Relevance to REMIT: The project requires reliable hydrometeorological data for assessing potential climate-related risks. This data will be incorporated into the ESMF to inform environmental risk management strategies and construction planning.

Law on Environmental Monitoring (March 25, 2011 No. 707). The law defines organizational-legal, economic and social basis of environmental monitoring in the country. Defines goals, tasks, responsible persons and principles of environmental monitoring in Tajikistan. Introduces a unified system of environmental monitoring in the country and defines rules for the use of information resources. Defines the regulatory body and framework for public participation.

Relevance to REMIT: Environmental monitoring requirements under this law are incorporated into the ESMP to ensure continuous evaluation of environmental impacts during project implementation, with regular reporting to comply with national standards.

Law on Environmental Information (March 25, 2011, No. 705) is supported by Article 25 of the Constitution, which states that state bodies, public associations and officials are obliged to provide every person with the opportunity to receive and familiarize themselves with documents affecting their rights and interests, except in cases provided for by law. The law defines the legal, organizational, economic and social basis for the provision of environmental information and establishes the right of individuals and legal entities to receive complete, reliable and timely environmental information. Article 4 provides for the right of access to environmental information, and Article 8 defines the conditions for restricting access to environmental information (none of which should be relevant to this case).

Relevance to REMIT: This law supports the transparency and stakeholder engagement processes outlined in the Stakeholder Engagement Plan (SEP), ensuring that environmental information is accessible to affected communities and stakeholders throughout the project lifecycle.

Law on the Protection of Atmospheric Air (December 28, 2012, No. 915). The Law was adopted in December 2012 and replaced the old version of February 1, 1996. The Law: provides a legislative basis for atmospheric air protection defines the purpose and objectives and basic principles of atmospheric air protection. Defines the objects and subject of atmospheric air protection and provides general principles of classification of air pollution sources and pollutants. Defines the responsibility for regulation and management of atmospheric air protection issues at different levels of management. Introduces economic mechanisms for air protection, including mandatory payments for the discharge of pollutants into the atmosphere and incentives for air protection measures. The fee for exceeding the permissible amount of pollutants is increased by 5 times. Provides regulatory requirements for the promulgation of science-based air quality standards, including maximum allowable concentrations (MACs) and discharge permits for air pollutants, and air protection requirements for various conditions. Any facility affecting ambient air quality must obtain a special air pollution discharge permit. Includes provisions on ozone layer protection and transboundary air pollution control. Provides requirements for statistics, inventory, reporting of air pollutants and monitoring of air pollution activities. Any enterprise with stationary and mobile sources of air pollution is required to submit for approval a report on maximum permissible emissions (emission limits) from the enterprise's activities based on an inventory of all proposed emission sources and calculation of pollutants. The former Soviet Union standards for air pollutants "Integrated Air Quality Standards I and Part II (Dushanbe, 1991)" are still in use in Tajikistan. According to Article 18, the planning of any construction works related to air pollution should take into account the best available information provided by the relevant authority on: (i) background pollution levels; (ii) existing ambient air quality standards and discharges. The design and construction of facilities that may significantly adversely affect air quality is prohibited. The Law prescribes that all natural and legal persons are obliged to take necessary measures to prevent adverse effects of noise, vibration, electromagnetic fields and other sources of threat to the environment, and human health.

Relevance to REMIT: The project involves construction activities that may contribute to air pollution. Air quality management measures are detailed in the ESMP to comply with emission standards and minimize impacts on local air quality.

Subsoil Law (July 20, 1994, No. 983) establishes the legal framework for the study, protection and utilization of subsoil resources. Commonly occurring minerals such as sand, clay, gravel and others may be used in their natural state, with minor processing and purification, to meet local economic needs without any other authorization. Article 15 grants land rights owners the right to mine common minerals to a depth of up to five meters, without blasting.

Relevance to REMIT: The use of subsoil resources, such as sand and gravel for construction, must comply with this law. The ESMF ensures that subsoil usage is conducted sustainably and in line with legal requirements.

Law on Production and Consumption Waste (May 10, 2002, No. 44). The law establishes responsibility for proper waste management to waste generators and requires proper supervision and monitoring of waste generation and disposal activities. During the design, construction and operation of sites,

structures or other facilities, individuals and legal entities are responsible for compliance with established waste management procedures and standards.

Relevance to REMIT: Waste management procedures in the ESMP will adhere to this law to ensure proper disposal and recycling practices, minimizing environmental harm from construction activities.

Grazing Law (June 20, 2019, No.1618) defines the basic principles of pasture utilization, including protection of pastures and the environment, attraction of investments for more efficient use and protection of pastures. The law defines the powers of local administrations to control environmental safety and use of pastures in accordance with state norms and standards. The law prohibits several activities on pastures, such as cutting down trees or shrubs, road construction, misuse of pastures, pollution of the environment with waste and grazing in excess of the established norm. The law obliges users to ensure effective utilization of pastures, including their protection from degradation and pollution.

Relevance to REMIT: The project will avoid unnecessary disturbances to grazing lands, with mitigation measures in the ESMP to protect these areas from degradation during construction.

Law on Wildlife (January 5, 2008, No. 354) regulates public relations in the field of protection, restoration and reasonable use of the animal world. The law establishes legal, economic and social basis for the development of this sector and is aimed at the conservation and restoration of wildlife resources. The law defines measures on protection and rational use of animals, their habitat, and also establishes responsibility for violations in the field of protection and restoration of biodiversity. The law provides mechanisms of control over observance of legislation in the sphere of wildlife protection and principles of cooperation with international organizations and states in this field.

Relevance to REMIT: The project may impact local wildlife habitats. Measures for biodiversity conservation, aligned with ESS6, are incorporated into the ESMP to mitigate these effects.

Law on Fish Farming, Fishing and Protection of Fishery Resources (July 19, 2022 No. 1892) regulates social relations in the sphere of fish farming, fishing and protection of fish resources. The law determines the provision of the population with access to fish and fish products, as well as the conservation and sustainable use of fish resources. The law establishes the legal and organizational framework for the development of the fishery, regulates the activities on cultivation, catching and processing of fish, as well as measures for the protection of aquatic bioresources and their habitat.

Relevance to REMIT: Any project activity near water bodies will include measures in the ESMP to prevent harm to aquatic ecosystems and comply with national fisheries protection standards.

Law on providing fortified food products to the public (July 19, 2019, #1635) regulates social relations in the sphere of providing the population with food products enriched with necessary micronutrients. The law establishes the organizational and legal basis for the prevention of micronutrient deficiency and related diseases. The law is aimed at improving the quality of nutrition and the health of citizens through the use of food products enriched with essential vitamins and minerals. The law defines measures to control the content of micronutrients in foodstuffs and their provision to the population.

Relevance to REMIT: While the primary focus of the REMIT project is on energy infrastructure, ensuring food safety and proper nutrition for workers at construction sites aligns with occupational health and safety standards outlined in the Labor Management Procedures (LMP). This law is relevant for regulating the nutritional standards of food provided to workers, ensuring their health and well-being.

Law on Assemblies, Rallies, Demonstrations and Street Processions (December 31, 2014, No. 1169). Article 10 prohibits persons with a criminal record for administrative offences (i.e. not criminal offences) under Articles 106, 460, 479 and 480 of the Code of Administrative Offences from organizing assemblies. Article 12 of the law stipulates that organizers must obtain a permit fifteen days before organizing a mass event.

Relevance to REMIT: While not directly related to construction, compliance with this law will be ensured if public demonstrations occur in response to project activities. Procedures in the Stakeholder Engagement Plan (SEP) will address community grievances and minimize risks of unrest.

Law on the Self-Governments of Villages and Towns (August 5, 2009, No. 549) Gives jamoats a wide range of powers and a mandate to support community efforts to address local socio-economic needs.

Relevance to REMIT: The project will collaborate with local self-governing bodies to engage communities and ensure that project benefits are distributed equitably, as outlined in the SEP.

Law on Dekhkan (Farmer) Farming (March 15, 2016, No. 1289) provides a legislative basis for the establishment and functioning of private dekhkan farms. Whereas, according to the 2009 Law, dekhkan farms were economic entities operating without forming a legal entity, the new Law allows dekhkan farms to obtain the status of a legal entity. It also clarifies and consolidates the rights of dekhkan farm members as land users. The Law improves the management of dekhkan farms and defines the rights and obligations of their members. It allows farmers to legally erect field camps on land as temporary buildings, which allows for a significant increase in labor productivity during the agricultural season. The law obliges dekhkan farms to take measures to improve soil fertility and the ecological condition of land, to make timely payments for water and electricity, and to provide statistical information to the state authorities.

Relevance to REMIT: The project may affect dekhkan farms through land acquisition or temporary use during construction. The Resettlement Policy Framework (RPF) will ensure that these impacts are managed through fair compensation and restoration of livelihoods for affected farmers.

Law on Industrial Safety of Hazardous Production Facilities (February 28, 2004, No. 14) establishes the legal, economic and social basis for ensuring safe operation of hazardous production facilities. The law is aimed at preventing accidents and incidents at facilities, as well as the readiness of organizations operating hazardous production facilities to localize and eliminate the consequences of possible accidents.

Relevance to REMIT: The construction and modernization of substations and transmission lines involve potential industrial hazards. The Environmental and Social Management Plan (ESMP) includes safety measures aligned with this law to prevent accidents and ensure readiness for emergency situations.

Food Safety Law (August 1, 2012, No. 890) regulates social relations in the sphere of ensuring food safety in the country. The law defines measures for protection of life and health of people, protection of interests of consumers, ensuring safety of fauna and flora, as well as protection of the environment. The law establishes rules and norms concerning production, storage, transportation and realization of food products in order to exclude risks for human health and possible negative consequences for the environment.

Relevance to REMIT: This law ensures that food provided at construction sites meets safety standards, protecting workers' health as per the LMP. Additionally, it is relevant for managing the potential impact of construction on local food supply chains.

Radiation Safety Law (August 1, 2003, No. 42) establishes the objectives of regulating relations related to ensuring radiation safety. Its purpose is to protect the life, health and property of citizens**,** as well as the environment from the harmful effects of ionizing radiation. legislation in this area.

Relevance to REMIT: While direct radiation risks are unlikely, the modernization of energy infrastructure, particularly substations, may involve equipment that emits low-level radiation. Safety protocols in the ESMP will ensure compliance with this law.

Law on Veterinary Medicine (December 29, 2010, No. 674) establishes legal, social, organizational, financial and economic bases of veterinary activity. The provisions of the law ensure veterinary and sanitary welfare and control of the epizootic situation, protection of the population from diseases that can be transmitted from animals to humans, as well as ensuring the safety of products of animal and plant origin, veterinary preparations, fodder and feed additives for animals. The law determines the procedure for registration of veterinary preparations, control over their use, as well as measures to prevent

the spread of infectious animal diseases and control over the safety of animal products and raw materials. (Article 1)

Relevance to REMIT: Construction activities may affect livestock health in rural areas. The ESMP will incorporate measures to prevent the spread of diseases and protect local livestock, in line with this law.

Law on quarantine and plant protection (2 January 2019, No. 1567) defines legal, organizational and economic basis in the field of quarantine and plant protection. The law defines the implementation of quarantine and phytosanitary measures to prevent the spread of pests and plant diseases, ensure the safety of agricultural products, protect human, animal and environmental health. The law establishes measures to control the movement of plants, introduces requirements for quarantine and protection measures, and determines the procedure for the use of plant protection means.

Relevance to REMIT: The project may involve the movement of soil and plant materials, which could spread pests. The ESMP includes measures to prevent such risks, ensuring compliance with this law.

Law on Public Associations (May 12, 2007, No. 258) determines that a public association may be formed in one of the following organizational and legal forms: a public organization, a public movement or a public initiative body. Article 4 of this law establishes the right of citizens to form associations for the protection of common interests and the achievement of common goals. It refers to the voluntary nature of associations and defines the right of citizens to refrain from joining and leaving an organization. This legislation requires NGOs to notify the Ministry of Justice of all funds received from international sources before utilizing those funds and to post financial information on their websites.

Relevance to REMIT: This law is relevant for stakeholder engagement activities. The Stakeholder Engagement Plan (SEP) will ensure collaboration with local NGOs and public associations, particularly for community consultations and grievance redress mechanisms.

Health Code of the Republic of Tajikistan (May 30, 2017, No. 1413) specifies in Article 31 the concept of sanitary-epidemiological expertise, which establishes compliance of project documentation and economic activities with state sanitary-epidemiological norms and rules, and strengthened provisions on sanitary-hygienic, anti-epidemic and information measures. These include noise restrictions to be applied to the project.

Relevance to REMIT: The ESMP will incorporate health and safety standards from this code, including noise restrictions and sanitary requirements at construction sites to protect both workers and nearby communities.

Water Code of the Republic of Tajikistan (April 2, 2020, No. 1688) establishes policies on water management, licensing, dispute resolution, use planning and cadaster. The Code promotes rational use and protection of water resources by all beneficiaries and defines types of water use rights, powers and roles of regional and local authorities for water allocation among different users, collection of fees, water use planning, water use rights and dispute resolution. The Code empowers water users' associations to operate and maintain on-farm irrigation and drainage infrastructure.

Relevance to REMIT: The project's construction activities may impact local water resources. The ESMP will include measures to manage water use and prevent contamination, ensuring compliance with this code.

Forest Code (August 2, 2011 No. 761) regulates forest relations and is aimed at creating conditions for the rational use of forests, including their conservation and protection. The Forest Code requires approval by the Forest Agency of construction sites that will affect forests, which are defined as forest areas with an area of at least 0.5 hectares and a width of at least 10 meters that are of environmental, social and economic interest to the state. The project must include measures to protect forests from sewage, waste, emissions, etc. The project will not affect an area large enough to be considered a "forest" within the meaning of the law.

Relevance to REMIT: While the project is not expected to significantly affect forest areas, any potential impacts will be managed in line with this code through the ESMP, ensuring protection of nearby forested areas and compliance with national regulations.

Land Code (December 13, 1996). The Constitution of the Republic of Tajikistan establishes exclusive state ownership of land. The Land Code (1996, last amended 2023) establishes rules governing the granting and termination of rights to use (or lease) land. Land use rights may be primary or secondary. Primary use rights include perpetual use, limited or fixed-term use for up to 20 years, and lifetime inheritable possession. The only secondary use/right is the right of lease, again for a period of up to 20 years. The Land Code establishes seven categories of land use, including agricultural, urban/populated, industrial and other infrastructure, conservation and other protected lands, state forest/tree reserves, water reserves, and state land reserves. Of most interest here are the first three, plus water reserves. Article 38 of the Land Code sets out the rules of state grounds for withdrawal of land for state or public needs. The Regulation on Compensation of Losses of Land Users and Losses of Agricultural Production was approved by the Resolution of the Government of the Republic of Tajikistan No. 641 (December 30, 2011).

Relevance to REMIT: The project involves land acquisition, and the Resettlement Policy Framework (RPF) ensures compliance with this law by providing fair compensation and livelihood restoration for affected communities.

Labor Code (July 23, 2016, No. 1329) prohibits forced labor and child labor. Article 8 of the Labor Code prohibits forced labor. The Labor Code establishes the minimum age at which a child may be employed and the conditions under which children may work (Article 21). The minimum age for employment is 15 years, but in some cases of vocational training, light work may be authorized for 14-year-olds (art. 21). In addition, there are some restrictions on the types of work that workers under the age of 18 can perform and on the length of working hours. Examples of labor restrictions are that persons between 14 and 16 years of age cannot work more than 24 hours per week and persons under 18 years of age cannot work more than 35 hours per week; during the school year, the maximum number of hours is half that, 12 and 17.5 hours respectively.

Relevance to REMIT: The Labor Management Procedures (LMP) will ensure that project employment practices comply with this law and ESS2 requirements, promoting fair working conditions and prohibiting child or forced labor.

Code of Administrative Offenses (19.05.2009 № 513)establishes administrative responsibility of organizations, their officials and individuals for a number of violations, including negligent treatment of land, violation of water use rules or water protection zones, or non-compliance with GEO. Administrative sanctions for environmental violations can be imposed by hukumat administrative commissions, courts, CEP inspectors, veterinary inspectors of the Ministry of Agriculture, and the State Committee on Land Management and Geodesy. The most common administrative penalty is a fine of up to 10 minimum monthly salaries for individuals and up to 15 minimum monthly salaries for officials of organizations. The 1998 Criminal Code also covers offenses against environmental safety and the environment, such as violations of environmental safety at work, poaching and land spoilage, and violations of rules for the protection and use of subsurface resources.

The project is guided by the World Bank's ESS framework, which complements national and international regulations. Key standards include ESS3 on pollution prevention and ESS6 on biodiversity conservation

Relevance to REMIT: The project's ESMP outlines compliance mechanisms to avoid administrative penalties by ensuring adherence to environmental standards throughout construction and operation.

2.2. International obligations

In addition to national legislation and regulations on environmental issues, Tajikistan is also a party to a number of international treaties dealing with environmental issues:

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (2016)

- United Nations Convention to Combat Desertification (1997);

- Rotterdam Convention on the Prior Informed Consent (PIC) procedure of September 28, 1998, ratification pending

- UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (acceded in 1992).

- Convention on International Trade in Endangered Species of Wild Fauna and Flora, 2016.

- Aarhus Convention (UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters) (acceded 2001) with updates to the Kiev Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information, May 21, 2003

- Stockholm Convention on Persistent Organic Pollutants (ratified in 2007) with updates

- UN Framework Convention on Climate Change, 1998, with corresponding update to the Kyoto Protocol, adopted on December 29, 2008 and entered into force on March 29, 2009

- Bonn Convention on the Conservation of Migratory Species of Wild Animals (acceded in 2001) with updates to the Bukhara Deer Memorandum 2002

- Ramsar Convention (acceded in 2000)

- UN Convention on Biological Diversity (CBD) 1997 with updates to the Cartagena and Nagoya Protocols

- UN Convention to Combat Désertification (BWC) 1997

- Vienna Convention for the Protection of the Ozone Layer 1996 with updates.

In addition, Tajikistan has ratified a number of core labor standards of the International Labor Organization, including the following:

- Forced Labor (C029) and Abolition of Forced Labor (C105)
- Minimum age (C138) and worst forms of child labor (C182)
- Discrimination (C111)
- Freedom of association and the right to organize (C087)
- Right to organize and bargain collectively (C098)
- Equal pay (C100)

2.3. World Bank Environmental and Social Standards

2.3.1. Environmental and social framework

The World Bank Environmental and Social Framework (ESS) includes the Environmental and Social Policy for Investment Project Financing, which describes the requirements the Bank must follow for projects it supports through investment project financing, and the 10 Environmental and Social Standards (ESS), which sets out requirements for borrowers and grantees to identify, assess, and monitor the environmental and social risks and impacts of Bank-supported projects. The Project will comply with the World Bank Group Environmental, Health, and Safety (EHS) Guidelines, which are mandatory for linear infrastructure projects, including transmission lines and associated facilities. These Guidelines provide industry-specific examples of Good International Industry Practice (GIIP) and outline measures to address environmental, health, and safety risks across various sectors.

Key aspects of the EHS Guidelines relevant to the Project include:

- General EHS Guidelines: Covering topics such as air emissions and ambient air quality, energy conservation, water quality, and hazardous materials management.

-EHS Guidelines for Electric Power Transmission and Distribution: Providing specific guidance on managing risks associated with transmission line projects, such as electromagnetic fields (EMFs), hazardous material handling (e.g., transformer oils), and community safety measures.

Adherence to these Guidelines is critical for ensuring compliance with international best practices and minimizing risks to the environment, workers, and communities during project implementation. Contractors and Project Management Units (PMUs) will be required to incorporate the relevant EHS measures into their plans and operations, with regular monitoring to ensure compliance. The ESS include:

ESS	Description
ESS1: Assessment and management of environmental and social risks and impacts	The Bank requires assessment and management of environmental and social risks and impact of projects under Bank financing to ensure that they are environmentally sound and sustainable. ESS1 suggests adopting mitigation hierarchy approach to anticipate and avoid risks and impacts, where avoidance is not possible minimize the risks and impacts to acceptable level and compensate for significant residual impact where techno-economically viable. This would require various tools like ESIA, Environment Audit, Hazard and Risk Assessment, Social and Conflict analysis, Environmental & Social Management Plan (ESMP), Environmental & Social Management Framework (ESMF), Strategic Environmental & Social Assessment (SESA), Environmental & Social Commitment Plan (ESCP) and subsequently monitoring and reporting the issues depending on the complexity of the project. The level of assessment required would be determined by a screening and scoping exercise.
ESS2: Labor and Working Conditions	The ESS 2 on Labor and working condition requires promoting worker-management healthy relationship, developing strategies to improve working condition like fair treatment of workers and vulnerable groups that are involved in the project and preventing all forms of forced and child labors. This standard is applicable to project workers including full time, part time, temporary, contractual and migrant worker. This standard helps to monitor health of the worker, working condition, hours of work and other necessary requirements including grievance mechanism and measures related to Occupational Health and Safety and shall be complied in accordance with ESS.
ESS3: Resource Efficiency and Pollution Prevention and Management	ESS 3 promotes the sustainable use of resources (i.e. Energy, Water, Raw Materials) by identifying, avoiding or minimizing adverse impact both long term & short term caused by different pollutants on Health and Environment. The Standard also includes both Hazardous and Non-hazardous Waste Generation through minimizing and managing risks associated during entire life cycle of the Project.
ESS4: Community Health and Safety	The ESS 4 on Community Health and Safety recognizes the exposure to risks and impacts that may cause due to project activities. Therefore, anticipating and avoidance of adverse impact on communities affected by the project from both routine and non-routine circumstances should be done. Accordingly designs & constructions to be modified that will ensure quality and safety to the community in conformance with climate change. Comprehensive Risk Hazard assessment and

	emergency action plan should be prepared in coordination with local authorities and affected communities.
ESS5: Land Acquisition, Land Use Restrictions and Involuntary Resettlement	The ESS 5 emphasizes for avoidance or minimization of involuntary resettlement or forced eviction to the extent it is feasible by exploring all viable alternative project designs. Where involuntary resettlement is not viable, appropriate mitigation will be taken in accordance to sustainable development programs to alleviate the adverse impacts on displaced persons by providing timely compensation and at-least restoring their livelihood and improving their living standard to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. The Resettlement activities shall be executed by providing sufficient investment for displaced person who will be directly benefitted for the project and they should be meaningfully consulted and should have opportunities to participate in planning and implementation of resettlement programs.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	This ESS affirms World Bank's commitment to protect and support conservation of biodiversity and natural habitat, application of mitigation hierarchy, designing and implementation of remedial measures that affects biodiversity. Sustainable management of the project should be done to provide benefit and to minimize damaging effects of the project as the bank does not support projects that involve significant conversion or degradation of critical natural habitats. This policy ensures the need to support livelihood of local communities through adoptive practices that can integrate conservation and development of the project area.
ESS7: Indigenous Peoples/Historically Disadvantaged Traditional Local Communities of Sub-Saharan Africa	Not applicable as such communities or people cannot be affected by the project.
ESS8: Cultural Heritage	The ESS 8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. The objective of the standard is to integrate sustainable development and protection of cultural heritage from adverse impact of the project by providing meaningful consultation and promoting equitable share of benefits with reference to the PCR. This standard tries to preserve Physical Cultural Resources (PCR) and in avoiding their destruction or damage. PCR includes resources of archaeological, paleontological, historical, architectural, and religious (including graveyards and burial sites), aesthetic, or other cultural significance. Accordingly, this standard sets out measures designed to protect cultural heritage throughout the project life cycle.
ESS9: Financial Intermediaries	Not applicable as bank financing is not made available to financial institutions for further lending.
ESS10: Stakeholder participation and information disclosure	This standard requires Stakeholder Engagement Plan (SEP) for projects under Bank financing for open and transparent engagement with project stakeholders to

	improve the environmental and social sustainability of project. The effective SEP helps to identify the main stakeholders of the project and mechanism for public consultation and information disclosure as well as grievance redressal system.

Table1. ESS WB.

World Bank's Environmental and Social Risk Classification

The World Bank's Environmental and Social Risk Classification for the project is rated as **Substantial Risk**, reflecting the scale of construction activities, such as the 500 kV transmission line and substation modernization, and their associated environmental and social impacts. While risks include land acquisition, biodiversity impacts, and community health and safety concerns, these are considered manageable through the mitigation measures outlined in the ESMF, RPF, SEP, and other supporting documents. The Environmental, Health, and Safety (EHS) Guidelines, referenced in the Environmental and Social Management Plan (ESMP), further ensure alignment with best practices and robust risk management. For more details on the EHS Guidelines, refer to World Bank EHS Guidelines.

Gap Analysis of ESS with National laws/regulations

ESS & Topic	Major Requirements	Key Requirements/Gaps in Tajikistan Legal Framework	Action proposed to address such gaps?
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	**Scope of application:** ESSs apply to associated facilities under Borrower's control/influence	**Gap:** Associated facilities are not specifically covered under Tajikistan law, except that all activities in Tajikistan are subject to national laws.	Develop project-specific Environmental and Social Management Plans (ESMPs) that include associated facilities and cumulative impacts. Ensure ESMPs align with Good International Industry Practices (GIIP) and the World Bank Environmental, Health, and Safety Guidelines (EHSGs).
	Borrower's E&S Framework: May use Borrower's framework if it meets the objectives of ESSs	**Gap:** Tajikistan's framework does not fully meet ESS objectives; World Bank ESSs must apply alongside national requirements, provided they do not conflict or are weaker.	
	E&S Assessment: Conduct E&S assessment including stakeholder engagement, international expert(s) for high-risk projects, apply national framework, ESSs, EHSGs, and GIIP	**Gap:** Tajikistan's ESIA law places less emphasis on social conditions and impacts. There is no specific reference to international experts, EHSGs, or GIIP. Additionally, provisions for vulnerable groups and offsets are lacking.	
ESS 2: Labor and Working Conditions	**Scope of application:** Applies to direct workers, contracted workers, community workers, and primary supply workers	**Consistent:** Labor Code applies to all workers, including foreign workers. However, requirements focus on the employer and may not extend to contractors.	Establish a project-specific Labor Management Procedure (LMP) that includes a workers' grievance redress mechanism and detailed OHS measures in compliance with international standards.
	Working Conditions: Written labor management procedures, terms and conditions of employment, nondiscrimination, worker's organizations	**Consistent:** But lacks specificity in terms of requirements for contractors and subcontractors.	

	Protecting the Workforce: Prohibits child labor except under regulated community-based circumstances	**Gap:** The minimum employment age in Tajikistan is 14, with restrictions consistent with ILO, but no work that could "cause health or moral damage" if under 18.	
	Grievance Redress Mechanism (GRM): GRM for direct and contracted workers	**Gap:** No specific requirement for grievance mechanisms for workers in national law.	
	Occupational Health and Safety (OHS): Apply general and sector-specific EHS Guidelines	**Gap:** Tajikistan law is generally consistent but lacks detail on worker accommodations and monitoring performance.	
ESS 3: Resource Efficiency and Pollution Prevention and Management	**Resource Efficiency:** Apply feasible resource efficiency and pollution prevention measures following mitigation hierarchy	**Partial Gap:** National laws cover some aspects of resource efficiency but lack specificity in relation to international best practices.	Incorporate GHG emissions monitoring and pollution prevention plans in the ESMPs. Ensure contractors adhere to EHSGs for air, water, and soil quality during project implementation.
	Water Use: Assess water use and impacts, adopt mitigation measures	**Consistent:** Permits are required for water usage, but there are no specific international guidelines.	
	Pollution Prevention: Apply mitigation hierarchy to waste management and control pollutants	**Consistent:** Tajikistan law includes specific numeric limits for pollution but lacks enforcement mechanisms for verifying contractor compliance.	
ESS 4: Community Health and Safety	**Community Health & Safety:** Evaluate risks to communities, consider third-party risks, apply mitigation hierarchy, GIIP, and traffic/road safety	**Gap:** National law addresses community risks but lacks detailed requirements for ecosystem services and emergency preparedness.	Include community health and safety measures in the ESMPs, such as traffic management plans, public awareness campaigns on safety around transmission lines, and monitoring of electromagnetic fields (EMFs) in compliance with international standards.
ESS 5: Land Acquisition, Restrictions on Land	**General:** Design project to minimize displacement, provide replacement cost, offer land-for-	**Gap:** Tajikistan law only compensates those with legal claims to land. There is no provision for compensation to illegal users or restoration of livelihoods.	Develop a Resettlement Policy Framework (RPF) aligned with ESS 5, ensuring compensation for informal land users based on replacement cost and inclusion of livelihood restoration programs.

Use and Involuntary Resettlement	land, pay compensation before displacement		
	Displacement: Detailed requirements for physical and economic displacement, livelihood restoration	**Gap:** Tajikistan law provides compensation for lost profits but does not address livelihood restoration.	
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	**Biodiversity Conservation:** Consider direct, indirect, and cumulative impacts in E&S assessment, manage risks through GIIP and mitigation hierarchy	**Gap:** National law requires biodiversity protection but is less detailed in terms of differentiated habitats and offsets.	Conduct detailed biodiversity impact assessments for all project areas and integrate mitigation strategies, such as habitat restoration and species relocation plans, into the ESMPs.
ESS 8: Cultural Heritage	**General:** Assess and avoid impacts on cultural heritage, follow chance find procedures, consult stakeholders	**Gap:** National law provides general protection of cultural heritage but lacks a specific requirement for chance find procedures.	Include a Chance Finds Procedure in the ESMPs, outlining steps to identify, protect, and report discoveries of cultural heritage in compliance with ESS 8.
ESS 10: Stakeholder Engagement and Information Disclosure	**Stakeholder Engagement:** Engage stakeholders throughout the project lifecycle, provide information, maintain documentation	**Gap:** No formal requirement in Tajikistan law for a Stakeholder Engagement Plan (SEP), though early disclosure of information is required.	Implement a robust Stakeholder Engagement Plan (SEP) that includes continuous engagement activities, accessible grievance mechanisms, and regular updates to stakeholders throughout the project lifecycle.

World Bank Group Environmental, Health and Safety (EHS) Guidelines are essential technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These Guidelines are mandatory for all linear infrastructure projects, including transmission line (TL) projects, as per World Bank Environmental and Social Standards (ESS). The EHS Guidelines provide critical guidance for addressing environmental, health, and safety risks, ensuring compliance with international best practices.

The General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines, which offer sector-specific guidance on managing EHS issues. For TL projects, the Industry Sector EHS Guidelines for Electric Power Transmission and Distribution will be particularly important, addressing key risks such as electromagnetic fields (EMFs), hazardous materials, and community safety.

The EHS Guidelines will be applied throughout the project lifecycle to train Project Management and Executive Management staff, as well as to monitor and evaluate the environmental and social performance of the project. Their adherence is critical for ensuring the safety of workers, communities, and the environment

3. ENVIRONMENTAL & SOCIAL BASELINE

The project area is represented by 5 districts: Tursunzade, Hissar, Shahrinav, Varzob, Rudaki. Forms for the preliminary analysis are provided in Annex 5.

Tursunzade district. The population of the district is 327.5 thousand people as of the beginning of 2022. The city of Tursunzade was formed on January 19, 1935 simultaneously with the formation of the district and is considered one of the big cities of Tajikistan, as on its territory there is a giant aluminum plant "TadAZ". Until 1977 the city (district) was called "Regar", and in 1978 it was renamed to Tursunzade in honor of the Tajik poet and hero - Mirzo Tursunzade. Tursunzade district is located between Shahrinav district to the east, north and south, and Surkhandarya province of the Republic of Uzbekistan to the west. The map coordinates are 38°30'39" north latitude and 68°13'49" east longitude. The territory of Tursunzade district is 1.2 thousand square kilometers. The length of the district is 75 km and the width is up to 25 km.

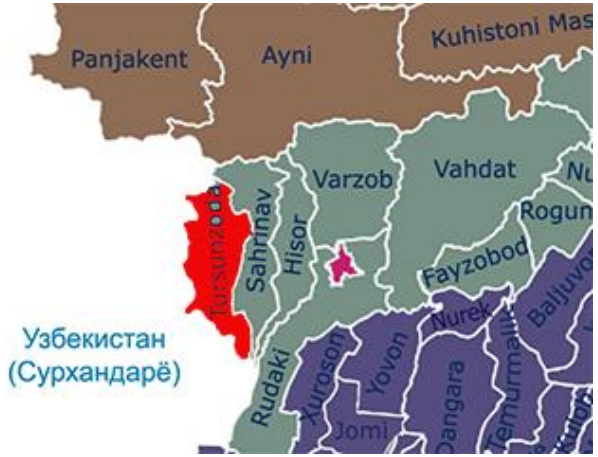


Figure2. Map of Tursunzade district

The Tursunzade district includes 1 city 1 urban-type settlement and 9 rural communities:

Ruralcommunity	Population
cityTursunazde	275315
cityTuychiev	31122
Ch.Rakhmonov	43846
Karatog	45979
Regar	24554
Robat	17627
10 solagiyatIstikloliyat	38734
Navobod	44272
Pakhtaobod	11747

Seshanbe	17434

Table2.Состав района Турсунзаде

Rudaki district. District of republican subordination, administrative-territorial unit of the Republic of Tajikistan. Rudaki district is located in the Hissar valley of Tajikistan. In the north and northeast, it borders with 4 districts (Varzob, Hissar, Shahrinav and Vahdat). In the west - with Surkhandarya region of Uzbekistan, in the south and east - with 4 districts (Kubodiyon, Dusti, Khuroson and Yavan) of Khatlon region of Tajikistan. The administrative center of Rudaki district is Somoniyon settlement, located 17 km to the south (railway station) of the capital of Tajikistan - Dushanbe city, at the northern foot of the Rangon mountain massif (Rangon-Tau), 3 km from the Kafirnigan river, a right tributary of the Amu Darya River, flowing through the Hissar valley. Population - 395,100 people. The area is 1.8 thousand km².

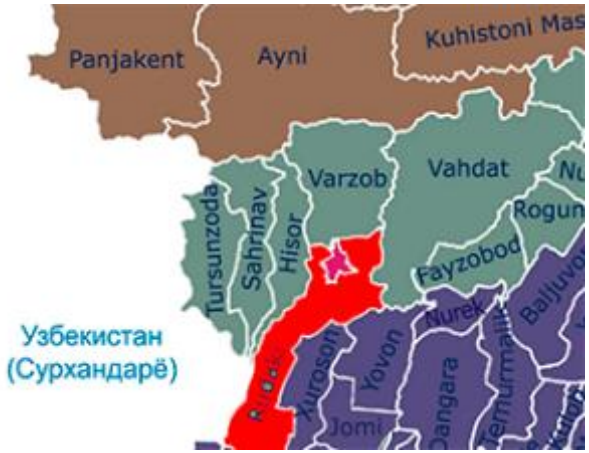


Figure3. Map of Rudaki district

Rudaki district includes 3 urban-type townships - Somoniyon, Navabad and Mirzo Tursunzadeh - and 13 rural communities:

Ruralcommunity	Population
Mirzo Tursunzade, urban-type settlement	26720
Navabad, urban-typesettlement	9055
Somonyon, urban-typesettlement	28702
Guliston	34112
Zainabobod	47667
Kiblai	19684

Lohur	26638
Rohati	43131
Russia	31030
Sarikishti	10349
Sultonobod	20755
Chimteppa	45221
Chorgulteppa	55216
Chorteppa	25412
Choryakkoron	28846
Esanboy	23771

Table3. Composition of the Rudaki district

Hissar district. It was formed on January 29, 1932. In 1939-1951 it was a part of Stalinabad oblast. The district center is the town of Hissar (Tajik. Ҳisor), located 26 km west of Dushanbe city. Hissar is located in the Hissar valley. In the north it borders with Ayni district of Sughd region, in the west - with Shahrinav district, in the south - with Rudaki district, in the east - with Varzob district. Hissar is crossed from north to south by the Khanaka River (Tajik. Khonakoҳ). Its total area is 1.0 thousand km² and its population is 338,500 people.

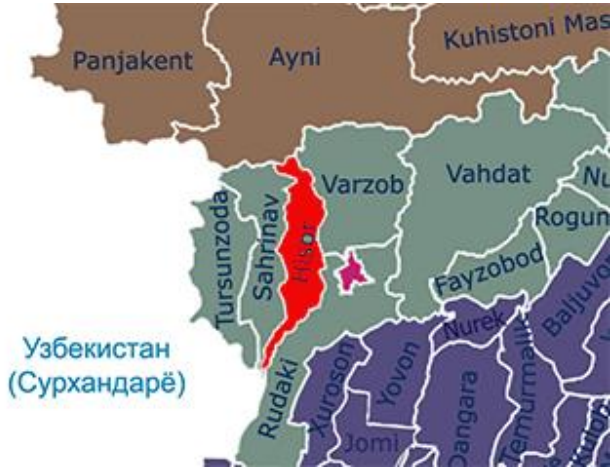


Figure4. Map of Hissar district

Hissar consists of 1 town (Hissar proper), 1 settlement (Sharora) and 8 rural communities:

Ruralcommunity	Population
Hissar, urban-typesettlement	319444
Sharora, urban-typesettlement	19722
Almosi	25660
GornayaKhanaka	33922
Hissar	44066
Dehkanabad	26976
Durbat	26346
MirzoTursunzoda	25545
MirzoRizo	35426
Navabad	34897
Somon	36641

Table4. Composition of Hissar district

Varzob district. The district center is Varzob village, located 25 km north of Dushanbe city. Varzob district is located in the Hissar valley, adjacent to the northern border of Dushanbe city. In the north it borders with Ayni district of Sughd region, in the west - with Hissar district, in the south - with Rudaki district, in the east - with Vahdat district. Varzob district is crossed from north to south by the Varzob River (Tajik. Varzob). The area of the district is 1,671 km² and the population is 90,900.

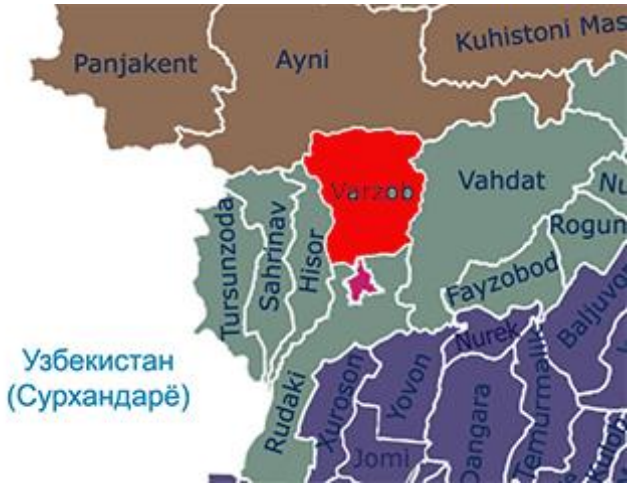


Figure5. Map of Varzob district

Varzob district includes 1 urban-type settlement - Tacob, 6 rural communities and 75 rural settlements:

Ruralcommunity	Population
Tacob, urban-typesettlement	93220
Aini	16328
Varzobkala	12448
Dehmalik	7880
Zideh	7602
Luchob	8407
Chorbog	37405

Table5. Composition of Varzob district

Shakhrynava district. Although most of the territory of the district is occupied by mountains, it is not included in the list of mountainous areas of Tajikistan. The highest point of the district is in the northern part, in the Hissar Ranges. In the middle of the district runs the Hissar Valley, which is considered a plain and is more suitable for agricultural land. The district has one river called Karatag. Also in the middle of the district runs the large Hissar Canal. Shahrinav district is the oldest district of Tajikistan. In the year of its formation in 1927, there were not yet Tursunzadev and Hissar districts. That is, in Soviet times the territory of Shahrinav district was the largest and directly bordered the city of Dushanbe. During the 20th century, Shahrinav district was reorganized several times. The last time Shahrinav district was reorganized was in 1992, separating it from Hissar district. Karatag village and Chuzi village are considered to be the historical places of Shahrinav rayon, which are currently the largest. The area of the district is 1696 km² and the population is 124.6 thousand people.

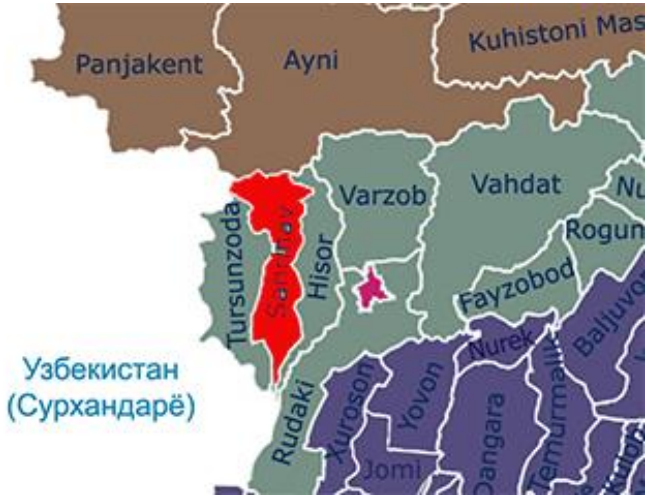


Figure6. Map of Shakhrinsky district

Shahrinav district includes 1 urban-type settlement and 6 rural communities:

Ruralcommunity	Population
Mirzo Tursunzade, urban-type settlement	12274
Shahrinav	14256
Sabo	19881
Chust	22315
Istiklol	17633
Bogiston	11763
A. Hasanov	33673

Table6. Composition of Shakhrinavsky district

Key indicators of the districts:

№	District.	Population/thousand (for 2022)	Number of births/thousand (for 2022)	Number of deaths/thousand (for 2022)	Major environmental and social problems
1.	Tursunzade	327,5	3384	193	- Unemployment; - Lack of access to clean drinking water; - Soil pollution from industrial emissions; - Climate change with worsening agricultural conditions; - Inadequate waste management measures, limited access to health care and education.
2.	Hissar	338,5	8089	1002	- Unemployment; - Lack of access to clean drinking water; - Climate change with deteriorating agricultural conditions;

					- Inadequate waste management measures, limited access to health care and education.
3.	Shahrinav	124,6	3177	411	- Unemployment; - Climate change with worsening agricultural conditions; - Inadequate waste management measures, limited access to health care and education.
4.	Varzob	90,9	1872	299	- unemployment; - climate change with deterioration of agricultural conditions; - pollution of the Varzob River, the main source of drinking water -insufficient waste management measures, limited access to health care and education.
5.	Rudaki	395,1	10331	1150	- unemployment; - climate change with deterioration of agricultural conditions; - pollution of the Varzob River, the main source of drinking water -insufficient waste management measures, limited access to health care and education.

Table7. Key indicators of the districts

GENERAL STATISTICAL DATA BY DISTRICT							
№	**Name ofdistrict**	**Area (thousand km²)**	**Number ofsettlements**	**Number ofvillages**	**Population density (persons per 1 km²)**	**Share of urban population, in %**	**Share of rural population, in %**
1	Shahrinav	**1**	1	6	124,6	7,3	92,7
2	Varzob	1,7	1	6	56,8	3,3	96,7

3	Hissar	1,0	2	11	338,5	14,4	85,6
4	Tursunzadeh	**1,7**		9	222,1	18,6	81,4
5	Rudaki	1,8	3	13	234,4	16,6	83,4

Table8. General statistical data by district

3.1. Climate

3.1.1. Tursunzade district

In Tursunzadeh District, summers are hot, dry and clear, while winters are cold, snowy and occasionally cloudy. Throughout the year, temperatures usually range from -0 °C to 36 °C and rarely fall below -6 °C or above 39 °C.

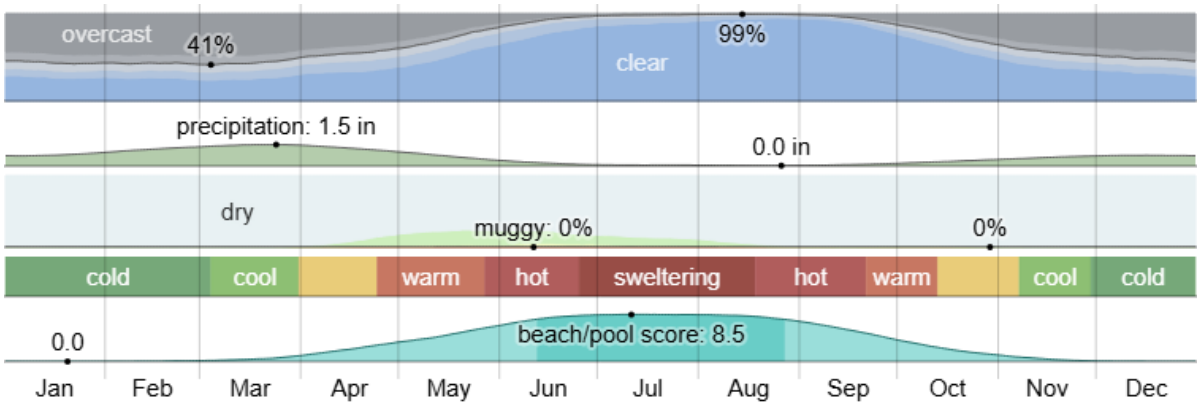


Figure7. Weather in Tursunzadeh region by month

The hot season lasts 3.4 months, from June 2 to September 15, with maximum average daily temperatures above 31 °C. The hottest month of the year in the Tursunzadeh area is July, with an average maximum temperature of 36 °C and a minimum of 21 °C. The cold season lasts 3.5 months, from November 25 to March 9, with a minimum average daily temperature below 14 °C. The coldest month of the year in the Tursunzadeh area is January, with an average temperature high of -0 °C and a minimum of 8 °C.

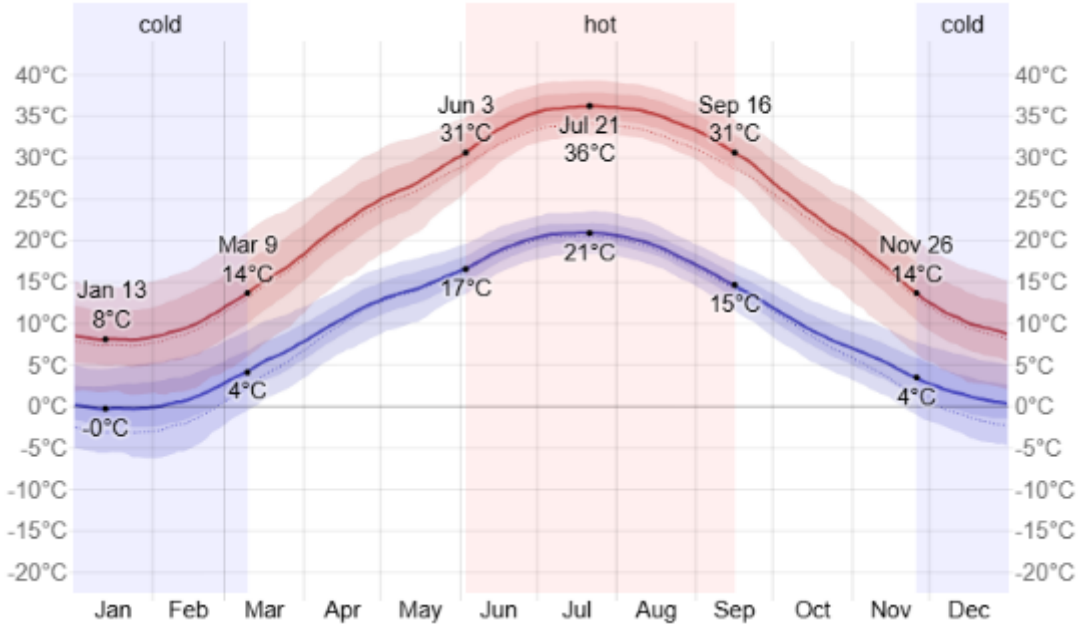


Figure8. Average daily maximum (red line) and minimum (blue line) temperatures

Average daily maximum (red line) and minimum (blue line) temperatures with ranges from the 25th to 75th and 10th to 90th percentiles. The thin dashed lines indicate the corresponding average sensed temperatures

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	8°C	10°C	15°C	22°C	28°C	33°C	36°C	35°C	30°C	23°C	16°C	10°C
Temp.	4°C	5°C	10°C	16°C	21°C	26°C	29°C	27°C	22°C	16°C	10°C	5°C
Low	-0°C	1°C	6°C	11°C	15°C	19°C	21°C	19°C	14°C	9°C	5°C	1°C

Figure9. Summary of average hourly temperatures for the whole year

The graph below summarizes the average hourly temperatures for the entire year. The horizontal axis is the day of the year, the vertical axis is the hour of the day, and the color is the average temperature for that hour and day.

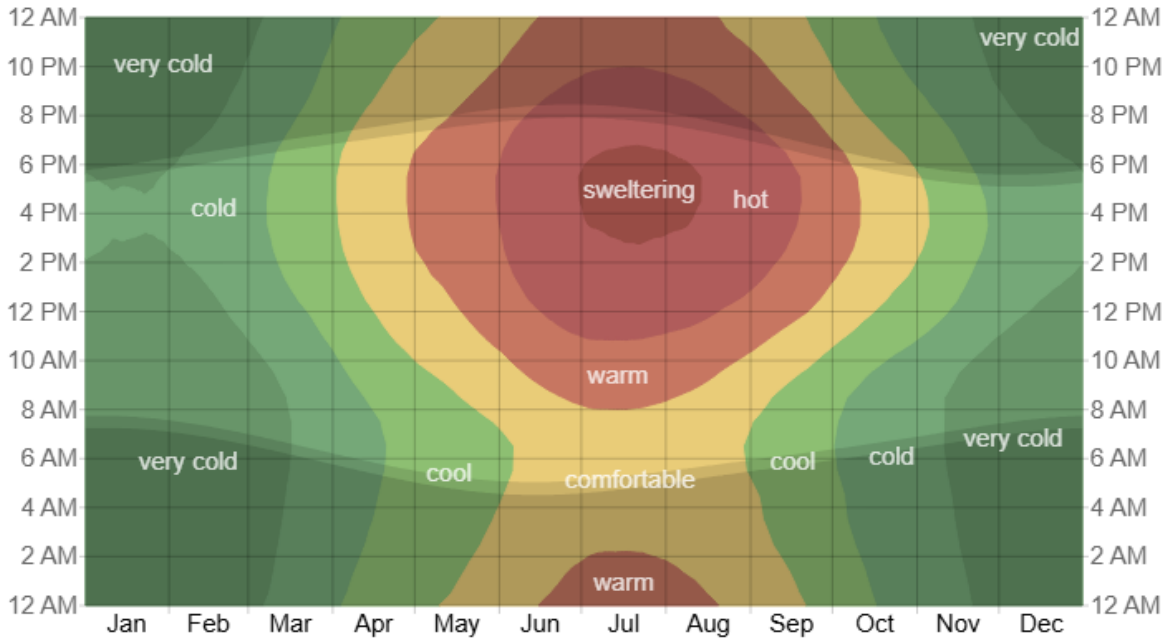


Figure10. Hourly average temperature with color-coded ranges.

3.1.2. Hissar district

In the Hissar district, summers are hot, dry and clear, while winters are very cold, snowy and in some places cloudy. Throughout the year, temperatures typically range from -1 °C to 36 °C and rarely fall below -7 °C or above 39 °C.°C and rarely fall below -7 °C or above 39 °C.

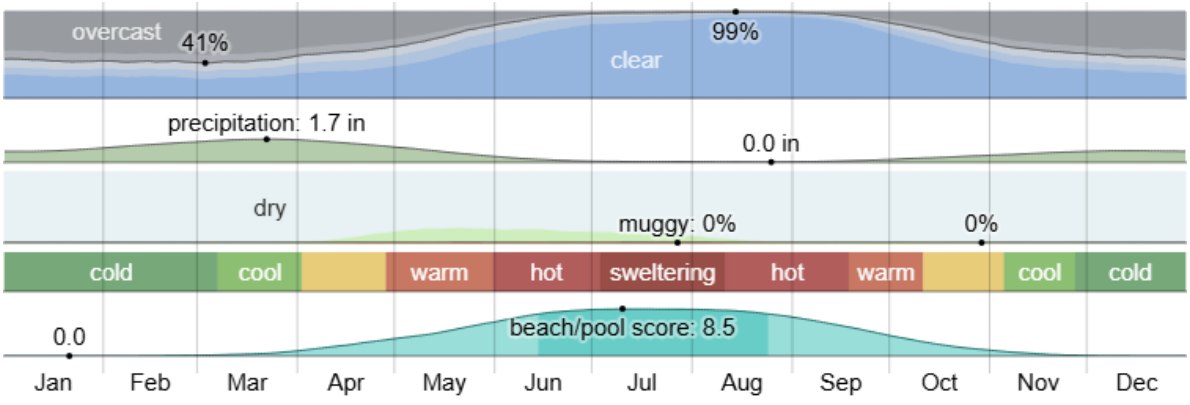


Figure11. Weather in Hissar district by months

The hot season lasts 3.4 months, from June 2 to September 15, with maximum average daily temperatures above 30 °C. The hottest month of the year in Hissar District is July, with an average maximum temperature of 35 °C and a minimum of 20 °C. The cold season lasts 3.5 months, from November 25 to March 9, with a minimum average daily temperature below 13 °C. The coldest month of the year in Hissar District is January, with an average maximum temperature of -1 °C and a minimum of 8 °C.

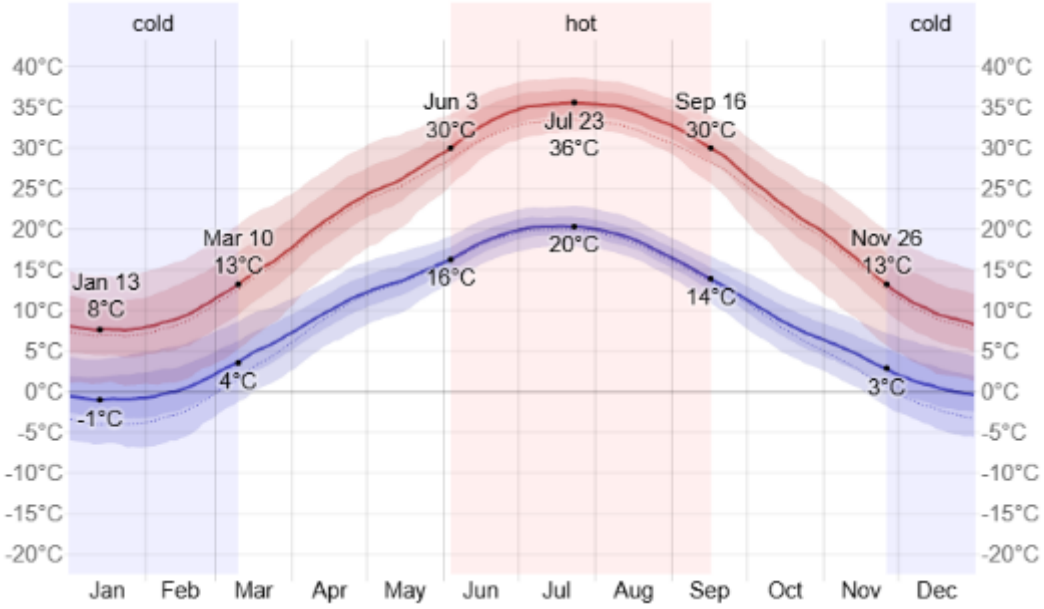


Figure12. Average daily maximum (red line) and minimum (blue line) temperatures

Average daily maximum (red line) and minimum (blue line) temperatures with ranges from the 25th to 75th and 10th to 90th percentiles. The thin dashed lines indicate the corresponding average sensed temperatures.

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	8°C	9°C	15°C	21°C	27°C	33°C	35°C	34°C	30°C	23°C	16°C	10°C
Temp.	3°C	5°C	10°C	16°C	20°C	26°C	28°C	27°C	22°C	15°C	10°C	5°C
Low	-1°C	0°C	5°C	10°C	14°C	18°C	20°C	18°C	14°C	8°C	4°C	1°C

Figure13. Summary of average hourly temperatures for the whole year

The graph below summarizes the average hourly temperatures for the entire year. The horizontal axis is the day of the year, the vertical axis is the hour of the day, and the color is the average temperature for that hour and day

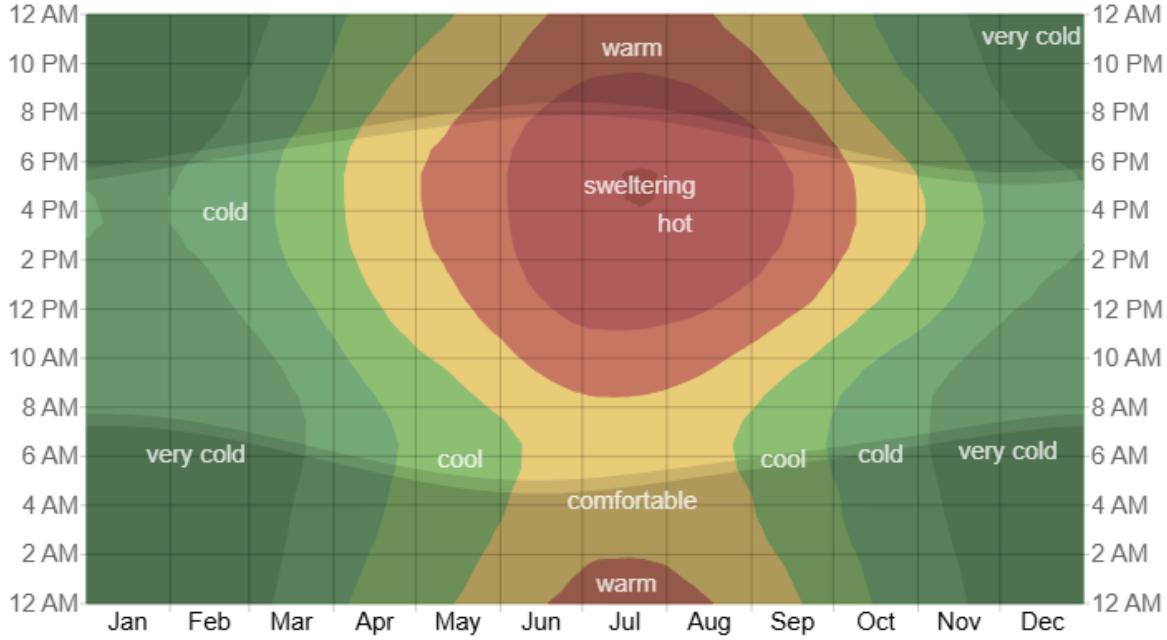


Figure14. Hourly average temperature with color-coded ranges.

3.1.3. Shakhrynava district

In Shahrinav district, summers are hot, dry and clear, while winters are very cold, snowy and in some places cloudy. During the year, temperatures typically range from -1 °C to 35 °C and rarely fall below -7 °C or above 38 °C.

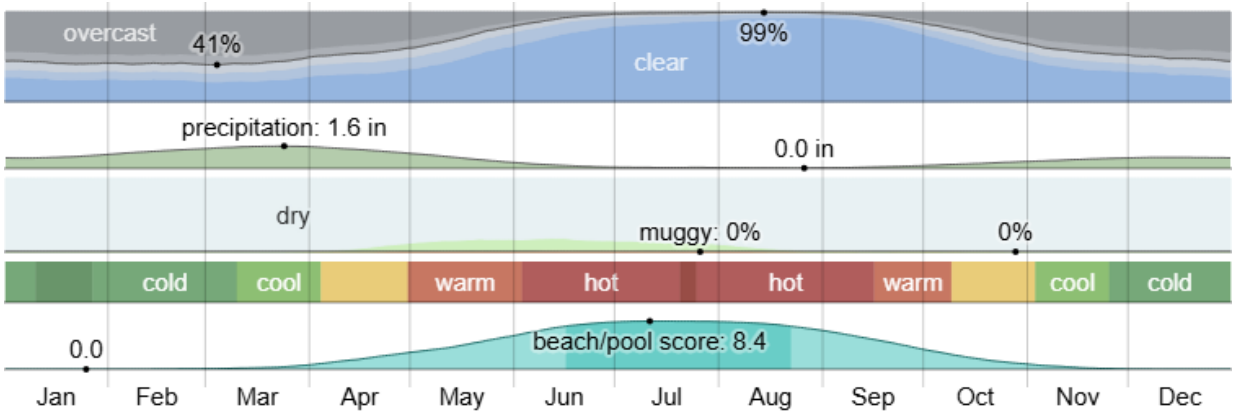


Figure15. Weather in Shahrinav district by months

The hot season lasts 3.4 months, from June 2 to September 16, with maximum average daily temperatures above 29 °C. The hottest month of the year in Shahrinav district is July, with an average maximum temperature of 35 °C and a minimum of 20 °C. The cold season lasts 3.5 months, from November 25 to March 9, with a minimum average daily temperature below 13 °C. The coldest month of the year in Shahrinav District is January, with an average maximum temperature of -1 °C and a minimum of 7 °C.

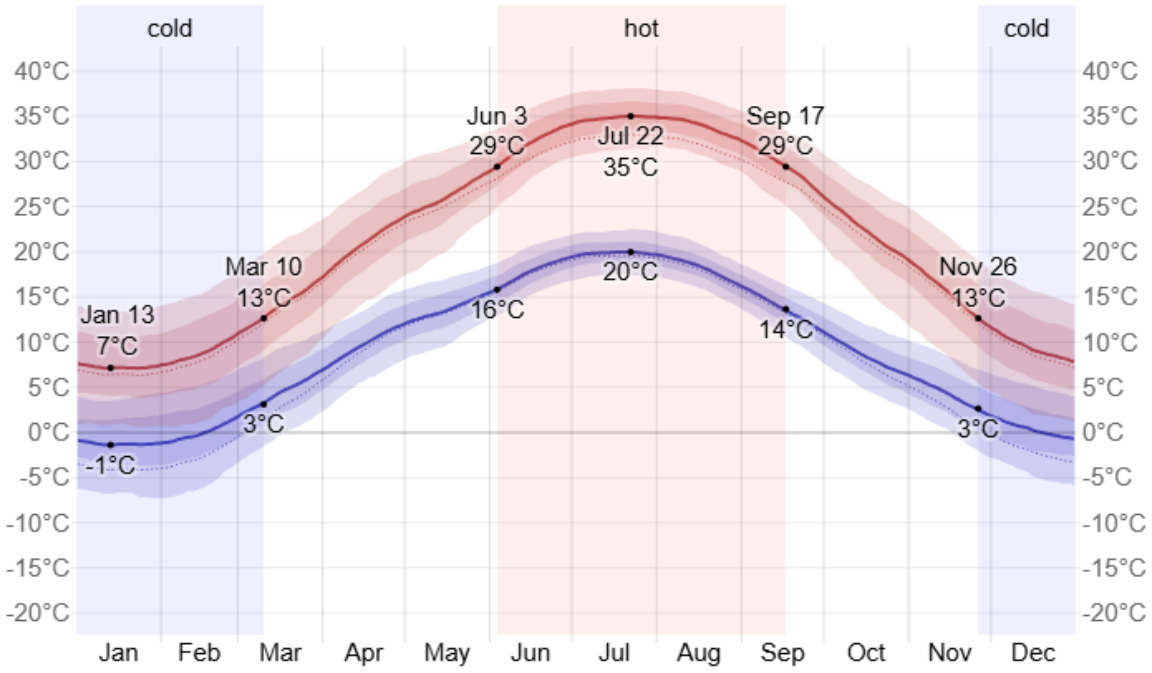


Figure16. Average daily maximum (red line) and minimum (blue line) temperatures

Average daily maximum (red line) and minimum (blue line) temperatures with ranges from the 25th to 75th and 10th to 90th percentiles. The thin dashed lines indicate the corresponding average sensed temperatures.

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	7°C	9°C	14°C	21°C	26°C	32°C	35°C	34°C	29°C	22°C	15°C	9°C
Temp.	3°C	4°C	9°C	15°C	20°C	25°C	28°C	26°C	21°C	15°C	9°C	4°C
Low	-1°C	0°C	5°C	10°C	14°C	18°C	20°C	18°C	14°C	8°C	4°C	0°C

Figure17. Summary of average hourly temperatures for the whole year

The graph below summarizes the average hourly temperatures for the entire year. The horizontal axis is the day of the year, the vertical axis is the hour of the day, and the color is the average temperature for that hour and day.

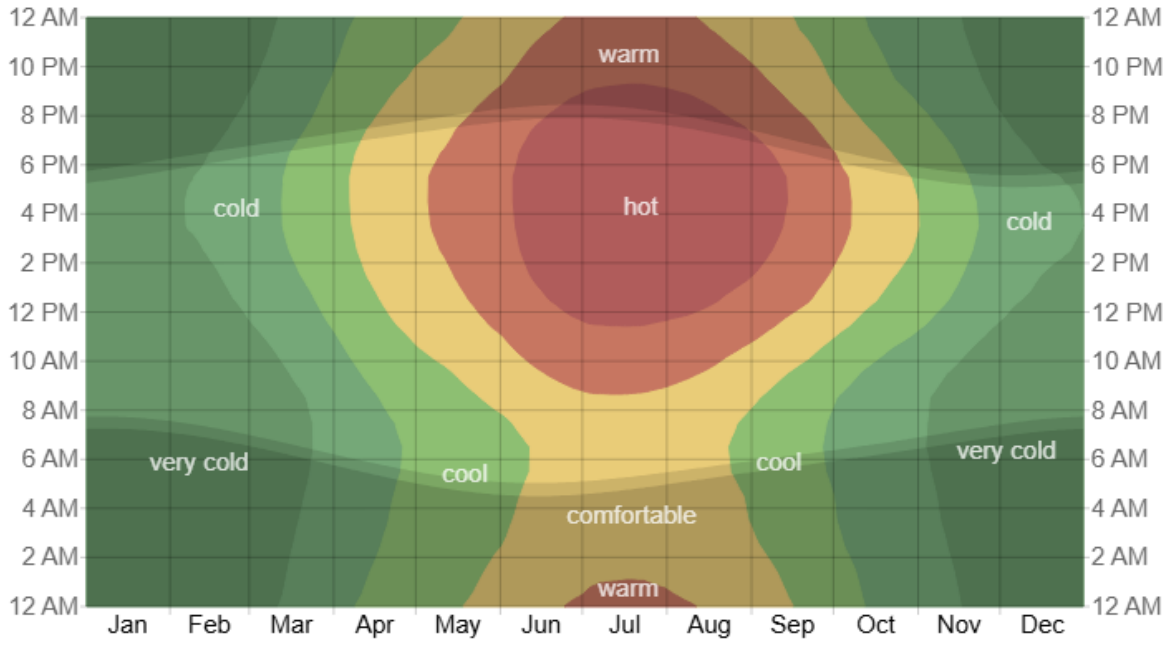


Figure18. Hourly average temperature with color-coded ranges.

3.1.4. Varzob district

In Varzob District, summers are hot, dry and clear, while winters are cold, snowy and in some places cloudy. Throughout the year, temperatures typically range from -1 °C to 37 °C and rarely fall below -7 °C or above 40 °C.°C and rarely fall below -8 °C or above 39 °C.

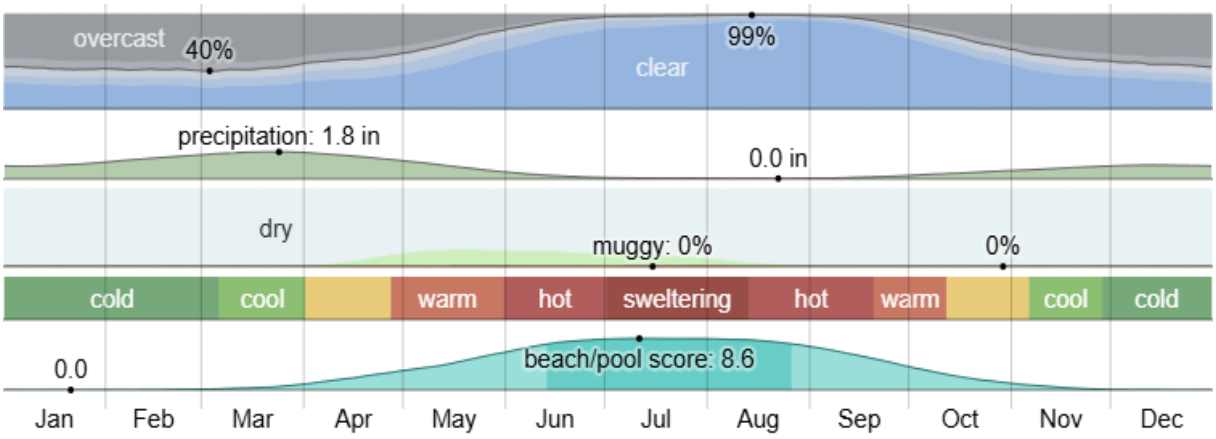


Figure19. Weather in Varzob district by month

The hot season lasts 3.4 months, from June 2 to September 15, with maximum average daily temperatures above 30 °C. The hottest month of the year in Varzob District is July, with an average maximum temperature of 35 °C and a minimum of 20 °C. The cold season lasts 3.5 months, from November 25 to March 9, with a minimum average daily temperature below 13 °C. The coldest month of the year in Varzob District is January, with an average temperature maximum of -1 °C and a minimum of 8 °C.

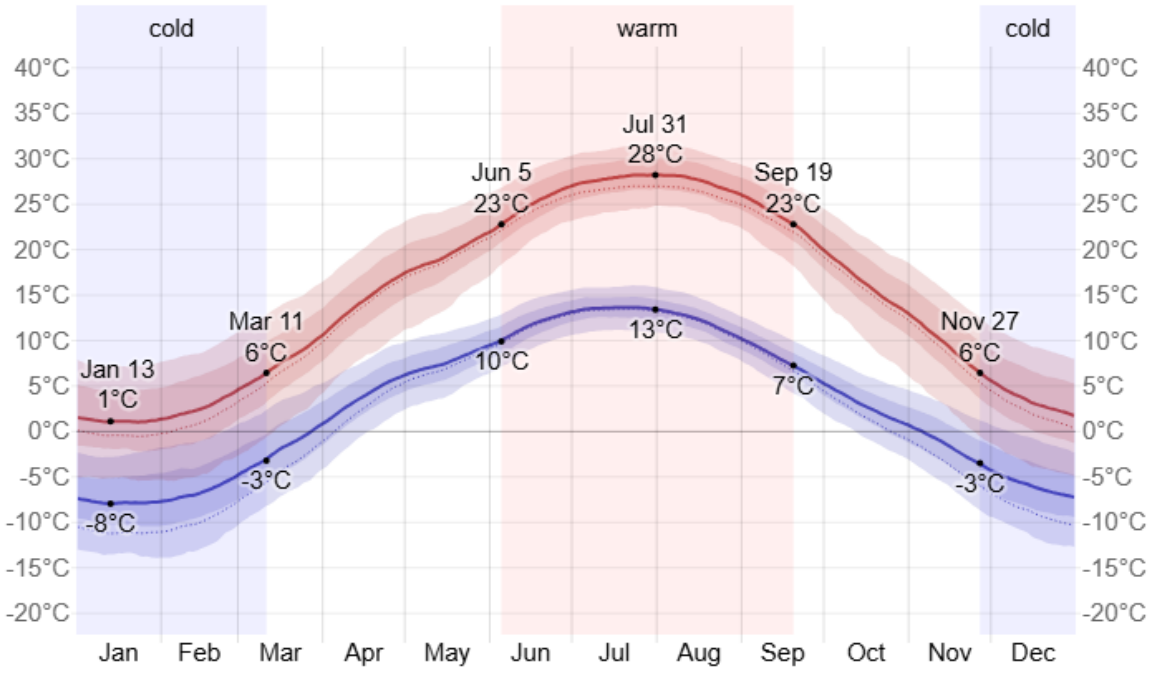


Figure20. Average daily maximum (red line) and minimum (blue line) temperatures

Average daily maximum (red line) and minimum (blue line) temperatures with ranges from the 25th to 75th and 10th to 90th percentiles. The thin dashed lines indicate the corresponding average sensed temperatures.

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	1°C	3°C	8°C	15°C	20°C	25°C	28°C	27°C	23°C	16°C	9°C	3°C
Temp.	-4°C	-2°C	3°C	9°C	14°C	19°C	21°C	20°C	15°C	9°C	3°C	-2°C
Low	-8°C	-7°C	-2°C	4°C	8°C	12°C	14°C	12°C	8°C	3°C	-2°C	-6°C

Figure21. Summary of average hourly temperatures for the whole year

The graph below summarizes the average hourly temperatures for the entire year. The horizontal axis is the day of the year, the vertical axis is the hour of the day, and the color is the average temperature for that hour and day

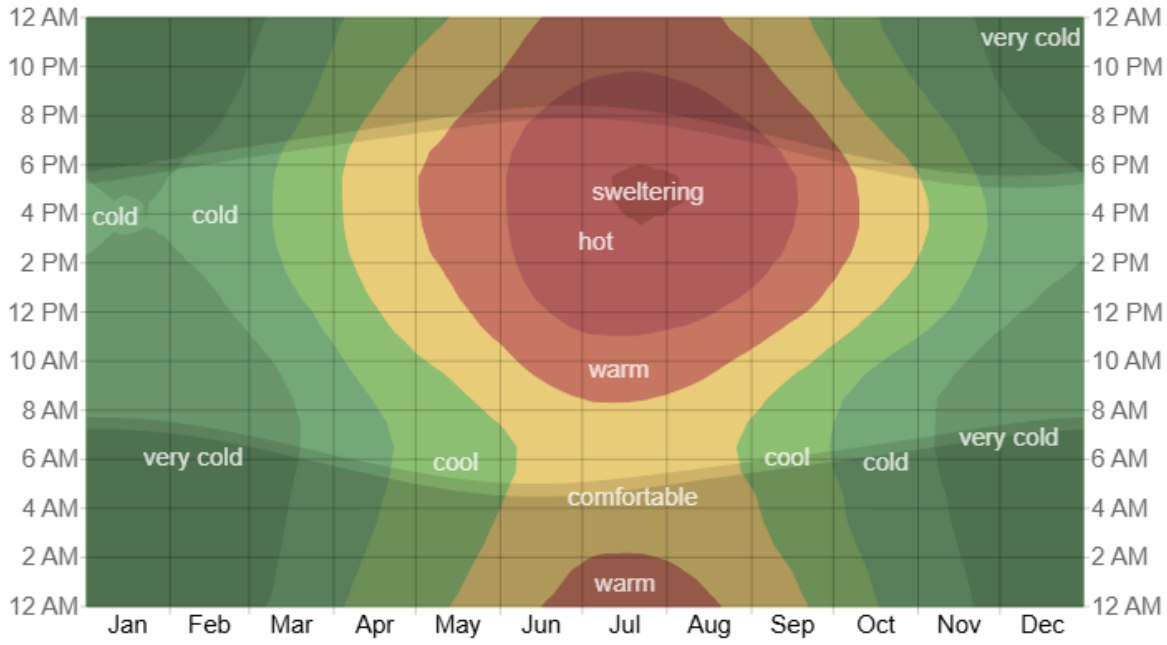


Figure22. Hourly average temperature with color-coded ranges.

3.1.5. Rudaki district

In Rudaki district, summers are hot, dry and clear, while winters are very cold, snowy and cloudy in places. Throughout the year, temperatures usually range from -0 °C to 36 °C and rarely fall below -6 °C or above 39 °C.

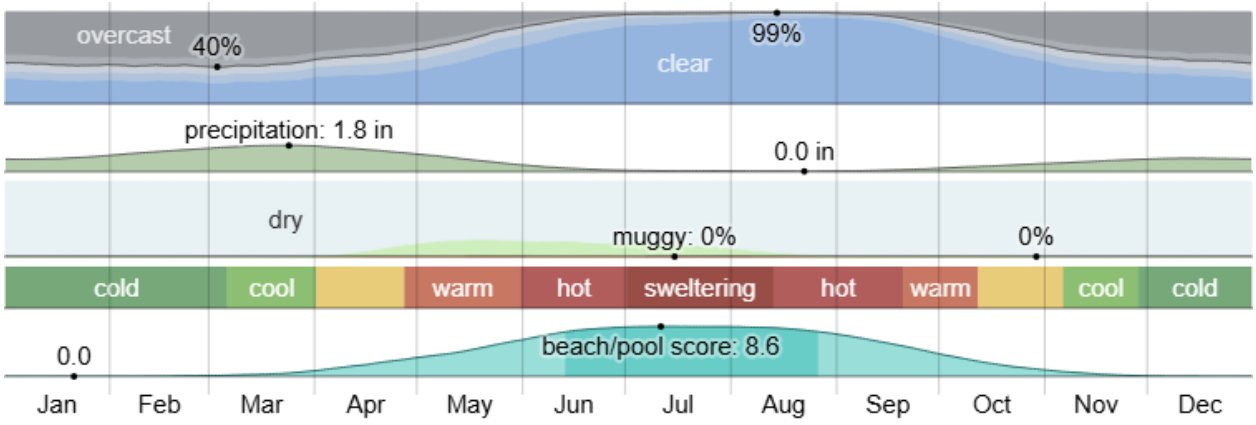


Figure23. Weather in Tursunzadeh region by month

The hot season lasts 3.4 months, from June 2 to September 15, with maximum average daily temperatures above 31 °C. The hottest month of the year in Rudaki district is July, with an average maximum temperature of 36 °C and a minimum of 21 °C. The cold season lasts 3.5 months, from November 25 to March 9, with a minimum average daily temperature below 14 °C. The coldest month of the year in Rudaki district is January, with an average temperature high of -0 °C and a minimum of 8 °C.

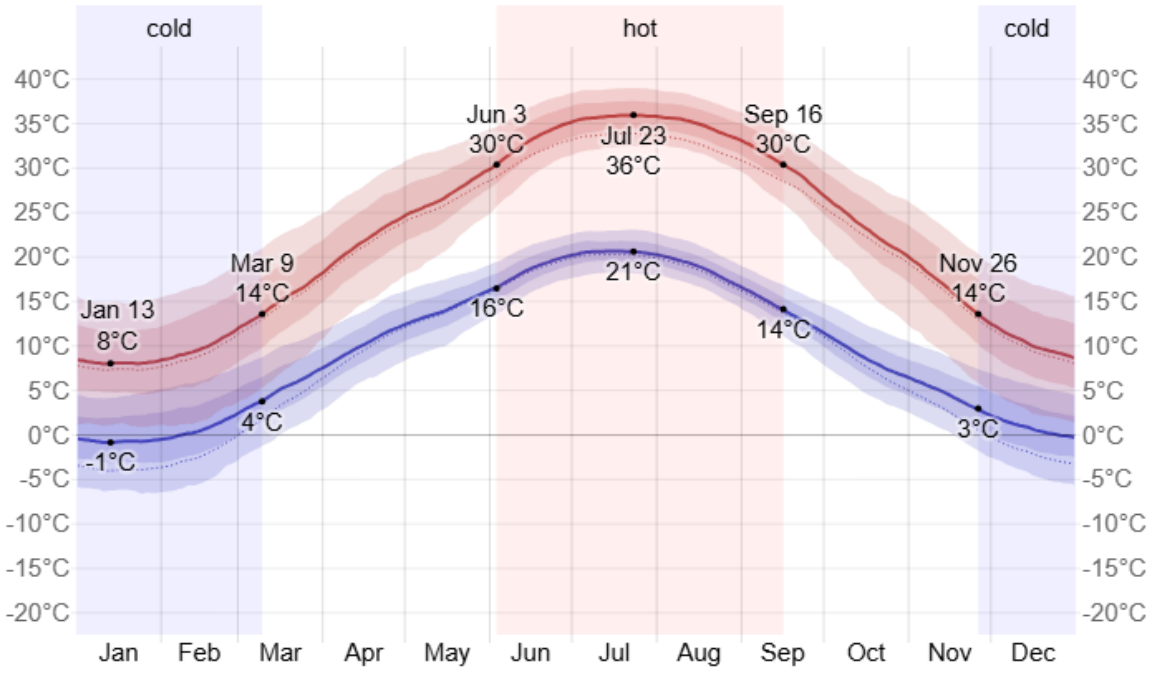


Figure24. Average daily maximum (red line) and minimum (blue line) temperatures

Average daily maximum (red line) and minimum (blue line) temperatures with ranges from the 25th to 75th and 10th to 90th percentiles. The thin dashed lines indicate the corresponding average sensed temperatures.

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	8°C	10°C	15°C	22°C	27°C	33°C	36°C	35°C	30°C	23°C	16°C	10°C
Temp.	3°C	5°C	10°C	16°C	21°C	26°C	29°C	27°C	22°C	15°C	10°C	5°C
Low	-1°C	1°C	5°C	10°C	14°C	19°C	21°C	19°C	14°C	9°C	4°C	1°C

Figure25. Summary of average hourly temperatures for the whole year

The graph below summarizes the average hourly temperatures for the entire year. The horizontal axis is the day of the year, the vertical axis is the hour of the day, and the color is the average temperature for that hour and day.

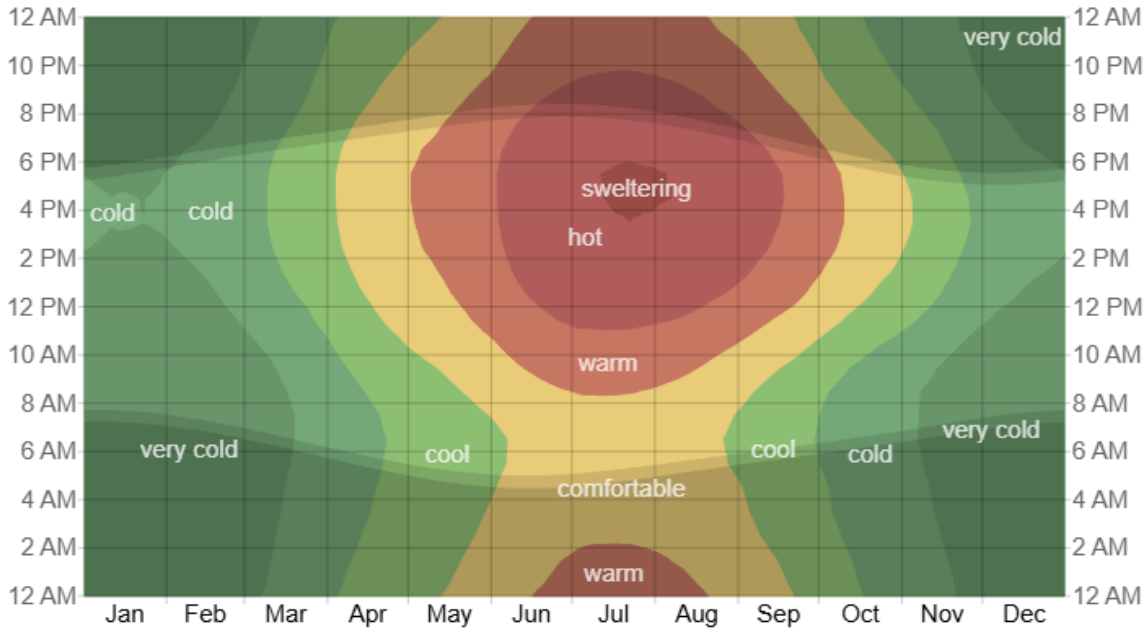


Figure26. Hourly average temperature with color-coded ranges

3.2. General data on flora and fauna

Natural resources

The districts have picturesque nature, clean air and natural springs. There are many sources of commonly occurring minerals (sand, clay, gravel and others) on the territory of the districts, which are used in their natural form, with minor processing and purification, to meet mainly local economic needs

Basic factors about flora and fauna

Neighborhood	Hissar
Mudflow	foothill (from 400- 800 to 1100- 1400m). Downpours.
Avalanches	avalanche-prone areas
Soils	gray soil belt: dark gray soils. There are few stony soils, loamy soils prevail. Formed on loess foothills (adyrs) and sloping proluvial and alluvial plains. Stony soils, formed on steep deeply dissected slopes of mountain ranges, partially prevail.
Erosion	Gentle slopes and crests of mid-mountain ridges, located at high altitude levels, occupied by deserts (summer pastures), subject to wind erosion.

Vegetation	semi-savannas: low-grass bluegrass sedge (carexpachystylis, Poa bulbosa). Cultivated lands: irrigated with remnants of desert, halophytic and low-grass semi-savanna vegetation.
Woods	lands cleared from under broad-leaved forests; a-platanus orientalis (mainly arable, irrigated). Trees and shrubs of rare species - chinar (platanus orientalis) Forest regions: Hissar - recommended species for breeding - chinar, apple tree, Caucasian persimmon, poplar.
Wild fruit	Bukhara almond (amygdalus bucharica), Pontic hawthorn (crataegus pontica), bearded cherry (cerasus verrucosa), cherry plum (prunus sogdiana).
Mammals	Species distributed in the western regions of Tajikistan (without Pamir): Turkestan rat, house mouse, common shrew, spotted cat. Foothill and valley: long-eared urchin, small white-toothed urchin, Indian porcupine, Indian ground rat, noon gerbil, red-tailed gerbil, Afghan vole, jackal, banded hyena, gazelle, dark-beaked urchin. Thin-toed gopher, yellow gopher, Severtsov's gopher, small gopher, comb gerbil, large gerbil, Transcaspian vole, steppe polecat, leopard. Poisonous snakes: cobras, gyurs (up to the altitude of 2500m).
Ornithological species	Semi-desert-predmont zone: this zone includes both open spaces and river valleys with floodplain thickets, foothill zone with sparse shrub vegetation and partly with broad-leaved forest. Characteristic birds of this zone are pheasant phasianus coichicus, desert partridge fmmoperadix griseogularis, kite milvus korschun, steppe kestrel palco naumanni, blue pigeon columba livia, brown pigeon columba eversmanni, desert barn owl otus scops, house owl anthena noctua, woodpecker dendrocopos leocopterus, black swift apus apus, corncrake caraclas garrulus, golden plover meros aplaster, mayfly acridotheres tristis, timelia garrulax lineatus, long-tailed shrike lantus schach, crane shrike lantus cristatus, tufted lark galerida cristata, paradise flycatcher terpsiphone paradisi, western nightingale luscinia megarhynchos, scotocerca scotocerca inquieta, red-bellied swallow hirundo daurica, country swallow hirundo rustica, Indian swallow hirundo smithil .Game birds: Desert partridge ammoperdix griseogularis is widespread in hilly areas of the south and south-west of Tajikistan. Usually a sedentary bird, it can serve as an object of sport hunting if timing is observed. Bustard. The Common Bustard otis tarda and the Beauty Bustard otis undulata nest and winter within Tajikistan, while the Streptet Otis tetrax only winters. Numbers of all three species of bustards have now sharply declined.
Neighborhood	Rudaki
Mudflow	Mudflow hazard zones: foothill areas (from 400-800 to 1100-1400 m).

Avalanches	avalanche-prone areas
Soils	serösem Belt: Dark sierozems, light and dark sierozem-meadow soils. There are few stony soils, loamy soils prevail. Formed on loess foothills (adyrs) and sloping proluvial and alluvial plains. Stony soils, formed on steep deeply dissected slopes of mountain ranges, partially prevail.
Erosion	Foothills of southern valleys, occupied by semi-savannahs (winter, less often spring-autumn pastures), subject to wind and water erosion. Foothills and low mountains of southern ridges, occupied by xerophytic sparse forests (winter, less often spring and autumn passing pastures), subject to water and wind erosion.
Vegetation	xerophytic sparse forests (Shibliak) mixed stands of Bukhara almonds (amygdalus bucharica). Pistachio (pistacia vera). Calophaca (calophaca grandiflora), scarlet (cercis griffithii).
Woods	lands cleared from under broad-leaved forests; a-platanus orientalis (mainly arable, irrigated). Xerophytic sparse forests dominated by a- amygdalus bucharica. Trees and shrubs of rare species - chinar (platanus orientalis) Forest regions: Hissar - recommended species for breeding - chinar, apple, Caucasian persimmon, poplar.
Wild fruit	Bukhara almond amygdalus bucharica, Pontic hawthorn crataegus pontica, Bukhara pear pyrus bucharica
Mammals	Species distributed in the western regions of Tajikistan (without Pamir): Turkestan rat, house mouse, common blind, spotted cat. Species complexes: mountain: small white-toothed, red pika, Indian porcupine, forest dormouse, forest mouse. Gray hamster, mountain silver vole, brown bear, ermine, stone marten, badger, leopard, wild boar, Siberian ibex, Pamir white-toothed goat, relict gopher, ibex, Asian mouflon, menzbira marmot. Foothill and valley: long-eared urchin, lesser white-toothed urchin, Indian porcupine, Indian earth rat, noon gerbil, red-tailed gerbil, Afghan vole, jackal, bandage, striped hyena, gazelle, dark-beaked urchin.Thin-toed gopher, yellow gopher, Severtsov's gopher, small gopher, comb gerbil, large gerbil, Transcaspian vole, steppe polecat, leopard. Separate centers of Siberian ibex. Local habitats of leopard, Asian mouflon. Poisonous snakes: cobras, ephahs, gyurs (up to the height of 2500m).

Ornithological species	Semi-desert-predmont zone: this zone includes both open spaces and river valleys with floodplain thickets, foothill zone with sparse shrub vegetation and partly with broad-leaved forest. Characteristic birds of this zone are pheasant phasianus coichicus, desert partridge fmmoperadix griseogularis, kite milvus korschun, steppe kestrel palco naumanni, blue pigeon columba livia, brown pigeon columba eversmanni, desert barn owl otus scops, house owl anthena noctua, woodpecker dendrocopos leocopterus, black swift apus apus, corncrake caraclas garrulus, golden plover meros aplaster, mayfly acridotheres tristis, timelia garrulax lineatus, long-tailed shrike lantus schach, crane shrike lantus cristatus, tufted lark galerida cristata, paradise flycatcher terpsiphone paradisi, western nightingale luscinia megarhynchos, scotocerca scotocerca inquieta, red-bellied swallow hirundo daurica, country swallow hirundo rustica, Indian swallow hirundo smithil .Game birds: Desert partridge ammoperdix griseogularis is widespread in hilly areas of the south and south-west of Tajikistan. Usually a sedentary bird, it can serve as an object of sport hunting if timing is observed. The puffin alectoris graeca is very widespread in all Tajikistan, except Pamir. It spreads from the foothill hilly area to the alpine zone and often reaches high densities. It can serve as a subject of commercial hunting. In the seasons of the year the puffin moves vertically and migrates quite far. The common bustard otis tarda and the beauty bustard otis undulata nest and winter within Tajikistan, while the drake otis tetrax only winters. Numbers of all three species of bustards have now sharply declined.
Neighborhood	Shahrinav
Mudflow	areas with no mudflow events
Avalanches	avalanche-prone areas
Soils	Light and dark gray soils, old-irrigated, few stony soils, loamy soils prevail. Formed on loess foothills (adyrs) and sloping proluvial and alluvial plains.
Erosion	Irrigated lands of southern and northern valleys of the republic, used mainly for cotton, partially exposed to wind and irrigation erosion. Foothills of southern valleys, occupied by semi-savannahs (winter, less often spring-autumn pastures), exposed to wind and water erosion.
Vegetation	cultivated lands: irrigated lands with remnants of desert, halophytic and low-grass semi-savannah vegetation. rainfed lands with areas of coarse-grass semi-savannahs.

Woods	lands cleared from under broad-leaved forests a-platanus orientalis (mainly arable, irrigated) xerophytic sparse forest with predominance of a- amygdalus bucharica.Chinar -platanus orientalis Forest vegetation areas: Hissar - species recommended for breeding - chinar, apple tree, Caucasian persimmon. poplar.
Wild fruit	Eastern elk-elaeagnus orientalis, carcass-celtis caucasica, mahaleb-padus mahaleb,grape-vitis vinifera,almondm-amygdalus bucharica,fig-ficus carica.Single trees or groups of walnut.
Mammals	Species distributed in the western regions of Tajikistan (without Pamir): Turkestan rat, house mouse, common shrew, spotted cat. Foothill and valley: long-eared urchin, small white-toothed urchin, Indian porcupine, Indian ground rat, noon gerbil, red-tailed gerbil, Afghan vole, jackal, banded hyena, gazelle, dark-beaked urchin.The thin-toed gopher, yellow gopher, Severtsov's gopher, small gopher, comb gerbil, large gerbil, Transcaspian vole, steppe polecat, leopard. Poisonous snakes: cobras, gyurs (up to a height of 2500m), pectorals.
Ornithological species	Semi-desert-predmont zone: this zone includes both open spaces and river valleys with floodplain thickets, foothill zone with sparse shrub vegetation and partly with broad-leaved forest. Characteristic birds of this zone are pheasant phasianus coichicus, desert partridge fmmoperadix griseogularis, kite milvus korschun, steppe kestrel palco naumanni, blue pigeon columba livia, brown pigeon columba eversmanni, desert barn owl otus scops, house owl anthena noctua, woodpecker dendrocopos leocopterus, black swift apus apus, corncrake caraclas garrulus, golden plover meros aplaster, mayfly acridotheres tristis, timelia garrulax lineatus, long-tailed shrike lantus schach, crane shrike lantus cristatus, tufted lark galerida cristata, paradise flycatcher terpsiphone paradisi, western nightingale luscinia megarhynchos, scotocerca scotocerca inquieta, red-bellied swallow hirundo daurica, country swallow hirundo rustica, Indian swallow hirundo smithil .Game birds: Pintail alectoris graeca, very widespread in all Tajikistan except Pamir. It ranges from the foothill hilly area to the alpine zone and often reaches high densities. It can serve as a subject of commercial hunting. The pheasant Phasianus colchicus is found in Northern Tajikistan, in the valleys of the rivers Zeravshan, Syr Darya and in the south-west of the republic, and lives in a settled habitat. The number of pheasants has sharply decreased in two-three years. In some places it has almost completely disappeared (Hissar valley and Kafirnigan river valley)
Neighborhood	Tursunzadeh
Mudflow	Mudflow hazard zones: foothill areas (from 400-800 to 1100-1400 m).
Avalanches	avalanche-prone areas

Soils	Light and dark gray soils, old-irrigated, few stony soils, loamy soils prevail. Formed on loess foothills (adyrs) and sloping proluvial and alluvial plains.
Erosion	Gentle slopes and crests of mid-mountain ridges, located at high altitude levels, occupied by deserts (summer pastures), subject to wind erosion.
Vegetation	cultivated lands: irrigated lands with remnants of desert, halophytic and low-grass semi-savannah vegetation. rainfed lands with areas of coarse-grass semi-savannahs.
Woods	land cleared from under broad-leaved forests a-platanus orientalis (mainly arable. Irrigated) trees and shrubs of rare species: chinar platanus orientalis. Xerophilous sparse forest dominated by a-amygdalus bucharica, and willow salix caesia. Forest vegetation regions: Hissar. Recommended species for breeding: chinar, apple tree, Caucasian persimmon, poplar.
Wild fruit	Bukhara almond amygdalus bucharica, oriental sucker -elaegnus orientalis/ Plantations of pistachio Pistacia vera.
Mammals	Species distributed in the western regions of Tajikistan (without Pamir): Turkestan rat, house mouse, common shrew, spotted cat. Foothill and valley: long-eared urchin, small white-toothed urchin, Indian porcupine, Indian ground rat, noon gerbil, red-tailed gerbil, Afghan vole, jackal, banded hyena, gazelle, dark-beaked urchin.The thin-toed gopher, yellow gopher, Severtsov's gopher, small gopher, comb gerbil, large gerbil, Transcaspian vole, steppe polecat, leopard. Poisonous snakes: cobras, gyurs (up to a height of 2500m), pectorals.
Ornithological species	Semi-desert-predmont zone: this zone includes both open spaces and river valleys with floodplain thickets, foothill zone with sparse shrub vegetation and partly with broad-leaved forest. Characteristic birds of this zone are pheasant phasianus coichicus, desert partridge fmmoperadix griseogularis, kite milvus korschun, steppe kestrel palco naumanni, blue pigeon columba livia, brown pigeon columba eversmanni, desert barn owl otus scops, house owl anthena noctua, woodpecker dendrocopos leocopterus, black swift apus apus, corncrake caraclas garrulus, golden plover meros aplaster, mayfly acridotheres tristis, timelia garrulax lineatus, long-tailed shrike lantus schach, crane shrike lantus cristatus, tufted lark galerida cristata, paradise flycatcher terpsiphone paradisi, western nightingale luscinia megarhynchos, scotocerca scotocerca inquieta, red-bellied swallow hirundo daurica, country swallow hirundo rustica, Indian swallow hirundo smithil .Game birds: Pintail alectoris graeca, very widespread in all Tajikistan except Pamir. It ranges from the foothill hilly area to the alpine zone and often reaches high densities. It can serve as a subject of commercial hunting. In the seasons of the year, the kecklik moves vertically and migrates quite far.
Neighborhood	Warzob
Mudflow	Mudflow hazard zones: high-mountainous (from 1900- 2200 m and above) Causes of mudflows: heavy rains, intensive snowmelt, mixed origin.There are places and dates of origin of catastrophic mudflows.

Avalanches	avalanche-prone areas, avalanches are possible in exceptionally snowy years.
Soils	Brown-terrestrial belt: mountain brown carbonate. Mountain brown typical, mountain light brown. Soil complexes and combinations: mountain meadow, meadow-bog, peat-bog. Soil irrigation: small oases in mountainous areas with old-irrigated cultural-irrigated soils. stony soils: stony soils prevail, formed on steep deeply dissected slopes of mountain ranges.
Erosion	Slopes of middle and high mountains. Slopes of middle and high mountains occupied by steppes, meadows and thorny grasslands, subjected to medium and strong water erosion. Slopes of middle and high mountains occupied by junipers on medium and strongly eroded soils, used as summer pastures.
Vegetation	Tree and shrub vegetation: juniper stands of juniperus turkestanica, Juniperus seravschanica, juniperus semygloboca in complex with typechak steppes (festuca sulcata) and semi-savannas (of eiytrigia trichophora Prangos pabularta). Shrub thickets: rose gardens of rosa kokanisa in complex with coarse-grass semi-savannas and fragments of maple and juniper stands. Spiny grasslands: xerophilous and meadow-steppe cousinaceous (cousinia steohanophora, cousinia franchetii, cousinia panossa) in combination with tipchak steppes. Semi-shrubby deserts: Artemisia teresken (eurotia ceratoides, artemisia rhodanta). Ephemeroid large herbs, briars.Dissolved vegetation of screes and rocks of middle and high-mountainous belt, rocks of nival belt deprived of vegetation.
Woods	Thickets of mesophilic shrubs formed on the place of felled broad-leaved forests with predominance of c-exochorda alberti with single trees of apple, pear and maple. Archevniki cryophilic from juniperus turkestanica among high-mountain steppes and thorny grasses. Chinar - Platanus orientelis, willow - Salix fedtschenkoi, ash - Fraxsinus potamophila, birch - Betula saposhnikovii, Restella alberti. Forest region: Zeravshan, breeding species - apricot, juniper, birch, poplar, mulberry.
Wild fruit	Rowan-Sorbus persica, currant-Ribes meyeri, barberry-Berberis, almond-amygdalus buchrica, elaeagnus orientalis, hawthorn- Crataegus altaica, apple-malus sieversii, alycha-Prunus sogdiana, skeleton-Celtis caucacica, Tajik pear-Pyrus tadshikistanica.
Mammals	species widespread in western regions of Tajikistan except Pamir: Turkestan rat, house mouse, common shrew, spotted cat.Mountain species complex: small white-toothed marten, red pika, Indian porcupine, forest dormouse, forest mouse, gray hamster, gray silver vole, juniper vole, brown bear, ermine, stone marten, badger, leopard, wild boar, Siberian ibex, Pamir white-toothed marten, relict gopher. High-mountain species complex: red marmot, gray hamster, mountain silver vole, bear, lynx, leopard, Siberian ibex, argali, big-eared pika, Pamir vole. Poisonous snakes: gyurses (up to heights of 2500m), pikemen.

Ornithological species	Mountain belt: it includes gentle and saklistic slopes of most mountain ranges of Tajikistan. Here, along with juniper forests and bare rocky or chebony slopes, there are mountain steppes and high-mountain meadows. The diversity of the terrain attracts a large number of animal and bird species. Characteristic birds of this zone are the puffin-Alectoris graeca, Himalayan eagle-tetraogallus himalayensis, berku-aquilae aureae, finch- columba palumbus, great turtur magna, eider-pyrrhocorax graculus, pyrrhocorax pyrrhocorax pyrrhocorax. juniper mycerobas carneipes, common grosbeak coccothraustes coccothraustes, red-throated lentil-rhodopechus sanguineus, common lentil-carpodacus erythrinus, large pink lentil-carpodacus grandis rubicilla, juniper leucosticte nemaricola, black-breasted cranesnake luscinia pectoralis, bluebird-myophonus caeruleus, white-bellied nuthatch cinclus leucogaster, brown nuthatch cinclus pallasii, rock swallow pthyonoprogne rupestris, city swallow delichon urbicum.

4. ASSESSMENT OF SOCIAL AND ENVIRONMENTAL RISKS AND IMPACTS OF THE PROJECT

4.1. Overview of social and environmental risks

This section considers the potential environmental and social risks and impacts that may arise as a result of the Project. Measures are proposed to mitigate them at all stages of project activities, including design, construction/modernization and subsequent operation. All proposed measures to avoid or mitigate potential adverse construction impacts will be incorporated by the PMG into the tender or contract documents, becoming mandatory elements of the construction and construction supervision contracts. In addition to the outlined risks, gender-specific risks and socioeconomic impacts have been identified. These include restricted access to Project benefits for women and ethnic minorities, gender-based wage discrimination, and limited participation in decision-making processes. Specific mitigation strategies, such as gender-sensitive facilities, training programs, and collaboration with local NGOs, will be implemented to address these risks. In general, the following potential risks and impacts may arise from Project activities:

Potential Risks and Impacts	Description
Environmental pollution	Potential air, water, and soil pollution as a result of the construction of new high-voltage lines.
Impacts on biodiversity and ecosystems	Potential negative impact on flora, fauna, and ecosystems in the Tursunzade, Hissar, Shahrinav, Varzob, and Rudaki districts. Additional risks include potential harm to protected areas and species migration routes. Biodiversity assessments will be conducted before the start of construction to identify critical habitats, and buffer zones will be established to minimize impacts. If necessary, transmission line routes will be adjusted to avoid sensitive areas.
Impacts on water resources and soil	Risk of contamination of water resources and deterioration of soil quality due to the use of construction materials and technologies.
Occupational Health and Safety (OHS) risks	Workers involved in construction may face significant risks, including accidents related to working at heights, electrical hazards, and the handling of heavy equipment and hazardous materials. The Project will also implement a comprehensive Code of Conduct (CoC) for all contractors and workers, addressing issues such as workplace harassment, sexual exploitation, and abuse (SEA). The CoC will be mandatory and enforced through regular training sessions and grievance redress mechanisms.Ensuring safe working conditions, training, and the provision of personal protective equipment (PPE) is essential to minimize these risks.
Risks to community health and safety	Communities living near construction sites may face health and safety risks, including potential exposure to hazardous materials, increased traffic, and construction-related noise and dust. Additionally, there is a risk of accidents involving local residents during the construction and operation phases of the project.
Social conflicts with local communities	Conflicts may arise due to the allocation of land for construction, resulting in changes to the livelihoods of local communities. The construction of transmission towers can lead to permanent loss of agricultural land, reducing areas for farming and other livelihoods. Additionally, the creation of sanitary zones may displace residents, disrupting their lives.
Dissatisfaction of local communities	Risk of discontent among the local population due to changes in the economic and social infrastructure of the regions where the project is being implemented.

Table9. Potential risks and impacts

The Project's modernization and construction activities may also have positive environmental and social impacts, including:

- Reduced emissions and improved energy efficiency;
- Improved availability and reliability of energy supply;
- Job creation;
- Improved infrastructure.

However, in the preliminary assessment of potential impacts, environmental and social risks are assessed as moderate and are covered by ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, and ESS 10. The environmental and social risks of the project are determined by the scale of the project, which covers the districts of Tursunzadeh, Hissar, Shahrinav, Varzob, and Rudaki. These risks are primarily related to changes in the natural environment, land allocation, impacts on water resources, effects on local communities, and concerns regarding the safety and health of the population, as well as waste and pollution management. Comprehensive mitigation measures, guided by the applicable Environmental and Social Standards, will be implemented to address and manage these risks effectively.

Possible risks and adverse impacts that may arise during implementation of project activities are summarized below:

№	Types of risks
	Direct adverse risks
1.	Temporary generation of dust, noise and shaking
2.	Temporary inconvenience on inter-farm roads
3.	Possible disturbances in the functioning of construction camps
4.	Soil and water pollution
5.	Land degradation (salinization, waterlogging and soil erosion)
6.	Loss of vegetation, including windbreaks and economic forest plantations
7.	Generation of additional construction domestic and industrial waste
8.	Occupational Health and Safety (OHS) risks
	Indirect social risks and impacts
1.	Inflow of labor force from outside and disadvantage of local community in terms of employment opportunities
2.	Limited opportunities for rural women to benefit from project activities, wage discrimination
3.	Possible use of child and forced labor (In the Republic of Tajikistan, there are specific regulations regarding child labor. While forced labor is strictly prohibited, the Labor Code allows for work under certain conditions from the age of 15. This legal provision permits teenagers to engage in light work that does not interfere with their health, education, or development. However, these exceptions are closely regulated to ensure that the rights and well-being of young workers are fully protected, and any work involving minors is subject to strict oversight to prevent exploitation.)
4.	Risk of social insecurity in employment without formal contractual obligations.

Table10. General environmental and social risks and impacts

A detailed analysis of potential social and environmental risks, as well as management strategies, is presented in the Environmental and Social Management Framework (ESMF) and the Stakeholder Engagement Plan (SEP). The

summary of key responsibilities and procedures for implementing ESMF requirements can be found in Table 14 'ESMF Regulations'

4.2. Environmental impacts, potential risks and mitigation measures (general description)

Comprehensive mitigation measures, guided by the applicable Environmental and Social Standards, will be implemented to address and manage these risks effectively. For example:

- Waste Management: Improper handling and storage of construction waste, including hazardous materials like transformer oils, can lead to environmental contamination. A dedicated waste management system, including segregation, recycling, and safe disposal, will be implemented. Transformer oils will be handled per international safety standards, ensuring spills are prevented and waste is disposed of at licensed facilities.

- Air Pollution: Dust from earthworks and emissions from machinery can affect nearby communities. Regular maintenance of equipment, irrigation of work sites, and scheduling construction activities during low-wind periods will help mitigate these impacts.

- Biodiversity Conservation: Before construction, biodiversity assessments will identify critical habitats. Measures such as buffer zones, re-routing of transmission lines, and collaboration with environmental authorities will minimize impacts on flora and fauna.

For more details, refer to the Stakeholder Engagement Plan (SEP) and Resettlement Policy Framework (RPF).

Occupational health and safety (OHS) risks remain critical throughout the project lifecycle. These risks, associated with construction activities, include working at heights, handling hazardous materials, and operating heavy machinery. Mitigation measures are outlined in the table below.

Environmental/Social Impact	Potential Risks	Mitigation Measures
Waste	Accumulation of construction and household waste, hazardous materials (e.g., transformer oils), and improper storage can lead to air, water, and soil pollution.	Establish a waste management system, including separate collection, recycling, and disposal of hazardous and non-hazardous waste. Provide marked containers for waste collection at construction sites. Ensure proper handling of transformer oils to prevent spills, and dispose of waste in licensed landfills.
Air Pollution	Dust generation from earthworks and emissions from construction machinery, especially near residential areas.	Use modern, low-emission construction machinery, regularly maintain equipment, and irrigate construction sites to reduce dust. Limit construction near residential areas and use dust suppression methods.
Noise Impacts	Increased noise from construction machinery and traffic, disturbing local communities and wildlife.	Comply with national noise regulations and World Bank guidelines. Limit noisy work to daylight hours, use noise barriers where necessary, and limit machinery speed in residential areas. Avoid night work to minimize disturbance.
Surface Water Pollution	Risk of water contamination from construction waste, oil spills, and hazardous materials entering rivers and water bodies.	Establish wastewater treatment systems and install barriers to prevent pollutants from entering water bodies. Store hazardous materials away from water sources with spill containment systems. Prohibit the discharge of materials into water bodies, and clean up spills immediately.

Soil Contamination	Spills of fuels, lubricants, and chemicals during construction, as well as improper disposal of hazardous waste, can lead to soil degradation.	Use safe materials and establish dedicated storage areas for hazardous materials. Provide training to personnel on pollution prevention and safe handling of chemicals. Ensure that fuel tanks are properly maintained and equipped with spill protection systems.
Impacts on Biodiversity	Destruction or degradation of habitats, and negative impact on flora and fauna due to construction activities.	Conduct biodiversity assessments before starting construction, establish buffer zones around critical habitats, and transplant endangered species where feasible. Minimize habitat disruption through careful planning and coordination with local environmental authorities.
Occupational Health and Safety (OHS)	Risks include accidents related to working at heights, handling hazardous materials, and operating heavy machinery, as well as exposure to unsafe conditions at worksites.	Implement a comprehensive OHS plan, provide personal protective equipment (PPE), conduct regular safety training for workers, and ensure that machinery is properly maintained. Establish emergency response procedures for accidents.
Protected Areas	Disturbance of ecosystems in or near protected areas, leading to changes in landscape and loss of biodiversity.	Avoid construction in protected areas where possible. If unavoidable, use environmentally sound technologies and coordinate with environmental authorities and NGOs to minimize impacts. Ensure restoration efforts are implemented where necessary.
Erosion and Sedimentation	Land clearing and construction activities can lead to increased erosion, soil degradation, and sedimentation in water bodies.	Minimize land clearing, protect exposed soil with erosion control measures (e.g., silt fences, drainage channels), and restore vegetation after construction. Prevent landslides by reinforcing slopes, especially in vulnerable areas.
Health and Safety of Workers	Risks to workers include working at heights, handling hazardous materials, and operating heavy machinery, which can result in injuries or fatalities.	Implement a comprehensive OHS plan, provide personal protective equipment (PPE), conduct regular safety training for workers, and ensure that machinery is properly maintained. Establish emergency response procedures for accidents.
Risks to Local Communities	Noise, dust, and increased traffic from construction activities may disturb local residents and reduce quality of life.	Limit construction work to daylight hours, maintain construction vehicles to reduce emissions, and communicate with local communities about potential disturbances. Implement traffic safety measures, such as speed limits and road signs, in areas near construction zones.
Electromagnetic Fields (EMF)	Prolonged exposure to EMF from high-voltage lines and substations may pose health risks to nearby residents.	Ensure EMF levels remain within internationally accepted safety limits. Regularly monitor EMF levels and inform local communities of results. Establish safe distances between power lines and residential areas to minimize exposure.

Road Traffic Accidents	Increased traffic flow, especially involving heavy machinery, may lead to accidents, injuries, and damage to roads.	Limit construction traffic to designated hours (8:00 AM to 6:00 PM). Implement traffic calming measures, such as speed bumps, and provide proper signage on dangerous road sections. Establish safety barriers where necessary, and limit construction activities during high-traffic periods to reduce risk.
Livestock Road Traffic Accidents	Increased risk of accidents involving stray livestock, particularly at night on unlit roads.	Limit construction activities to daylight hours to reduce risks to livestock and drivers. Use speed control measures near areas where livestock graze. Provide fencing and barriers where necessary to protect animals and prevent accidents.

Table11. Environmental impacts, potential risks and mitigation measures (general description)

4.2.1. Waste.

Construction of transmission lines and modernization of substations is inevitably associated with waste generation. This applies to both the construction phase and all other project activities. The waste generated is divided into two categories: non-hazardous and hazardous.

Non-hazardous includes, first of all, construction materials that remain after construction is completed. Improper storage of these wastes, especially near populated areas, can cause serious problems. Lack of timely and proper disposal leads to air pollution, dust, increased soil erosion, disruption of the natural habitat of animals and plants, and poses a threat to human health.

In addition to basic construction waste, used welding electrodes, packaging materials and wood arise. Most of the waste generated during the construction phase is recyclable. Timely and proper disposal will minimize the impact on the environment.

Construction debris and other types of waste such as paper, glass and plastic should be sorted into separate containers. Special sites should be provided at the construction site for easy disposal of garbage. Waste sorting and recycling rules should be clearly stated in the environmental management plans.

Waste generated during the project can also be divided into several categories. Inert construction materials include excess soil, metal, aggregates, and other materials left over after construction. Improper storage of these materials can lead to soil erosion, especially during rainy periods, and dusting during dry periods.

Inert natural materials such as soil and rocks may be disposed of on the project site at the contractor's discretion. It must be ensured that disposal of the materials does not adversely affect the environment.

Solid materials shall not be removed or stored near the following: villages and residential areas, cemeteries, river and stream beds, riverbanks, cultivated lands, pastures, animal and plant habitats, including trees, shrubs, and grasslands.

Surplus materials left after excavation works shall be disposed of in a way that does not harm the landscape and nature. The fertile soil layer should be collected and, after completion of the works, utilized at the place of removal or transferred to the destination at the discretion of local authorities and farms.

The operation of construction camps and other facilities generates significant volumes of liquid and solid domestic waste. Improper handling and disposal of domestic waste can cause health problems, unpleasant odors, air and water pollution.

The Contractor shall ensure that there are sufficient number of clearly marked containers or buckets for waste collection at campsites and construction sites. Household and construction waste must be regularly

removed from the construction site and disposed of in a licensed landfill or equivalent approved by local environmental authorities.

The modernization of the transformer stations at Regar-500 and Dushanbe-500 may generate waste in the form of transformer oils, which pose an environmental hazard if released into the soil. Therefore, the contractor should develop procedures for the removal, transportation and storage of transformer oils to minimize the risks associated with possible spills or other release of transformer oils into the environment.

4.2.2. Air pollution.

Construction and modernization of project facilities, including transmission lines, will have a short-term impact on air quality. Although construction will take place away from populated areas, some activities will inevitably take place close to residential areas.

The main sources of air pollution are dust generated during earthworks, traffic and the installation of transmission towers. During windy weather, the spread of dust increases. The most severe impacts are expected near facilities such as material storage and concrete mixing plants, as well as truck traffic and machinery operations near residential areas.

Overall, the project's air quality impacts will be temporary and localized. Compliance with the proposed measures will reduce it to the lowest practicable level.

4.2.3. Noise Impacts.

The main sources of noise during project implementation will be heavy machinery and trucks. However, noise levels are not expected to exceed permissible values. To minimize noise impacts, the following measures will be applied:

- Compliance with Tajikistan's sanitary norms: Noise levels in residential areas will not exceed 55 dB(A) during the day (from 7:00 to 22:00) and 45 dB(A) at night (from 22:00 to 7:00) in accordance with the "Sanitary Rules and Norms" No. 2. 2.4.016-14 of 2017.
- World Bank Guidelines: the recommendations of the World Bank Group Environmental, Health and Safety Guidelines for acceptable noise levels for sensitive facilities (residences, institutions, educational facilities) will be followed.
- Time Limitation of Machinery: The use of construction machinery and vehicles will be time limited to minimize impacts on the public.
- Speed Limitation: The speed of construction machinery near and within communities will be limited to 20 km/regarding vibration, given the nature of the project, impacts are not expected to be significant and will not affect human health and structural integrity.

4.2.4. Surface water pollution.

There is a risk of pollution of rivers and water bodies during project implementation due to:

- Earthworks: washing of soil and construction materials into water bodies during rainfall.
- Oil storage facilities and warehouses: spills of fuel, oil, transformer oil, hazardous materials.
- Construction activities: debris, household waste, and wash water entering water bodies.
- Landslides: construction activities may trigger landslides that will block river channels.

The following measures will be taken to prevent pollution:

- Equipping fuel and chemical storage facilities with impermeable bases and locating them away from water.
- Prohibiting the dumping of oils and liquids on the ground.
- Immediate cleanup of any spills using absorbent materials.
- Developing plans for wastewater treatment and flood prevention.

- Enforcing sanitation standards in construction campgrounds.
- Prohibiting the discharge of any materials into water bodies.
- Special attention will be paid to preventing landslides, which pose the greatest risk to rivers.

4.2.5. Soil contamination.

Fuel, lubricant, garbage, and cesspool leaks can cause soil contamination. Possible source of soil contamination should not be near farm fields or water sources. Surface runoff from the construction site should be removed. All above-ground fuel tanks would be installed above ground and the integrity of their walls would be continuously monitored.

Environmentally, the most significant impact during construction of transmission lines and replacement of obsolete transformers is toxic contamination. Construction and replacement activities may utilize transformer oils and other chemicals that have the potential to permeate the soil. Some of these oils contain polychlorinated biphenyls (PCBs), highly toxic and persistent pollutants that threaten local flora and fauna. In addition, these operations can release heavy metals such as lead, mercury, and cadmium, which accumulate in soil and water systems, harming ecosystems. Concentrated POPs waste such as PCB oils should be stored in UN certified hazardous waste drums (UN1A2/X400/S, UN1A2/Y1.8/150). In some cases, equipment containing PCBs may be stored, such as electrical transformers, which should be treated in the same way as drums. Currently, the transformers in Dushanbe 500 and Regar 500 use oils of type T-1500, DB45.

4.2.6. Erosion and sedimentation.

Soil erosion and landslides are a serious problem in Tajikistan, exacerbated by topography, climate and land use practices. The transmission line project has the potential to exacerbate these problems as it involves excavation and land clearing.

Key risks:

- Land clearing: removal of vegetation, soil, and rocks exposes the ground, makes it vulnerable to erosion, and promotes the formation of channels for water runoff.
- Alteration of fertility: construction affects fertile land, reducing its productivity.
- Landslides: clearing slopes, altering water flows and stockpiling materials increase the risk of landslides.

Erosion and landslide prevention measures:

- Minimize clearing: avoid areas with vegetation where possible.
- Soil protection: use silt fences, temporary drainage channels, water energy dissipation measures.
- Revegetation: replant, use native species to reinforce slopes.
- Careful operation of machinery: use of temporary access roads, compaction of soil around trees, training of workers.
- Prohibition of tree cutting: use of imported fuel in construction camps.
- Restorative landscaping: where tree felling is necessary, landscaping measures will be carried out.

All works will be carried out in compliance with environmental regulations and in cooperation with local authorities. The main objective is to minimize unavoidable environmental impacts and ensure the conservation of soil resources.

4.2.7. Impacts on biodiversity.

The transmission line project affects a large area where rare species of animals and plants may live. The substation upgrade covers a small area and therefore there is minimal or no harm to biodiversity. The following measures will be taken to prevent damage to biodiversity:

- Preliminary survey: a thorough survey will be carried out prior to commencement of works to identify habitats for rare species.

- Mitigation measures: if such locations are found, measures will be taken to minimize negative impacts, up to and including re-routing of the transmission line.

- Consideration of migration routes: construction activities will take into account the migration routes of animals to ensure that their movements are not impeded.

4.3. Health and safety of employees and the community

Construction of transmission lines and modernization of substations are large-scale projects that require not only technical expertise, but also close attention to safety. All possible risks for both workers and the local population must be taken into account. For workers working at height when installing transmission line elements, there is an increased risk of danger. Errors in installation, non-compliance with safety rules or equipment malfunction can lead to serious injury or even death. Work with heavy machinery is no less dangerous: its improper use can cause accidents and mishaps. Special attention should be paid to handling hazardous materials used in the construction of power lines: improper handling can lead to poisoning, fires and other unpleasant consequences.

Earthwork, especially on steep and unstable slopes, is also high risk. Landslides, landslides and other geologic processes can cause injuries and accidents. In addition, the distance of some construction sites from medical facilities makes the situation even more dangerous. In case of an accident, it may take a long time to get the injured person to a hospital, which increases the risk of negative consequences.

The construction of transmission lines can lead to a number of negative consequences for the local population as well.

The Contractor is fully responsible for the safety and health of workers and the public in the area of the transmission line construction. He is obliged to comply with all legal requirements, including international labor safety standards, and to compensate for any damage caused as a result of his negligence.

4.3.1. Risks associated with the local population living in the vicinity of the project areas.

The construction of transmission lines and the modernization of substations, particularly near residential areas, introduce several additional challenges beyond waste generation. Insufficient lighting and inadequate fencing at construction sites present significant hazards to pedestrians and vehicles, especially at night. The lack of proper barriers and lighting increases the likelihood of accidents, including traffic incidents. Furthermore, the increased traffic flow caused by the movement of trucks and construction equipment not only adds to congestion but also creates disturbances for local residents. The noise generated by machinery, along with dust and vibrations, can elevate pollution levels and significantly degrade the quality of life in nearby communities.

Untimely and inefficient disposal of solid waste poses another serious concern. Poor sanitary and hygienic conditions at construction sites and worker camps can lead to environmental pollution, which may adversely affect the health of local communities. The movement of heavy equipment often damages or deteriorates roads, making transportation inconvenient and hazardous for both residents and construction traffic.

In the event of road accidents, such as spills of fuel or toxic chemicals, the impact on local and project-affiliated villages can be severe. Environmental pollution resulting from these incidents can contaminate soil, water, and air, leading to significant health risks for local residents.

Moreover, the issue of Electromagnetic Fields (EMF) must be addressed, particularly in areas close to high-voltage transmission lines and substations. Prolonged exposure to EMF has been associated with potential health risks, including an increased likelihood of certain diseases. It is crucial to ensure that EMF

levels generated by the project remain within internationally recognized safety limits. Regular monitoring of EMF levels, along with public disclosure, is necessary to maintain safety standards. Establishing and maintaining safe distances between power lines and residential areas is also important to minimize exposure and protect public health.

Addressing these risks requires a comprehensive approach that includes enhancing site security, managing construction traffic, controlling noise and dust, effectively handling waste, maintaining roads, preparing for potential spills, and monitoring EMF levels. These actions will help ensure that the construction and modernization activities are conducted in a socially and environmentally responsible manner, safeguarding the well-being of local communities.

4.3.2. Mitigation Measures.

Associated impacts can also lead to accidents involving vehicle occupants. Injuries or fatalities, especially of children, have serious social and economic consequences for the affected families and communities. Therefore, all practical measures should be taken to minimize road traffic deaths and injuries. Suggested measures include: speed control and traffic calming, e.g. speed bumps within villages; speed control and guide signs, barriers, etc. on dangerous road sections, e.g. bends, bridges, etc.; safety fencing and widening of shoulders on some road sections; measures are needed to minimize losses due to road crashes, including livestock (and native animal species); proposed speed limits in areas where animals graze.

4.4. Potential social impacts and risks and mitigation measures.

4.4.1 Potential social impacts and risks

Social risks are significant and multifaceted, arising from:

(i) (i) Land acquisition and involuntary resettlement may be required for the construction of new substations and overhead lines. However, the transition to automated dispatch and emergency systems primarily involves upgrades within existing substation control rooms, with minimal or no additional land acquisition needed. In Tajikistan, land is state-owned and allocated to citizens under lifetime lease agreements with inheritance rights. Affected persons will be compensated in accordance with the Resettlement Policy Framework (RPF) and the World Bank's ESS5 standard, ensuring fair compensation and livelihood restoration.

(ii) Economic and physical displacement, which may disrupt livelihoods and require restoration of economic activities, along with worker retrenchment where necessary;

(iii) Labor management challenges, including ensuring fair working terms and conditions, occupational health and safety (OHS), and the establishment of safe and effective worker camps;

(iv) Community health and safety issues, particularly related to construction activities and labor influx;

(v) Social exclusion risks, requiring that the interests of vulnerable and disadvantaged groups, including women, ethnic minorities, and the socially disadvantaged, are considered to ensure equal access to Project benefits.

Mitigation measures include prioritizing avoidance and minimization strategies, as outlined in the Resettlement Policy Framework (RPF), to ensure fair compensation, livelihood restoration, and inclusive engagement with affected communities. As highlighted in Section 1.6 of the ESMP, alternative route studies play a critical role in these strategies. These studies help identify optimal alignments for transmission lines and substation sites, avoiding environmentally sensitive areas and minimizing displacement. This ensures that the project adheres to best practices and aligns with the World Bank's ESS1 and ESS5 standards. Additionally, risks related to economic and physical displacement, including loss of housing and livelihood disruptions, are significant. Mitigation measures include the implementation of a Resettlement Policy Framework (RPF), fair compensation mechanisms, and livelihood restoration programs. The RPF aligns with the World Bank's ESS5 standard and Tajikistan's legislation to ensure equitable outcomes for affected

communities. In order to prevent (iii) the risk of social insecurity in hiring without formal contractual obligations (iv) disputes and misunderstandings, the contractor should conclude an employment contract with each hired worker specifying the rights and obligations of the parties, ensuring safe working conditions and timely payment of wages. On a regular basis, PMG representatives will monitor the Contractor's compliance with workers' rights and working conditions. When hiring labor force in the field, it will be mandatory to take into account the moral and psychological qualities of those hired in order to prevent incidents at the construction site. Before starting construction work, the contractor should be guided by the opinion and recommendations of local representatives of jamoats and mahalla councils. When creating jobs, special attention should be paid to the involvement of persons from the category of socially vulnerable groups of the population and the involvement of national minorities living in the project area. The principle of equal access to the benefits of the Project and non-discrimination shall be observed. The Contractor shall pay special attention to gender aspects and attract them to work on the Project.

Labor risks at PMG level are assessed as moderate as they are regulated by the Constitution and normative legal norms of the Republic of Tajikistan in the field of labor, guaranteeing the right to work, right to rest, health protection and social security. The State Service for Supervision in the Sphere of Labor and Social Protection of the Population monitors the observance of labor rights of workers, compliance with contractual obligations and safe working conditions semi-annually. Labor relations with key employees are regulated by contractual relations specifying conditions, wages and bilateral obligations.

The risks of Sexual Exploitation and Abuse (SEA) and Violence/Sexual Harassment (VSH) are assessed as moderate, primarily due to the current status of national legislation and the gender norms in rural areas, which are deeply rooted in respect for local rules and traditions. It is important to consider that construction work will be conducted in rural regions, where most of the workforce will be hired locally. Local contractors are likely to be engaged in the construction and modification activities of the Project, and the relationship between the employer and the employees is expected to be founded on the mutual respect that is typical of rural communities. However, despite these cultural norms, there is a recognized need to ensure that risks related to SEA, VSH, and other labor-related issues, such as forced labor and child labor, are adequately addressed.

To mitigate these risks, the Client, as part of the implementation of the ESMF, will ensure adherence to stringent measures against child labor and forced labor. These requirements will be incorporated into the ESMP and contractually binding for all contractors. The implementation of these measures will be overseen by the Project Executing Agency (PEA) staff, in collaboration with the contractor's supervisory engineers and environmental and social specialists, who will actively monitor compliance and report any violations

Labor-related challenges include the need to ensure safe and fair working conditions for all employees, particularly in remote construction sites and worker camps. To address these issues, the Project will implement measures outlined in the Labor Management Procedures (LMP), including:

- Provision of adequate housing, sanitation, and healthcare in worker camps;
- Regular safety training and enforcement of occupational health and safety (OHS) standards;
- Prohibition of forced and child labor, as per the Labor Code of the Republic of Tajikistan and ESS2 requirements;
- Establishment of grievance redress mechanisms for workers to address concerns related to wages, working conditions, and workplace safety.

Additionally, to further reduce the incidence of SEA, VSH, and labor-related risks, the implementation of a comprehensive Code of Conduct is necessary. This Code of Conduct will outline clear behavioral expectations for all workers, including prohibitions against SEA, VSH, child labor, and forced labor. It will also establish procedures for reporting and addressing any incidents that occur.

The inclusion of the Code of Conduct as a mandatory component of the ESMF is a crucial step in fostering a safe and respectful working environment. It will serve as a preventive measure against potential

abuses and will ensure that all workers are aware of their rights and responsibilities, thereby contributing to the overall social sustainability of the Project.

No child, forced, coerced, compulsory or unpaid labor will be used in any construction work, contract work or directly related to the Project. Article 8 of the Labor Code of the Republic of Tajikistan prohibits the use of forced labor, and Article 4 "Fundamentals of Labor Legislation of the Republic of Tajikistan" establishes the prohibition of discrimination, forced labor, use of female labor and labor of minors in heavy, underground and work with harmful working conditions. Procedures for managing impacts related to resettlement and labor conditions are detailed in the Resettlement Policy Framework (RPF) (see Section 1.2) and Labor Management Procedures (LMP) (see Section 3). These documents are aligned with World Bank requirements and the legislation of the Republic of Tajikistan. In accordance with the Law of the Republic of Tajikistan "On Education", in educational institutions, regardless of organizational and legal forms and form of ownership, it is not allowed to engage students and pupils in agricultural and other work not related to education and training. Project implementation is carried out with financial support of the World Bank, which includes requirements to the Borrower to prevent the use of forced and child labor. The project will not involve work related to sowing and harvesting of any agricultural products.

Construction and modification works will be labor intensive and mechanized. However, the PMG will ensure effective monitoring of the prevention of forced and child labor, and outreach activities will focus on interpretation of the provisions of the legislation of the Republic of Tajikistan and the World Bank's Social and Environmental Policy on this issue. During implementation of the Project, a risk monitoring team will be established consisting of PMG specialists, representatives of local Hukumats responsible for children's rights, who will be responsible for identifying facts and taking measures within the Project's authority, or reporting facts. to local authorities to address the problem and take appropriate measures within the Project's authority, or reporting facts to local authorities to address the problem and take appropriate measures. The Contractor's Code of Conduct shall contain provisions for the protection of children and prevention of the use of labor in construction works.

Resettlement and Land Acquisition. The Project's activities will involve involuntary land acquisition and possibly resettlement, as some of the locations selected for new transmission lines pass through residential areas and privately owned land parcels. However, there will be no need for resettlement or land acquisition during the modernization of substations. According to Article 38 of the Land Code, the state has the authority to withdraw land for public or state needs, following the established legal procedures. The Regulation on Compensation of Losses of Land Users and Losses of Agricultural Production, as approved by the Government of the Republic of Tajikistan under Resolution No. 641 (dated December 30, 2011), outlines the compensation mechanisms for affected land users.

To ensure that these processes are carried out in a fair and transparent manner, a Resettlement Policy Framework (RPF) has been developed in accordance with the World Bank’s Environmental and Social Standard 5 (ESS 5) on Land Acquisition, Land Use Restrictions, and Involuntary Resettlement. This framework aligns with the relevant provisions of Tajikistan’s legislation and will serve as a guide for implementing agencies when resettlement or land acquisition becomes necessary. The RPF is designed to ensure that all affected individuals are adequately compensated and supported throughout the resettlement process, in line with both national laws and international best practices. When hiring labor force in the field, it will be mandatory to take into account the moral and psychological qualities of those hired in order to prevent incidents at the construction site. Unskilled labor induction from local sources particularly from PAPs also positively helps in addressing the economic displacement caused by land acquisition and resettlement by providing alternative sources of income for affected communities by engaging them on priority. Before starting construction work, the contractor should be guided by the opinion and recommendations of local representatives of jamoats and mahalla councils. The principle of equal access to the benefits of the Project and non-discrimination shall be observed, ensuring inclusive engagement and socioeconomic support for affected groups. The Contractor shall pay special attention to gender aspects and attract them to work on

the Project. Economic and physical displacement resulting from land acquisition will be managed in accordance with the Resettlement Policy Framework (RPF). This includes fair compensation mechanisms, transparent consultations with affected communities, and livelihood restoration programs. Compensation will cover both physical assets (e.g., housing, agricultural land) and economic losses (e.g., income from farming or businesses). Special attention will be given to vulnerable groups, ensuring they receive additional support to restore or improve their living standards and livelihoods.

4.4.2 Economic and Physical Displacement

Social risks associated with land acquisition for project-related infrastructure development, such as substations and transmission lines, may result in both economic and physical displacement. These include: - Loss of housing and access to resources. - Disruption of livelihoods. Mitigation measures will include fair compensation mechanisms, livelihood restoration programs, and transparent consultation processes in alignment with ESS 5 and the Resettlement Policy Framework (RPF). Detailed procedures are outlined in Section 5 of the RPF document.

4.4.3 Labor Management and Working Conditions

Risks related to working conditions and labor management, including potential discrimination and unsafe working environments, require a robust framework. The Labor Management Procedures (LMP) document provides specific guidance on: - Ensuring occupational health and safety. - Preventing discrimination and promoting equal opportunities. - Establishing grievance mechanisms for workers. Further details can be found in the LMP Section 2,3 and are aligned with ESS 2 requirements.

4.4.4 Measures to mitigate and reduce social risks

The Stakeholder Engagement Plan (SEP) has been developed as a critical tool for engaging all relevant stakeholders, including government and non-government entities, affected communities, and local, district, and regional authorities. The SEP identifies stakeholders' expectations and concerns, enabling the Project to develop effective engagement approaches tailored to each group. Its primary objective is to actively engage Project-affected people and other stakeholders through consultations, ensuring that all groups have the opportunity to express their views.

While the SEP is an essential component of the Project's social risk management strategy, it is not a standalone solution. Social risks associated with the Project require a comprehensive approach that integrates the SEP with other measures outlined in the Environmental and Social Management Framework (ESMF) and Environmental and Social Management Plan (ESMP). The ESMF provides a broader scope, identifying potential social issues, assessing their impacts, and defining mitigation strategies.

To ensure the effective inclusion of vulnerable groups, such as women, ethnic minorities, and socially disadvantaged households, the Project will adopt the following targeted measures:

- Setting gender quotas for employment in Project activities to enhance inclusivity;
- Providing training programs and capacity-building initiatives for women and marginalized groups;
- Ensuring gender-sensitive facilities, such as separate sanitation areas at construction sites;
- Conducting outreach programs to involve vulnerable groups in consultations and decision-making processes, as detailed in the Gender Development Framework (GDF).

In addition to these measures, the Project will monitor gender integration indicators, such as the percentage of women employed and their satisfaction with workplace inclusivity, and provide semi-annual updates to stakeholders.

Key Measures for Social Risk Mitigation

1. **Route Optimization for Transmission Lines (TL):**
   Flexible alignment planning will minimize the need for land acquisition and reduce risks of physical

and economic displacement. Careful route selection will prioritize avoiding residential areas, agricultural lands, and culturally significant sites, ensuring minimal impact on local communities while maintaining the Project's technical and economic feasibility.

2. **Community Involvement in Design Stages:**
   Early and ongoing consultations with local communities will be integral to Project planning. Affected communities and stakeholders will provide feedback on proposed transmission line routes and alternative alignments, ensuring their concerns are addressed. This participatory approach promotes transparency, builds trust, and incorporates local voices into decision-making processes.
3. **Resettlement and Compensation Processes:**
   The Resettlement Policy Framework (RPF) will guide resettlement and compensation efforts, ensuring:
   - Compensation at full replacement cost for all affected assets;
   - Livelihood restoration programs for displaced individuals;
   - Transparent grievance redress mechanisms to resolve community concerns.
4. **Inclusion of Vulnerable Groups:**
   Measures will be taken to integrate vulnerable groups into Project activities, ensuring fair employment practices, inclusivity, and equity in the distribution of Project benefits. Outreach programs and support mechanisms will target socially disadvantaged populations.
5. **Monitoring and Reporting:**
   Regular monitoring of social risk mitigation measures will ensure compliance with ESS5 and ESS2 standards. Key performance indicators will include the number of consultations held, the inclusion of vulnerable groups, and stakeholder satisfaction.

These measures will be supported by the SEP's robust engagement framework, complemented by grievance redress mechanisms to address concerns and provide solutions throughout the Project's lifecycle. Together, these approaches form a comprehensive strategy to manage social risks, ensuring that the concerns and needs of all stakeholders are effectively addressed.

4.4.5 Vulnerable groups and ethnic minorities

To ensure inclusivity, the Project will adopt tailored approaches to engage vulnerable groups. These measures include:

- Conducting targeted outreach programs and small group discussions.
- Providing materials and consultations in accessible formats.
- Collaborating with local NGOs to address specific challenges faced by ethnic minorities and women.

Details are further elaborated in the Stakeholder Engagement Plan (SEP) Section 3.4 and 5.2.

4.4.6. Stakeholder participation

The document also contains information on meetings and consultations with key stakeholders and provides an overview of their needs. Based on the engagement program, stakeholder engagement activities are planned and will take place throughout the life cycle of the Project. The Stakeholder Engagement Plan (SEP) discloses how information will be disseminated.

Stakeholder engagement activities are expected to create an atmosphere of mutual understanding where Project affected persons and other stakeholders can express their views and concerns about potential environmental and social risks and impacts that may arise during Project implementation and management.

In accordance with the requirements of World Bank ESS 10 Standard, the Project will implement a grievance and grievance redress mechanism (GRM). The Project envisages three-stage implementation of GRM at regional, national and local levels. User participation in water resources planning and allocation is

expected to increase transparency and accountability in the sector. The Grievance Redress Mechanism will be updated as the Project progresses and will remain publicly available on the websites of implementing and executing organizations. Detailed information is reflected in a separate Stakeholder Participation Plan prepared for the Project.

4.4.7. Gender differences

The Gender Development Framework (GDF) serves as the guiding document for addressing gender gaps and promoting equal opportunities. It outlines specific measures such as introducing gender quotas, conducting mentoring programs, and ensuring transparency in pay audits. The Project will take actions to ensure equal opportunities for all suitable Project stakeholders. Women are expected to make up about 5 percent of the workforce and are likely to be employed in finance, procurement, environmental, monitoring and evaluation, support staff working in the PMG office.

Women constitute more than half of the population in the Project areas. Since most of the planned activities are focused on construction and upgrading works in rural areas, women will be represented in the Project's construction works in limited numbers for light work (cleaning the site, cooking for workers, washing dishes, etc.) as construction works are mechanized and labor intensive.

For gender empowerment, i.e. greater participation of women in the Project activities and their benefits, specialized trainings will be conducted to increase the capacity of women working. To ensure safe working conditions for women, the Project will provide gender-sensitive facilities, such as separate sanitation facilities, and consider flexible work schedules where applicable. These measures will align with ESS 2 and national labor standards.

To mitigate the risks of gender-based violence (GBV) and workplace harassment, the Contractor will implement a mandatory Code of Conduct (CoC). This document will:

- Clearly define unacceptable behaviors, including GBV and harassment.
- Provide detailed procedures for reporting and addressing incidents.
- Include mandatory training sessions for all workers to promote awareness and understanding of the CoC.

Mandatory training sessions for all workers and contractors will focus on gender equality, prevention of GBV, and adherence to the Code of Conduct (CoC). These sessions will be conducted at least quarterly by trained social specialists and will include practical scenarios and case studies.

Measures for gender mainstreaming, including actions to create equal opportunities and professional development for women, are detailed in the Gender Development Framework (GDF). For more information, see Table 13 in this document. Any gender-related grievances will be addressed through the Grievance Redress Mechanism (GRM), detailed in Section 9 of this document. The Grievance Redress Mechanism (GRM) will include specialized training for its staff to handle gender-related grievances sensitively and confidentially. All gender-based grievances will be prioritized and resolved within a defined timeframe to ensure timely redress. The GRM will ensure a confidential and fair process for resolving such complaints. The PMG's social and gender specialists will oversee the implementation of all gender-related measures, ensuring alignment with ESS 2 and monitoring the effectiveness of these actions.

4.4.8. Addressing gender differences

The Project to address gender disparities in the construction of transmission lines (transmission lines), replacement of obsolete transformers, and installation of new transformers in substations will address three key aspects: creating an inclusive workplace, economic equality, and cultural change. Addressing gender gaps in these areas can have significant positive impacts on society. Women make up more than half of the population in the Project areas. The Project will address three gender gaps:

- creating an inclusive workspace;

- economic equality; and
- cultural change.

The Project will actively engage local women's organizations and community groups to ensure that gender-specific measures are culturally appropriate and effectively address the needs of women in the Project areas.

The Project will develop a Gender Development Framework (GDF), which will identify specific gender mainstreaming measures for the Project, corresponding to the following actions:

Gender gap	Actions
Low representation of women in transmission line construction	Creating an inclusive workplace Introduction of gender quotas in recruitment Mentoring and professional development programs for women
Unequal pay between men and women	Ensuring equal pay for equal work Conducting regular pay audits Transparency in remuneration
Limited career opportunities for women	Ensuring equal access to professional development opportunities Providing trainings and professional development courses Creating flexible work schedules and conditions for work-life balance
Gender stereotypes and cultural barriers	Awareness-raising campaigns on gender equality and combating gender stereotypes Introduction of gender education and trainings on inclusiveness Supporting initiatives aimed at gender equality in society

Table12. Example of a Gender Development Framework (GDF)

The PMG's social and gender specialists will be responsible for tracking gender integration indicators. Data collected during monitoring will be consolidated into the Project's semi-annual reports and reviewed with key stakeholders to identify areas for improvement. PMG will conduct regular monitoring of gender integration indicators, including periodic reviews of employment statistics and surveys to assess workplace inclusivity. Results will be incorporated into semi-annual reports submitted to the World Bank. Collected data on gender integration indicators will be analyzed quarterly, and the findings will be included in semi-annual reports submitted to the World Bank. These reports will highlight progress, challenges, and recommendations for further improving gender equality measures.

Since most of the planned activities involve construction and modernization works in rural areas, the Project will ensure the inclusion of women in diverse roles based on their skills and preferences, while promoting equal opportunities for participation. To address potential gender risks in employment, the Project will strengthen human resource management practices in line with ESS 2 and the LMP. These practices include ensuring that all workers have written contracts with terms and conditions consistent with national legislation, promoting equality and non-discrimination in employment and wages, and providing decent working conditions and occupational health and safety standards that address the needs of both women and men.

Risks related to gender exploitation and harassment are assessed as moderate, mainly due to the state of national legislation, gender norms of villagers based on respect for local rules and traditions. Nevertheless, the contractor will have to commit in the contract not to use any violence, and the Code of Conduct (COC) should clearly state that the contractor and its staff should respect and observe local customs and traditions, respect local women, women participating in the project's rehabilitation activities, and their privacy.

These measures align with the World Bank Environmental and Social Standard 2 (ESS 2) and national labor legislation.

Labor Management Procedures. A Labor Management Procedures (LMP) document has been developed to manage risks that may arise from the employment and working conditions of Project employees.

This document has been prepared in accordance with the legislation of the Republic of Tajikistan and covers the provisions of the World Bank's Environmental and Social Standard 2: Labor and Working Conditions (ESS 2). The document defines the main aspects of planning and regulation of labor relations, helps the PMG Executive Agency to determine the preliminary number of staff needed to address staffing issues, and sets out the main staffing requirements and risks associated with the Project.

In accordance with ESS 2 Labor and Working Conditions, Project employees are divided into the following categories:

1. Key Employees, persons employed or engaged directly by the Borrower and involved in carrying out Project activities;

2. Contractual employees, those hired and engaged by a third party (contractors, subcontractors, etc.) to perform work related to the core functions of the Project, regardless of location;

3. Employees of major suppliers, i.e., those hired or engaged by the Borrower's major suppliers who, on a regular basis, directly supply goods and materials necessary for the implementation of the main functions of the Project;

4. Public Workers, i.e., persons hired or engaged to perform public works.

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

The Project will focus on the Contractor, directly employed by the PMG to carry out tasks related to the Project, and salaried workers, i.e. project workers employed by the Contractor or other third party. As the main works under the Project are construction and upgrading works that will be carried out in rural areas, members of the local community may be hired as the contractor's labor force. Procurement of services will be done through competitive bidding in accordance with World Bank requirements. The project will establish a grievance redressal mechanism for project workers in accordance with ESS 2 before the project becomes effective. Labor management issues are described in more detail in the Labor Management Procedures prepared for the project, which will also be followed by all project contractors.

The Project will measure the success of gender integration through the following indicators: - Percentage of women among new employees hired for Project activities.

- Ratio of women to men in leadership roles within the Project.

- Number of training sessions conducted on gender equality and inclusiveness, and number of participants.

- Level of employee satisfaction with workplace inclusivity, measured through annual surveys.

All measures outlined in this section align with the requirements of World Bank Environmental and Social Standard 2 (ESS 2), ensuring equal opportunities, non-discrimination, and the protection of workers' rights throughout the Project.

4.4.9. Land acquisition and mitigation measures for involuntary resettlement.

Land acquisition and involuntary resettlement are managed in accordance with the Resettlement Policy Framework (RPF), which outlines the principles and procedures for ensuring fair treatment of affected individuals and communities. The RPF aligns with the World Bank's Environmental and Social Standard 5 (ESS5) and the legislation of the Republic of Tajikistan, providing a clear mechanism for compensation, livelihood restoration, and minimizing displacement.

Mitigation measures include:

- **Avoidance and Minimization:** Prioritizing alternative route studies and alignment planning to minimize land acquisition and displacement.
- **Fair Compensation:** Ensuring full replacement cost compensation for affected assets, as detailed in the RPF.

- **Livelihood Restoration Programs:** Providing support for economic recovery and restoration of income sources.
- **Stakeholder Engagement and Grievance Mechanisms:** Engaging affected communities through consultations and establishing transparent mechanisms for addressing grievances.

For detailed measures related to land acquisition and resettlement, refer to Sections 4.4.4 and the Resettlement Policy Framework (RPF). These measures ensure compliance with ESS5 and aim to mitigate the social and economic impacts of displacement effectively.

4.4.10 Economic and Physical Displacement

Economic and physical displacement risks are significant, particularly for communities impacted by land acquisition for substations and transmission lines. These risks may lead to the loss of housing and access to natural resources, as well as disruptions to the livelihoods of affected households. To mitigate these impacts, measures will include the implementation of fair compensation mechanisms to ensure that individuals receive the full replacement value for their lost assets. Additionally, livelihood restoration programs will be established to help affected individuals resume their economic activities. Transparent consultation processes will also be carried out to address and incorporate the concerns of displaced communities. These mitigation efforts are aligned with ESS 5 and the Resettlement Policy Framework (RPF), as outlined in Section 8.

4.4.11 Worker Retrenchment and Restoration of Economic Activities

The transition to automated systems and construction-related activities may lead to worker retrenchment, requiring proactive strategies to mitigate economic impacts. To address these challenges, skills training programs and job placement initiatives will be implemented to assist displaced workers in finding new employment opportunities. Additionally, economic empowerment initiatives will be introduced to support affected households in rebuilding their livelihoods. These efforts are consistent with the provisions of ESS 2 and the Labor Management Procedures (LMP), as detailed in Section 10.

4.4.12 Labor Management Challenges

Labor management risks encompass unsafe working conditions, substandard living arrangements in worker camps, and insufficient mechanisms to address labor-related grievances. To mitigate these risks, measures will ensure adequate housing, sanitation, and healthcare in worker camps while enforcing occupational health and safety standards through regular training programs. Additionally, a grievance redress mechanism (GRM) will be established to handle labor-related concerns effectively. These approaches are aligned with ESS 2 and the Labor Management Procedures (LMP) outlined in Section 11.

4.4.13 Community Health and Safety Risks

Construction activities may impact community health and safety by increasing traffic risks from construction vehicle movement, causing air and noise pollution, and potentially leading to conflicts between workers and local communities. To address these issues, traffic management plans will enhance safety, while air and noise pollution control measures will minimize environmental disturbances. Community engagement activities will also be conducted to address safety concerns and build trust. These measures are consistent with ESS 4 and the Stakeholder Engagement Plan (SEP) detailed in Section 3.

4.4.14 Social Exclusion Risks and Vulnerable Groups

To ensure the inclusion of vulnerable groups, such as women, ethnic minorities, and disadvantaged populations, targeted measures will focus on creating employment opportunities, providing gender-sensitive facilities at construction sites, and facilitating meaningful participation in consultations and decision-making processes. Capacity-building initiatives will also empower marginalized communities to benefit from the project. These efforts are elaborated in the Gender Development Framework (GDF) and the Stakeholder Engagement Plan (SEP).

5. RULES AND PROCEDURES FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

In accordance with the World Bank's Environmental and Social Principles, each project must comply with the national environmental and social legal framework and the World Bank's Environmental and Social Standards (ESS). This section provides guidance on the actions required to conduct an environmental and social assessment in accordance with the national legal framework and the WB's ESS. A pre-social screening form is provided in Annex 4.

5.1 Framework approaches to environmental and social assessment

The integration of environmental and social assessment frameworks is crucial for the successful preparation and implementation of projects involving the construction of power transmission lines, the replacement of obsolete transformers, and the installation of new ones at substations. This framework includes the Environmental and Social Management Framework (ESMF) as the overarching document that defines processes for managing risks and impacts.

Project-specific Environmental and Social Impact Assessments (ESIA) and Resettlement Action Plans (RAP) are triggered by the ESMF to address site-specific risks. These tools allow for detailed evaluation of impacts and tailored mitigation measures, ensuring compliance with the World Bank's Environmental and Social Standards (ESS1–ESS10) and national legislation. The ESMF further outlines protocols for preparing related documents, such as ESMPs, Biodiversity Management Plans, and Labor Management Procedures (LMP), to provide a holistic approach to risk management.

Stakeholder participation, as detailed in the Stakeholder Engagement Plan (SEP), remains fundamental to this process. Public consultations and engagement activities help integrate feedback into the design and implementation phases. Additionally, ongoing monitoring and reporting are essential to ensure adaptive management of risks and compliance with the E&S framework.

By linking these instruments, the Project establishes a comprehensive framework for environmental and social assessment, ensuring that all risks are systematically identified, addressed, and mitigated in alignment with international best practices. The summary of key responsibilities and procedures for implementing ESMF requirements can be found in Table 14 'ESMF Regulations'

5.2 Instruments in accordance with the national legislation of the Republic of Tajikistan

In addition to these World Bank instruments, within the framework of the National Environmental Impact Assessment, along with the development of the ESMP, a National Environmental Documentation based on the requirements of the national legislation should be prepared. The approaches of the legislation of the Republic of Tajikistan are basically similar to the World Bank's approaches and principles, but differ in details. For example, the national procedures do not provide for the assessment of social risks, but only environmental risks and potential negative impacts. Therefore, these two procedures will be applied in parallel. When planning and executing works, the contractor will have to be guided by both documents, and in case of contradictions, apply the one that establishes more stringent requirements on specific issues.

5.3 Monitoring and Reporting

The monitoring framework includes:

- Semi-annual reports to the World Bank, as outlined in the ESMP Section 3.

- Community feedback collection via the GRM, detailed in Section 9.

- Independent reviews conducted by external consultants, in alignment with ESF guidelines.

Monitoring activities will include regular assessments of the effectiveness of mitigation measures, compliance with World Bank Environmental and Social Standards (ESS), and the identification of any unforeseen risks.

Frequency and Responsibilities:

- Monitoring will be conducted quarterly by PMG specialists, with semi-annual and annual consolidated reports submitted to the World Bank. The findings from independent reviews will also be summarized and disclosed to the public to ensure transparency and build trust among stakeholders.

- Field audits will be carried out by PMG representatives and contractors to ensure on-site compliance with the Environmental and Social Management Framework (ESMF) and Environmental and Social Management Plan (ESMP).

- Independent reviews will be conducted by external consultants every two years to validate monitoring results and provide recommendations for improvement. Findings from independent reviews will be presented to the PMG and World Bank, with specific recommendations for improving Project implementation. These recommendations will be prioritized and included in action plans for subsequent reporting periods.

Integration of Key Indicators:

- Gender integration indicators will be tracked quarterly to evaluate progress in promoting equal opportunities and inclusivity.

- Grievances registered through the GRM, described in Section 9, will be analyzed to identify recurring issues and improve Project implementation. Grievance data collected through the GRM will be categorized by type, frequency, and resolution status. These analyses will be integrated into the semi-annual reports and reviewed by the PMG to identify trends and areas requiring further mitigation. Key trends, such as the increase or decrease in the number of complaints, recurring themes, and resolution times, will be analyzed to identify systemic issues and improve grievance handling processes.

Reporting Framework:

- All monitoring data, including gender-related indicators and grievance statistics, will be consolidated into semi-annual reports and shared with stakeholders through the channels specified in the Stakeholder Engagement Plan (SEP), Section 1.3.

- Monitoring outcomes will be disclosed to the public via the Project website, community meetings, and information bulletins, ensuring accessibility for vulnerable groups. Feedback from community consultations will be systematically reviewed to identify potential gaps in mitigation measures and adjust Project activities accordingly. The outcomes of these reviews will be shared with stakeholders during public meetings and incorporated into the annual reports.

6. MONITORING AND REPORTING

6.1 General requirements for environmental and social monitoring and reporting

Environmental and social monitoring during project implementation is critical to ensuring that the project's impacts are effectively managed and mitigated. Monitoring should include comprehensive information on the key environmental and social aspects of subprojects, including their specific environmental impacts, social consequences, and the effectiveness of mitigation measures implemented. This data allows

the Project Management Group (PMG) to track contractors' adherence to environmental protection commitments, assess the effectiveness of these measures, and ensure timely corrective actions when necessary. Furthermore, it provides clarity on the frequency, location, and responsible parties for conducting monitoring activities.

The PMG's environmental and social specialists are responsible for monitoring the implementation of environmental protection measures. Representatives from the Environmental Committee will also participate in monitoring and control activities, either according to their own plans or as part of joint monitoring efforts under the project. The objective of these activities is to verify compliance with the Environmental and Social Management Framework (ESMF), track implementation progress, and evaluate the extent of consultation and community participation. Monitoring will be documented using a standardized checklist, which will be used to prepare monitoring reports. Independent environmental, social, health, and safety audits will be conducted at the mid-point of the project implementation and upon project completion to ensure the proper execution of the ESMF and the identification and implementation of mitigation measures. These audits will help identify any necessary adjustments to the ESMF to improve its effectiveness.

Ongoing monitoring of social aspects will be conducted by the PMG Social Action Specialist to ensure that unintended impacts during construction and modernization works, such as those affecting illegal land users or livelihoods, are identified and addressed. Monitoring will also cover health and labor issues. Should any problems be identified, they will be addressed through proposed mitigation measures in progress reports or through individual corrective action plans. Monitoring activities include quarterly assessments of environmental and social impacts, as outlined in Section 5 of the ESMP, to ensure compliance with ESS requirements

6.2. Types and objectives of environmental and social monitoring

To ensure that the environmental measures specified in the ESMF are implemented, monitoring shall be conducted as follows:

Visual Monitoring during the Construction Phase: PMG specialists will conduct continuous visual monitoring of the implementation of the ESMF by contractors. This monitoring will include monthly inspections of the project sites, during which the PMG specialist has the authority to suspend work or withhold payments if the contractor fails to fulfill their obligations under the ESMF. Specific checklists will be used for monitoring, which will be based on the ESMF guidelines and supplemented with photographic documentation of the monitoring sites.

Instrumental Monitoring of Environmental Quality: Although instrumental monitoring, such as air and water quality assessments, may not be routinely conducted given the types of activities under this project, it is mandatory in the event of complaints from the local population regarding violations or nuisances. In such cases, the contractor is required to engage a certified laboratory to conduct instrumental measurements. If these measurements reveal that national standards have been exceeded, the contractor must implement additional mitigation measures to bring the project into compliance with the standards.

Monitoring Indicators: To ensure comprehensive monitoring, specific indicators will be established for both environmental and social aspects. These indicators may include, but are not limited to:

- **Environmental Indicators:** Levels of air and water quality, noise levels, soil contamination, waste management efficiency, and adherence to environmental mitigation measures.
- **Social Indicators:** Impact on local livelihoods, community health and safety, labor rights compliance, stakeholder engagement levels, and grievance redressal effectiveness.

Regular Monitoring and Reporting: The project will undergo regular monitoring to ensure compliance with the ESMF by contractors throughout the construction phase. Environmental and social issues identified in the mitigation framework will be closely monitored by environmental and social specialists from both the PMG and regional teams. Even though the anticipated environmental and social impacts are considered medium, the potential adverse effects will be systematically avoided or mitigated during both the construction and operational phases. Monitoring will be conducted based on the specific impact/mitigation/monitoring

criteria outlined in the ESMF checklists. Supervisory monitoring will be carried out weekly through environmental performance audits conducted by contractors over the entire project lifecycle. The PMG has the authority to issue corrective instructions and, in extreme cases, to suspend work or withhold payment if contractors fail to meet their ESMF obligations.

Further Elaboration on Monitoring Procedures:

Detailed monitoring procedures, including specific timelines, responsibilities, and documentation requirements, will be developed during the project preparation phase as part of the Environmental and Social Management Plan (ESMP). The ESMP reviewed in the previous project iteration provided a preliminary framework for these procedures and will be further refined during project preparation. These procedures will serve as a guide throughout the implementation of the Environmental and Social Management Framework (ESMF). The monitoring procedures will ensure that all environmental and social risks are tracked and managed effectively. Clear communication channels will be established for reporting and addressing any instances of non-compliance, and regular updates will be provided to all relevant stakeholders about monitoring outcomes.

A comprehensive monitoring plan, which will be developed in parallel with the ESMP, will include resource allocation and training programs for monitoring personnel. This plan will outline the specific monitoring indicators, frequency of monitoring activities, and mechanisms for responding to identified issues. By integrating these detailed procedures into the project's overall framework, the project will ensure a proactive approach to managing environmental and social risks from the early stages of implementation.

6.3. Occupational Health and Safety Reporting (OHS)

Health, Safety, and Environmental (HSE) issues should be integrated into all supervision and monitoring activities throughout the project. This includes, among other things, ensuring that the contractor adheres to appropriate HSE practices, verifying that all workers have received HSE training, checking for any incidents that may have occurred, and reviewing logbooks as well as the availability and proper use of protective and preventive equipment. Consequently, the protective measures sections of all progress reports must include statements confirming that the Project Management Group (PMG) has reviewed the health and safety issues, assessed the procedures in place, and verified that no serious incidents or fatalities have occurred. Additionally, the PMG will ensure that the project start-up program and the operations manual include appropriate health and safety provisions.

Any incidents or events occurring at project sites or during project-supported activities must be reported immediately to the contractor and subsequently to the PMG. All incidents must be reported to the World Bank no later than 24 hours after their discovery. Detailed information about any incidents, whether they have occurred or not, will be included in regular progress reports submitted to the PMG and the World Bank.

An "incident" is defined as an accident, event, or adverse outcome caused by non-compliance with established safeguards or conditions, or by risks or impacts that were unexpected or unforeseen during project implementation. Examples of such incidents include fatalities, serious accidents and injuries, social impacts due to labor influx, sexual exploitation and abuse (SEA) or other forms of gender-based violence (GBV), serious environmental pollution, child labor, loss of biodiversity or critical habitats, loss of tangible cultural heritage sites, and loss of access to community resources. In most cases, an incident results from either a contractor's failure to comply with the World Bank's safety policies or from unforeseen events occurring during project implementation.

Given the critical importance of HSE, it is essential that all monitoring activities emphasize the continuous evaluation and improvement of health and safety measures. The PMG must ensure that all HSE protocols are rigorously followed and that any lapses are swiftly addressed to prevent incidents and safeguard the well-being of all workers and affected communities.

All accidents and incidents occurring during the project must be thoroughly investigated to determine causes and prevent recurrence. In cases of serious injury or fatality, the following procedure applies as

outlined in the WB Environmental and Social Incident Response Toolkit. The document includes the following six steps in the incident management and reporting process:

Stage	Action
Step 1: Initial reporting of the incident	HSE issues should be covered in all supervision and monitoring activities. This means, inter alia, monitoring that the contractor follows appropriate HSE practices, checking that all workers have received HSE training, whether any incidents have occurred, checking logbooks and the availability and use of protective and preventive equipment. Accordingly, the protective measures sections of all progress reports contain statements indicating that PMG has reviewed health and safety issues and procedures in place and has verified that there have been no serious incidents or fatalities. Similarly, PMG will ensure that the project start-up program and operations manual contain appropriate health and safety provisions. Any incidents and events occurring at project sites and/or project supported activities must be reported immediately, e.g. to the contractor and then to the PMG. All incidents must be notified to the World Bank no later than 24 hours after discovery. Details of any incidents that have or have not occurred will be provided in regular progress reports to the PMG and to the World Bank. "Incident" is defined as an accident, incident, or adverse event caused by non-compliance with established safeguards or conditions that occurs due to risks or impacts that are unexpected or unforeseen safeguards during project implementation. Examples of such incidents include: fatalities, serious accidents, and injuries; social impacts due to labor influx; sexual exploitation and abuse (SEA) or other forms of gender-based violence (GBV); serious environmental pollution; child labor; loss of biodiversity or critical habitats; loss of tangible cultural heritage sites; and loss of access to community resources. In most cases, an incident is an accident or adverse impact that occurs when a contractor fails to comply with the WB safety policy or during project implementation, unforeseen events occur. The WB Environmental and Social Incident Response Toolkit does not replace the procedure for monitoring and implementing regular monitoring of the implementation of project safeguards. The document includes the following six steps in the incident management and reporting process:
Step 2: Assessing the severity of the incident	The Contractor shall provide the World Bank (WB) with timely information on the incident and its severity.
Step 3: Notification	The Contractor shall prepare an incident notification to the World Bank. The procedure for notification shall be determined at the time of signing the contract with the Contractor.
Step 4: Incident Investigation	The Contractor shall provide any information requested by the World Bank (WB) and shall not prevent a site visit to the incident site. The Contractor together with the Contractor shall analyze the causes of the incident and document the information. If necessary, external experts shall be engaged for investigation. The investigation period shall not exceed 10 days after the incident. The results of the investigation shall be used to develop corrective actions and a corrective action plan (CAP) to prevent future recurrence of the incident. The findings are provided to the WB.

Step 5: Corrective Action Plan	The Contractor shall develop an HSE with specific actions, responsibilities, implementation timelines and monitoring program and discuss it with the WB. In case of serious incidents, the WB and the Contractor shall agree on measures to address the root causes of such incidents. The HSE shall include actions, responsibilities and timelines to be implemented by the Contractor. The Contractor shall be responsible for the implementation of the HSE. The plan may include development or modernization of technical environmental measures, training, compensation for insured events of injury or death. If the WB finds the HSE measures ineffective or the Contractor fails to take corrective action, the WB may suspend loan payments or consider canceling the project.
Step 6: Follow-up	The Contractor shall implement the HSE, monitor the fulfillment of its items and provide WB with an implementation report.

Table13. Six steps in the incident management and reporting process

All project participants will be required to report serious health and safety incidents (by contractors to the employer, by the project organization to the World Bank). It is required that the World Bank be notified of each serious incident/accident within 24 hours. The PMG environmental and social specialists may use "Health and Safety and Welfare Inspection Checklists", as appropriate, to monitor EMP issues during project implementation involving construction activities.

6.4. Integration of ESMF into project documentation

The Environmental and Social Management Framework (ESMF) requirements will be integrated into the Project Operations Manual, while the Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) requirements will be explicitly included in the construction contracts for the project. These requirements will be embedded in both the technical specifications and cost estimates, and contractors will be mandated to account for the cost of ESIA and ESMP implementation in their financial proposals. The detailed budget associated with meeting the ESMP conditions is provided in Annex 1.

Based on the ESMF, the roles and responsibilities of all participants in the Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) processes are clearly defined. The ESMF outlines the obligations of each party, ensuring that all stakeholders understand their duties and the importance of adhering to environmental and social standards throughout the project lifecycle. The ESMP complements this framework by detailing specific measures, timelines, and roles for the implementation of environmental and social safeguards, making it an actionable document. Cross-referencing the ESMP ensures coherence and facilitates accountability.

Key responsibilities outlined in the ESMP include:

Site-specific mitigation measures: Detailed in the ESMP for each subproject to address localized environmental and social risks.

Monitoring plans: Clear indicators and schedules for monitoring environmental and social compliance during construction and operational phases.

Stakeholder engagement: Regular consultations with affected communities to address grievances and ensure inclusive participation throughout the project.

Contractor obligations: Specific requirements, such as waste management protocols, occupational health and safety (OHS) standards, and biodiversity protection measures, to be included in binding contracts.

Monitoring and evaluation of the mitigation and prevention measures, as identified during site-specific surveys and detailed in the ESIA and ESMP, are integral components of the project implementation. These measures are included in binding contracts, requiring contractors to fully comply with all environmental

and social obligations during construction activities. This ensures that the environmental and social commitments made during the planning phase are enforced and monitored throughout the execution of the project. Additionally, compliance with the ESMP will be regularly assessed through progress reports and independent audits.

All contractors will be required to implement environmentally sound technical standards and procedures in the execution of their work. The contract terms and conditions will specify compliance with national building codes, sanitary regulations, protective procedures, and environmental protection standards. The ESMP provides actionable guidance for integrating these requirements into day-to-day construction activities. Furthermore, dedicated personnel within the PMG will oversee the implementation of these measures to ensure alignment with ESMF, ESIA, and ESMP standards.

ESMF Regulation	Action
Incorporation of ESMF requirements into the Project Operations Manual	ESMF requirements will be integrated into the Project Operations Manual to ensure compliance with environmental and social standards at all stages of project implementation.
Incorporation of environmental guidelines, ESIA in construction contracts into the project, both in specifications and estimates	ESMF and ESIA will be incorporated into construction contracts, specifications and cost estimates. Contractors will be required to include the cost of implementing environmental and social measures in their financial proposals.
Allocation of subsequent ESMF responsibilities in the PMG	The PMG will assign responsibilities to fulfill ESMF requirements, including monitoring compliance with environmental and social standards.
Specification of mitigation and avoidance measures during implementation of selected subprojects	Specific mitigation and avoidance measures will be specified for each selected project. These measures will be included in the subproject implementation plans.
Monitoring and evaluation of mitigation/prevention measures identified during site-specific survey and ESIAs	The effectiveness of mitigation and avoidance measures identified during the site survey and ESIA will be monitored and evaluated. These measures will be an integral part of project implementation, including contracts obliging contractors to comply with environmental and social obligations during construction works.

Table14. ESMF Regulations

7. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN AND MONITORING PLAN

The Environmental and Social Management Plan (ESMP) and Monitoring Plan are integral components of the Environmental and Social Management Framework (ESMF), building upon the environmental and social risk identification, mitigation strategies, and institutional responsibilities outlined in the previous chapters. The ESMP operationalizes the mitigation measures identified in the Environmental and Social Impact Assessment (ESIA) and ensures their systematic integration into project activities. Meanwhile, the Monitoring Plan establishes mechanisms to assess the effectiveness of these measures, ensuring compliance with the World Bank's Environmental and Social Standards (ESS) and national regulations throughout the project lifecycle. Together, these tools provide a structured approach to manage and monitor environmental and social impacts, ensuring that the project adheres to sustainability principles at every stage.

The basic purpose of the ESMF is to design/formulate mitigative measures and plan for assessment and management protocol to address identified/potential environmental & social risk/impacts during implementation & operation stage.The nature of impacts and scope of activities will be clarified once the subproject designs are finalized. ESIA will assess the risks and impacts, and provide recommendations on appropriate mitigation measures to be performed. Accordingly, the following table below presents generic ESMP to address the potential environmental and social risks and impacts during the design, construction and operation stages for component 2 and the recommended general measures to be included in the project to mitigate negative impacts to a minimum. Subsequently, for each subproject, ESIA must be conducted and corresponding ESMPs must be prepared, which will identify appropriate specific measures.

The following ESMP in general identifies the mitigation, monitoring and institutional strengthening measures that will be implemented during project implementation to avoid or reduce adverse environmental impacts. For this project, an ESMP can be an effective way to summarize the measures needed to effectively mitigate environmental impacts. The format below is a model for developing an ESMP. This model divides the project cycle into two phases: construction, operation. For each phase, the preparation phase identifies the significant environmental and social impacts expected on the basis of the analysis undertaken in the context of the environmental assessment or as part of the preparation of the environmental assessment (if required) and the social assessment (SA). For each impact, mitigation measures are identified and listed. Estimates of the cost of mitigation measures are made, broken down by installation cost (investment cost) and operation cost (recurrent cost). The ESMP format also identifies institutional commitments for the installation and operation of mitigation devices and techniques. The generic ESMP also include a brief description of routine mitigation and monitoring measures for control of recurrent impacts and a few specific plans, which may include, without limitation, Traffic management Plan, Biodiversity Action Plan, Cultural Heritage Management Plans, Emergency Preparedness and Response Plans, Material Supply plan, OHS Plan, Waste Management Plan and RAP

. In order to track the requirements, obligations and monitoring costs for the implementation of mitigation measures identified during the environmental assessment analysis, a monitoring plan must also be prepared. In addition to recording information to track performance and establishing relevant operational controls, the monitoring plan will require the use of dynamic mechanisms, such as inspections and audits, where relevant, to verify compliance and progress toward the desired outcomes.

№	Activity	Potential negative impact	Mitigation Measures/Best Management Practices	Mitigation Target Result	Responsibility
1. Pre- Construction/ Design Phase					
1.1.	Route Alignment Selection & Design of T/L	Loss of biodiversity and impact on endangered or endemic species	Avoid aligning of lines through natural habitats /protected areas, including areas with important migratory routes for birds or crucial habitats for endangered species. In cases where complete avoidance is not possible due to terrain/location of T/l and D/L, minimize the impact by selecting line routes/substation site with respect to such designated area.	Selection of line routes/substation site minimizing impact on biodiversity. Setback to nearest protected areas. Compliance with applicable regulation.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
		Damage to socially/ culturally sensitive and historical sites	Avoid encroachment of socially, culturally, and archaeologically sensitive areas (e.g. monuments, religious sites, graveyards, etc.).	Selection of line routes/ substation facility with respect to such designated area. Setback to social sensitive areas/sites etc. as per applicable regulation.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
		Exposure to EMF and other electrical safety related risks	1. Avoid siting of lines above or adjacent to residential properties or social institutions like schools, hospitals, etc. intended for highly frequent human occupancy. 2. Line alignment and design to maintain vertical and horizontal clearance in accordance with permitted level of power frequency as per ICNIRP guidelines /regulations.	Electromagnetic field strength for proposed line design to be within permitted levels. Confirmation of design incorporation.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)

		Impact on water bodies including interference with drainage patterns/water flow	Avoid placement of tower /pole inside/close to river, other water courses or irrigation channels to the extent possible.	Selection of line routes/ substation facility with respect to water bodies. Setback of tower/pole with respect to river/ stream or other water courses or channels.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
		Risks of Fire/ Flash over	Design to include a robust fault clearance system to prevent tripping/outages of line in case of any fault/stripping of conductor and avoid fire.	Confirmation of design incorporation - ensuring the fault clearance system is effectively integrated into the project design.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
		Risks of Injury/mortality of birds due to electrocution/ collision	1. Avoid routing of lines in high use areas by migratory birds and landing/take-up path of birds close to water bodies. 2. Provision of artificial safe bird perches and/or nesting platforms, bird guard/ deflectors for identified vulnerable stretches 3. Maintain at least 1.5 meter spacing between energized components & grounded hardware or covering/insulation of energized parts and hardware to avoid electrocution, particularly for low voltage lines.	1. Selection of line routes with respect to high used area of birds/ wetland/water bodies. 2. Provisions in BoQ for bird perches and deflectors. 3. Design to include minimum spacing or insulation in design for low voltage lines. 4. Setback of line with respect to high used area of birds/ wetland/water bodies.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)

1.2	Substation location and equipment design	Escape of polluting materials and contamination of environment of receptors	Substations to be planned above the High Flood Level (HFL). Substation & equipment design to incorporate safety measures to prevent potential pollution during floods.	Confirmation of design incorporation - ensuring that the substation design effectively accounts for HFL and includes appropriate safety measures.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
			Transformers to be designed with oil spill containment systems (oil sump). Purpose-built oil, lubricant and fuel storage systems with spill cleanup equipment to be included.	Confirmation of design incorporation - ensuring that the design of transformers and storage systems includes oil spill containment systems and spill cleanup equipment.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
			Substations to include drainage and sewage disposal systems to avoid water pollution and offsite discharge.	Confirmation of design incorporation - ensuring that the substation design includes drainage and sewage disposal systems that meet local environmental regulations.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
			Transformers and other equipment to be designed and specified to exclude the use of PCBs.	Confirmation of design incorporation - ensuring that the design and specification of	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)

				transformers and other equipment explicitly excludes PCBs.	
		Noise pollution from substation equipment	Substations to be sited and designed to comply with National Ambient Noise Standards, & World Bank Group General EHS guidelines, 2007. Design to confirm expected noise levels of transformers and reactors as per standards.	Confirmation of design incorporation - ensuring that the design of substation equipment meets noise level standards and complies with relevant guidelines.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
		Explosions/Fire	Substations to include modern fire-fighting equipment and comply with fire prevention and control codes.	Confirmation of design incorporation - ensuring that the design of the substation includes modern fire-fighting equipment and complies with fire prevention and control codes.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
1.3	Land acquisition/ securing for substation	Loss of land/ income and change in social status etc.	1. In case of involuntary acquisition, compensation and R&R measures are extended to affected persons as per applicable regulation.	Presence/absence of Complaints from Affected Persons. Complaints received and resolved.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
1.4	Climate change related risks	Damage to T/L leading to an increase in frequency of shutdowns & power intermittency	Designs to consider climate change projections and protective measures based on location /vulnerability to increase resilience to climate hazards. Adaptive measures, if needed, to be	Confirmation of design incorporation - ensuring that the design of the transmission and	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)

		due to climate change impacts	incorporated in design to protect from climate hazards in vulnerable areas.	distribution lines incorporates climate change considerations and appropriate protective measures.	
1.5	Slope Stability and Landslide	Damage to T/L and DL and Substation due to landslides or slope instability	1. Avoid tower/pole location in Steep Slope or geologically unstable area with high probability of landslides or slope instability. 2. If location in such areas is unavoidable, design to include appropriate slope protection/ bio-engineering measures.	Confirmation of design incorporation - ensuring that the design considers slope stability and incorporates appropriate protective measures.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
1.6	Route alignment selection and design	Social displacement and environmental degradation caused by poorly planned routing.	Conduct alternative route studies to identify optimal alignments that avoid sensitive areas and minimize displacement.	Optimal routing minimizing social and environmental impacts, ensuring compliance with ESS1 and ESS5 standards.	Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
2. Preparing for project implementation					
2.1	Management of environmental and social issues	- Inability to hire qualified specialists - Failure to comply with applicable requirements- Excessive environmental and safety impacts due to mismanagement or failure to manage environmental and safety issues	- Assign key environmental and social staff and provide them with sufficient time to perform their duties- Hire and train a sufficient number of safety officers: at least one per work crew and an overall ratio of at least 1 per 50 workers - Implement ESMP and other mitigation measures necessary to prevent or reduce impacts to acceptable levels-	Qualified personnel in sufficient numbers to implement/monitor the ESMP	Contractor

			Train managers and supervisors/brigadiers on basic environmental mitigation and safety requirements		
2.2	Implement a resettlement policy framework document (RPF)	All project affected persons are not identified	1. Identification and characterization of project affected persons (PAPs) and impacts, identification of vulnerable people, land use and legal status, assets, valuation, etc. 2. Consultation with PAPs. 3. Consultation with authorities on valuation and compensation. 4. Acquisition of land rights for transmission line construction, provision of compensation or replacement similar to physical and/or economic displacement before displacement occurs.	1. All PAPs are correctly identified. 2. All physical and economic displacements are compensated, and all persons are adequately compensated for lost benefits. 3. Compensation is provided at replacement cost or more, or on a like-for-like basis. 4. Implementation of the RPF complies with ESS5. 5. Affected persons are fully compensated for losses at replacement cost or development land value. 6. Compensation is paid to all affected persons prior to the	Ministry of Energy and Water Resources of the Republic of Tajikistan, PMG, World Bank (endorsement), Consultant hired by the Ministry of Energy and Water Resources of the Republic of Tajikistan

				issuance of work permit to the contractor. 7. Participation of authorities and PAPs in the process. 8. Community support.	
2.3	Recruitment and employment of workers and subcontractors	- Unskilled workers and/or subcontractors - Poor labor practices (poor pay, uninformed workers, unsafe conditions, etc.) - Excessive staff	- Implementation of contractor labor management procedure - Local hiring is preferred, with preference given to project-affected persons (50% locals, unless PMG approves a lower number with justification); - No workers under 18 years of age; - Written contracts with workers, in accordance with Labor Management Procedures and Tajikistan legislation; - Other provisions in accordance with the Labor Code of Tajikistan; - Subcontracts include and require compliance with the Contractor's Labor Management Procedures and Tajikistan law; - Subcontracts include and require compliance with the ESMF. - Employees receive full induction training;	- Maximum hiring of project affected persons and other local residents: should be set at no less than 50% of the labor force to be local residents; - Employment of workers in accordance with the law (non-discrimination, equal opportunity, income, etc.) equal opportunities, income, etc.); Low staff turnover.	Contractor
2.4	Establishment of construction camps/rest areas, storage areas,	- Placement of construction zones in inappropriate locations	- Comply with ESMP requirements regarding noise, fuels and hazardous materials, noise, worker safety, public	- Compliance with the approved ESMP;	PMG (permit) Contractor (all others)

	footpaths, quarries/borrows etc. and other land that may be required by the contractor for temporary use/possession	(excessive cutting of trees, too close to residents, etc.); - Unrecorded damage to biodiversity; - Excessive damage to topsoil/subsoil, vegetation cover, erosion, spills and soil/water pollution. - Impact on the population;	safety, etc., including training of workers on topics relevant to their work; - Enter into written agreements with land users prior to beginning work on their lands; - Train/warn workers to stay within boundaries and penalize violations; - Prevent/minimize off-road movement of vehicles and equipment, especially in wet conditions; - Minimize cutting of mature trees and trees that pose a danger to nature: keep a log of all trees cut; - Keep photographic and written records of cut plants of conservation interest; - Implement a land management and erosion control plan, including, at a minimum: - Avoid landslide-prone areas and areas of high erosion potential whenever possible - Establish and mark construction zone boundaries - Conduct all work within the boundaries - Remove and stockpile topsoil within project boundaries, protect from erosion	- No unexpected or unacceptable impacts; - All works within designated boundaries; - Minimal impacts to breeding fauna; - Minimal impacts to fauna and flora of conservation concern; - Minimal disturbance to road traffic; - Wood and flammable debris shall be removed before it becomes a fire hazard.	

			- Store excavated soil and waste separately, protect from erosion, reuse as much as possible. - Install gabions, walls, silt fences, or other measures necessary to prevent erosion outside of construction areas.		
2.5	Creation of living quarters, kitchens, sanitary units	- Illness or death of an employee; - Employee dissatisfaction and reduced labor productivity; - Land and water pollution;	- If accommodation is to be provided, follow ESS Guideline 2, "Accommodation of Workers: Processes and Standards". - Develop and use checklists for the operation and maintenance of canteens/kitchens; - Designate persons responsible for the cleanliness of living areas, kitchens, canteens, rest areas, etc.; - Provide toilet facilities at or near all workplaces and establish and enforce rules prohibiting workers from using toilets.	- Sanitary and compliant facilities and amenities; - Healthy employees; - Restrooms where appropriate;	Contractor
3. Start of construction works					
3.1	Roads for accessibility to site	Loss of habitat and disturbance to nearby settlements and other social amenities,	Use existing roads and tracks for construction access.	Minimal loss of habitat and disturbance to nearby settlements and social amenities. Existing access routes maintained and new routes restored to near original condition after construction.	Contractor
			New access ways restricted to a single carriageway width within the RoW and rehabilitate the used access after completion of works near original condition prior to the demobilizing from the site.		Contractor
			No access roads will be constructed close proximity to wetland or critical habitat encountered along alignment.		Contractor

				Wetlands and critical habitats protected from construction activities.	
3.2	Site Clearance & Foundation/ excavation of pits	Permanent vegetation loss, degradation of forests/ habitats	Areas to be cleared of vegetation will be clearly marked before clearing commences	Minimized vegetation loss and habitat degradation.	Contractor
			Selective clearing in RoW to minimize the need for tree removal except at the tower location	Tree felling and afforestation carried out in accordance with regulations.	Contractor
			Tree felling and afforestation programme in forest/ protected areas to be undertaken in strict compliance of conditions stipulated in forest/ wildlife approval	Protection of endangered species and their habitats during construction.	Contractor
			Tree clearance activities to avoid breeding and nesting seasons in forests/protected area having endangered species.	Effective restoration of disturbed areas with native species.	Contractor/ Project Management Group (PMG) under the Ministry of Energy and Water Resources (MEWR) (through survey agency)
			Restoration of the disturbed area with native plant species	No use of herbicides or burning of vegetation.	Contractor
			Herbicides/chemicals for bush clearing& burning of cleared vegetation is strictly forbidden	Prevention of accidental bush fires.	Contractor
			Awareness accidental bush fires particularly forest area		Contractor
		Displacement /Loss of wildlife and biodiversity	Any activity inside protected areas only after prior statutory clearance and	Minimized displacement of	Contractor/ Project Management Group (PMG) under the Ministry of Energy

			ensuring strict compliance of conditions stipulated in approval	wildlife and biodiversity. No hunting allowed within the project area. Excavated pits backfilled promptly to avoid trapping animals.	and Water Resources (MEWR) (through survey agency)
			Controlled and sequential clearing of vegetation that allow lees mobile ground fauna to flee to nearby safe habitats		Contractor
			No-hunting rule for the project workforce and creating awareness to workers on importance of conservation		Contractor
			Ensure immediate backfilling/refilling of excavated tower pits to falling/trapping of wild animal.		Contractor
		Increased erosion vulnerability and slope instability	Soil striping/exposing and excavated area be restricted to foundation area of tower/pole and substation area	Minimized erosion vulnerability and slope instability. Slopes stabilized and revegetated with indigenous species. Excavated material properly disposed of to prevent erosion.	Contractor
			Cut and fill slopes shall be kept gentle less than 45° to minimize landslides whenever, applicable		Contractor
			Scheduling of foundation/ excavation work to avoid working during heavy rainfall periods		Contractor
			Avoid clearing of vegetation in near riverbank/ riparian areas.		Contractor
			Stabilize the slope edges according to contours and re-vegetate using indigenous plant species specifically in hill and valley lands		Contractor
			Backfilling and compaction of excavated earth should occur as quickly as possible		Contractor

			Stock piling of excavated material and other waste materials away from water courses /drainage channels to prevent from being washed away		Contractor
			Avoiding use of heavy construction machinery in the vicinity of watercourses and steep slope area		Contractor
3.3	Noise	During construction activities, sources of intermittent noise will include operating machinery (engines of construction equipment). There may also be temporary increases in noise levels along material supply routes.	The use of noise protection devices is not foreseen, the equipment will be equipped with a silencer. The use of vibration devices that comply with the standards, as well as vibration and noise protection devices. The equipment will work only from 8 a.m. to 6 p.m., no work will be carried out at night. During the works, engine covers of generators, air compressors and other drive mechanisms should be closed; the equipment should be placed as far as possible from residential premises. Thus, at the places of installation of power lines the sound level during the construction period, when working only during the daytime, will not exceed the value recommended by the standard norms for maximum equivalent sound established by the norms of the Republic of Tajikistan. During the operation period there are no sources of noise generation.	The project implementation will comply with the norms of the Republic of Tajikistan, noise sources will be minimized	Contractor
3.4	Soil and water pollution	Pollution of soil and water with oil products from the	Basic proper construction norms and standards to be applied during	The project implementation will	Contractor

		use of machinery. During the construction period, impacts are accompanied by the following activities: -ground works; - operation of construction machinery; -generation of domestic waste.	construction are established by the Urban Development Code of the Republic of Tajikistan dated December 28, 2012, No. 933. Law of the Republic of Tajikistan dated August 2, 2011, No. 760 "On Environmental Protection", Daily inspections of machinery for oil leaks; prohibition of washing machines at construction sites.	comply with the norms of the Republic of Tajikistan, sources of soil pollution will be minimized	
3.5	Atmospheric air (dust)	Dusting during construction works will be insignificant and temporary. Emissions of pollutants into the atmosphere are expected: - from motor vehicles - during earth bed leveling - during digging - during installation of transmission towers	Dust suppression measures and appropriate household measures such as spraying, water to prevent dust and use of a shelter, and fencing of the construction site. Use of masks, gloves and overalls. Limiting vehicle speeds and selecting appropriate transportation routes to minimize exposure to dust-sensitive receptors. Equipping vehicles transporting bulk materials with removable tents. Delivery of cement to construction sites only in prepackaged sealed bags. These vehicles are ordered only for the period of certain operations and are not permanently on the construction sites. It is not allowed to operate vehicles with defective fuel system exceeding the norms of toxicity of exhaust gases. It is forbidden to burn construction and household waste on the work site. The surrounding area must be kept clean	The project implementation will comply with the norms of the Republic of Tajikistan, dust sources will be minimized	Contractor

			and free of construction debris to minimize dust and pollution. Household and construction waste shall be removed from the construction site and disposed of in a licensed sanitary landfill, or similar landfill. Emissions are of a temporary, short-term nature. Therefore, pollutant emissions during the construction period will not exceed the MAC. The average daily MAC level is 0.15 and the maximum single level is 0.5.		
3.6	Water resources	Disturbance of surface runoff	Construction activities will have a negligible impact on surface waters. Fuel and oil leaks from vehicles should be prevented; Strictly comply with sanitation rules and regulations, i.e. human waste from construction camps should not contaminate water sources. Work areas with machines, concrete mixers and fuel tanks should be located outside water protection zones.	During the project implementation the norms of the Republic of Tajikistan will be observed, sources of water pollution will be minimized	Contractor
3.7	Construction waste	Pollution of adjacent territories, soil and water resources	Sorting of all types of waste, reuse and recycling, if possible. Disposal of waste that cannot be reused or recycled; removal and disposal of waste to separate waste dumps in cooperation with the local waste management company on the basis of a signed contract, prohibition of open burning of waste. Mineral waste from construction and dismantling works must be	During the project implementation the norms of the Republic of Tajikistan will be observed, waste sources will be minimized	Contractor

			separated from general and organic waste, liquid and chemical waste must be sorted and stored in special containers. All waste removal and disposal records should be maintained accordingly as evidence of proper waste disposal on site. With regard to domestic waste, installation of waste collection and temporary storage containers and regular removal of waste from the construction site to an officially authorized waste disposal site.		
3.8	Workerslabor protection, safety engineering, fire safety	Occupational injuries	All works shall be carried out using safety methods and disciplines to minimize the negative impact of construction processes on the population and the environment. Individual protective equipment shall comply with safety standards (mandatory use of protective helmets, masks, if necessary, belts and shoes). The contracting organization must provide workers with: - drinking water during working hours; - portable biotoilets when the team works more than 8 people; - medical kits each construction site to provide first aid to doctor; - anti-noise headphones, earplugs compliance with all fire safety requirements. Use of serviceable tools and equipment. Compliance with the approved instructions on labor	With the implementation of the established requirements, the labor rights of workers will be respected in accordance with labor plans and standards	Contractor

			protection in accordance with the Labor Code of the Republic of Tajikistan dated July 23, 2016 № 1329. The sites will be equipped with appropriate information boards and signs informing workers about the rules and standards of work.		
3.9	Safety of local residents	Possible injuries to local residents. Night work	All works shall be carried out using safety methods and disciplines to minimize the negative impact of construction works on nearby communities. Safety warning signs and fencing, information boards about the project activities should be installed. Informing local residents about the schedule and duration of construction works, which should be carried out during daytime at certain hours. Regulation of machinery movement for unimpeded and safe internal movement of local communities. Local authorities and local communities will be informed accordingly about the upcoming project works. Standards of behavior of workers shall be established and observed; the Contractor shall respect and observe local customs and traditions;	Respect for the rights of local residents	Contractor
3.10	Procedure in case of discovery of finds of cultural value	Damage and degradation of site structures	The order of actions in case of detection, should be developed in accordance with the legislation of the Republic of Tajikistan	Appropriate procedures will be established when locating historic properties	Contractor

3.11	Organization of the construction site and dismantling of the site after completion of construction works	Elimination of possible violations	Planning to address adverse impacts on adjacent and neighboring properties (including planning to ensure appropriate traffic management on site access roads). Fencing of the site or access to the site with appropriate safety signage. Upon completion of the works, the site will be restored to its previous condition and all waste will be removed. All machinery shall also be removed from the site.	Procedures will be provided for remediation of impacts from construction activities	Contractor
3.12	Worker safety	Occupational injuries	All works shall be carried out using safety measures with the use of individual protective equipment (protective helmets, gloves, masks, belts if necessary and shoes); The sites shall be equipped with information boards and signs informing workers about construction rules and standards of works. Compliance with safety and sanitary conditions. Safety Instructions. Before starting construction works, all contractor's personnel should undergo a health and safety training course. Construction camps should be equipped with a first aid kit.		Contractor
3.13	Construction sites (temporary)	Arising disputes with the local population	Fencing of construction sites; Provision of appropriate traffic control on access roads to the site; Installation of information boards and safety signs; The Contractor shall dispose of unnecessary materials only in	Minimizing disputes with the local population	Contractor

			designated areas; After completion of construction works, the site shall be dismantled, with appropriate restoration of the area to its original state (waste removal, removal of machinery).		
3.14	Human community, poverty	Attracting labor force	Providing recommendations to contractors on the recruitment of local workforce.	Increased trust of local communities. Increase in jobs with local people involved.	Contractor
3.15	Human community, poverty	Gender quota	During construction works, women will be engaged for light work: cooking, washing dishes, etc.	A quota for hiring women will be introduced at the start of construction works, in accordance with the non-discrimination policy	Contractor
		Minors	No persons under 18 years of age will be employed for construction work.	There will be a ban on hiring workers who are not of appropriate age	Contractor
4.Operation and maintenance					
4.1	Routine maintenance and patrols to ensure security	- Electrocution of employees or other persons - Damage to towers, conductors	-Requires a notification system in case a power leak is detected from transmission lines - Inform the local population about expected tests and changes	Safe testing	Ministry of Energy and Water Resources of the Republic of Tajikistan
4.2	TL/DL operation maintenance	Fire hazard due to uncontrolled growth of tree/shrub /bamboo along RoW	Periodic pruning of vegetation to maintain requisite electrical clearance.	Reduced risk of fire due to vegetation growth near power lines.	Line In-charge / O & M Team

		Exposure Electromagnetic waves on RoW	Maintaining vertical clearance to comply with the design limits of electromagnetic interference from overhead power lines	Reduced exposure to electromagnetic waves within the safety zone. Compliance with electromagnetic interference limits.	Line In-charge / O & M Team
			Sensitize and restrict people not to build residential structure under the line or within the safety zone		Line In-charge / O & M Team
			Monitoring actual value Electric Field & Magnetic field		Line In-charge / O & M Team
4.3	Substation operation maintenance	Fire hazards	Availability fire extinguishers at appropriate places and ensuring regular checking &proper maintenance	Effective fire safety measures in place at the substation.	Substation In charge/ O & M Team
		Contamination of environment receptors due to accidental leakage/ spillage of hazardous chemicals and oil during repair and maintenance	Oil, chemicals and other hazardous materials to be stored securely in bounded area and protected against storm water	Minimized risk of environmental contamination from hazardous materials.	Substation In charge/ O & M Team
			All activities involving transfer of fuel and chemicals from one containing vessel to another shall be done under drip tray to control spill		Substation In charge/ O & M Team
			Immediate communication of any incident of transformer oil leakage		Substation In charge/ O & M Team
			Availability of spill control kit / saw dust buckets at working site or where fuelling or maintenance occur		Substation In charge/ O & M Team
4.4	Health & Safety of workers/staff and community	Injury/ mortality to staff and public due to electric shocksand inadequate facilities	Electricity safety awareness raising to staff and worker	Improved health and safety for workers and the community. Reduced risk of electric shocks.	Line /substation In-charge/ O & M Team
			Availability of adequate PPEs and equipments for maintenance activity		Line /substation In-charge/ O & M Team
			Maintenance work by only by qualified trained staff as per task		Line /substation In-charge/ O & M Team

			Investigation of root causes of accidents/incidents to develop appropriate corrective actions which may include training and appropriate mitigative measures	Effective safety measures in place at substations. Proper investigation and corrective actions for accidents.	Line /substation In-charge/ O & M Team
4.5	Risk of bird collision/electrocution with overhead line.	Injury/ mortality to birds and safe operation of the overhead line	Monitoring healthiness of bird diverters, if installed	Minimized risk of bird collision/electrocution with overhead lines. Effective bird safety measures implemented.	Line In-charge / O & M Team
			Regular inspection and removal of bird nests from the towers & substation, particularly in low voltage line		Line In-charge / O & M Team
			Systematic line searches for bird injury/ carcasses along line route during routine monitoring		Line In-charge / O & M Team

8. IMPLEMENTATION STRUCTURE OF THE ESMF

8.1. Responsibility for project implementation

Overall responsibility for project implementation will be assigned to the existing Project Management Group (PMG), which operates within the Ministry of Energy and Water Resources (MEWR). The PMG, in coordination with the Project Implementation Unit (PIU), will ensure compliance with the World Bank's Environmental and Social Framework (ESF) and national legislation.

The PMG's primary responsibilities include conducting bidding procedures in compliance with World Bank procurement policies, selecting responsible suppliers or contractors for civil works and procurement, overseeing compliance with agreed environmental and social measures outlined in project contracts, and ensuring financial management (FM) in accordance with the Project's fiduciary requirements. In terms of Environmental and Social Management Plans (ESMPs), the PMG will ensure that ESMP preparation is integrated into the project cycle. This includes incorporating specific ESMP requirements into the Bid and Contract Documents to guarantee that all environmental and social obligations are clearly defined and contractually binding.

The PIU will work under the supervision of the PMG and will focus on monitoring and evaluation (M&E) activities related to environmental and social compliance. The PIU will include dedicated Environmental and Social Specialists responsible for monitoring the implementation of Environmental and Social Management Plans (ESMPs), Resettlement Action Plans (RAPs), and other E&S instruments; preparing regular progress reports on E&S compliance for submission to the World Bank; coordinating with contractors and other stakeholders to address non-compliance issues; and conducting training and capacity-building activities for contractors and local authorities.

As described in the Executive Summary, the PMG will oversee the overall coordination of the Project, while the PIU will focus on day-to-day implementation of E&S measures, including monitoring, reporting, and stakeholder engagement. This dual-entity structure ensures that responsibilities for procurement, financial management, and E&S compliance are clearly delineated, allowing for efficient project execution.

9. ENVIRONMENTAL AND SOCIAL MONITORING FRAMEWORK

Monitoring will include regular assessments of environmental and social risks, focusing on the effectiveness of mitigation measures and compliance with World Bank standards. This monitoring framework aligns with the requirements outlined in the World Bank Environmental and Social Standard 1 (ESS 1) on the Assessment and Management of Environmental and Social Risks and Impacts. All monitoring data will be integrated into a comprehensive database and reported to the World Bank on a semi-annual basis, as described in the Monitoring Protocols.

This monitoring framework follows the structured approach outlined in the Executive Summary, ensuring that environmental and social safeguards are integrated throughout the project lifecycle. The monitoring activities are designed in line with the Environmental and Social Management Framework (ESMF) to ensure continuous compliance with both national regulations and the World Bank's Environmental and Social Standards (ESS). By aligning with the project's overarching risk management and due diligence processes described in the Executive Summary, the monitoring framework ensures proactive identification and mitigation of environmental and social risks at all project stages.

9.1. Information Disclosure

Transparency and accessibility are fundamental principles of the Project's approach to information disclosure. All monitoring data, including grievance statistics, stakeholder engagement outcomes, and

environmental and social performance, will be disclosed in alignment with the World Bank's Environmental and Social Standard 10 (ESS 10) on Stakeholder Engagement and Information Disclosure.

Key mechanisms for information disclosure include:

- **Dedicated Project Website:** Regularly updated with quarterly and annual reports, as outlined in the Stakeholder Engagement Plan (SEP). The website will also host key safeguard documents, including the Environmental and Social Management Framework (ESMF), Environmental and Social Impact Assessments (ESIAs), Resettlement Action Plans (RAPs), and related instruments.
- **Community-Oriented Channels:** Local publications, community notice boards, and outreach through local leaders and organizations to ensure information reaches vulnerable and disadvantaged groups. Simplified formats, such as audio recordings and infographics, will enhance accessibility.

In compliance with ESS 10, the Project will ensure that information disclosure:

- Provides open and transparent access to safeguard documents in local languages without confidentiality restrictions;
- Integrates public feedback into Project planning and decision-making;
- Links with the grievance redress mechanism (GRM) to capture and address community concerns effectively.

By aligning with the guidelines provided in the SEP and ESMF, the Project will maintain a proactive and inclusive approach to information sharing, fostering trust and accountability among all stakeholders.

10. GRIEVANCE MECHANISM

The primary objectives of the Grievance Redress Mechanism (GRM) are:

- Provide a clear, accessible, and transparent channel for addressing grievances related to Project implementation.
- Ensure that all grievances are resolved in a timely, fair, and confidential manner.
- Mitigate risks associated with social, environmental, and labor-related issues.
- Foster trust and collaboration among stakeholders by maintaining open communication and accountability.

An integral part of each Project's strategy is to inform and incorporate the views of Project affected communities and individuals. During Project implementation, stakeholders may have economic, social, environmental and other issues that need to be addressed by the Project. In accordance with World Bank ESS 10 requirements, the Project will implement a Grievance and Feedback Mechanism. The Grievance and Feedback Mechanism will be implemented as one of the main tools for social risk/conflict prevention. For grievances related to labor management issues, including working conditions and workplace harassment, refer to the Labor Management Procedures (LMP), Section 12. The GRM will ensure alignment with the LMP by addressing such grievances promptly and effectively. These mechanisms are necessary to ensure that Project stakeholders have the opportunity at all stages of Project implementation to submit their feedback in the form of grievances, suggestions for improvement of Project activities, or suggestions to correct problems at no cost and with the assurance of timely resolution. Effectively implemented GRM and feedback mechanisms will help to avoid litigation. Main objectives: obtaining prompt and objective information, review of appeals and their evaluation at all stages of project implementation, which are received from beneficiaries for further improvement of work.

The GRM ensures that all grievances are addressed in a timely and transparent manner. The following timeframes will be adhered to:

- Acknowledgment of receipt: within 3 working days.
- Initial review and categorization: within 7 working days.
- Resolution or referral to higher levels: within 15 working days, with a maximum of 30 days for complex cases.

Types of appeals: complaint/complaint, suggestion, request, positive feedback/gratitude. Appeals directly related to project implementation will be subject to review, where their compliance with eligibility criteria will be determined. The findings from GRM analysis will be reviewed during quarterly monitoring meetings. Key trends and recurring issues will inform adjustments to Project activities and mitigation measures to ensure alignment with stakeholder needs and expectations.

Each complaint must be tracked and evaluated, even if submitted anonymously. A parameter called "number of grievances filed and resolved" can be included as an indicator to measure the success of the project. This GRM has been designed in compliance with the World Bank's Environmental and Social Standard 10 (ESS 10) on Stakeholder Engagement and Information Disclosure. ESS 10 emphasizes the importance of effective engagement throughout the project lifecycle and the need for accessible grievance mechanisms to ensure inclusiveness and transparency. The GRM is designed to address labor-related grievances, including working conditions and workplace harassment, in alignment with the Labor Management Procedures (LMP), Section 12. This integration ensures consistency and prevents duplication of grievance redress efforts.

Grievance channel	Description
Complaint and suggestion boxes	Grievance boxes installed in the jamoat and at the project site allow residents to submit their grievances in writing.
Contact telephone numbers	Appeals can be submitted by calling the contact phone numbers of the project representatives, which are indicated on the grievance box.
Oral or written communications during working meetings	Appeals can be received orally or in writing during on-site working meetings.
Incoming correspondence	Appeals can be sent through the inbox at the reception or via PMG email.
Web site	Grievances can be submitted through the project website, which provides an online feedback form.

Table15.Grievance channel

All grievances registered through the GRM will be analyzed quarterly to identify recurring issues and inform the development of enhanced mitigation measures. Findings will be reviewed during monitoring meetings and shared with stakeholders as part of the Project's commitment to transparency.

To enhance accessibility for all stakeholders, additional grievance submission options will be explored, including:

- Community Information Kiosks: Physical information points in project areas to educate communities about the grievance process and provide assistance in filing grievances.

Appeals can be both individual and collective. Consideration of complaints and suggestions is free of charge. All appeals will be recorded in a complaints and suggestions register. Complaints and feedback can be submitted anonymously and confidentiality will be ensured in all cases, including when the identity of the complainant/feedback is known. Information about the project and implementation will be posted on the websites of the implementing organizations, including quantitative data on complaints received and resolved. For wider awareness, the project will engage a consulting company for the entire project implementation period, which will conduct knowledge transfer and public awareness campaigns, implement the GRM and

register appeals related to the project activities. In addition, their task will include familiarization of beneficiaries with the procedure for submission of appeals, production of information brochures, booklets and posters in Tajik, Russian and Uzbek languages, placement of information materials on stands/boards installed in each project jamoat. This technique is used for wider outreach and awareness of the local population about the work carried out by the project. Boxes will be installed for filing complaints, suggestions and other types of appeals. Below is the contact information where project beneficiaries can contact.
Contact information for submitting requests to the PMG To be developed during project implementation

The GRM process involves the following steps:

1. Submission: Grievances can be submitted through multiple channels, including grievance boxes, hotlines, email, and in-person meetings.

2. Acknowledgment: Each grievance will be acknowledged within 3 working days.

3. Review and Categorization: Grievances will be reviewed and categorized based on their nature and complexity within 7 working days.

4. Resolution: Simple grievances will be resolved at the local level within 15 working days. Complex cases may require escalation, with a resolution timeframe of up to 30 days.

5. Feedback: The complainant will be informed of the resolution and provided with an opportunity to appeal if dissatisfied.

Key performance indicators (KPIs) for GRM include the percentage of grievances resolved within specified timeframes, the number of escalated cases, and satisfaction rates of complainants based on follow-up surveys.

Level 1 (local). This level involves receiving grievances and other types of feedback that may be received as part of the implementation of infrastructure measures, i.e. construction/modernization works from the local community located in the project area, and includes the following steps:

Step	Action
Step 1: Receivemessages	Communications from the local community begin with contact with the local coordinator and/or NGO representative. The appeal can be transmitted through the local government representative (jamoat/mahalla), who informs the social counselor about the received appeal. The NGO registers and categorizes the appeal. If the appeal has the nature of a complaint and cannot be resolved by the local coordinator and/or NGO representative within 10 days, it is transferred to the next level. An entry is made in the register of complaints and suggestions about the resolution of the problem or about the referral to the next level. The following timeframes will be adhered to for grievance resolution: - Local Level: 10 calendar days for initial resolution attempts. - Regional Level: 15–20 calendar days for complex cases referred to this level. - National Level: Up to 30 calendar days for unresolved cases requiring further escalation. Timely updates will be provided to complainants at each stage.
Step 2: Filing a complaint with the PMG	The beneficiary shall submit his/her complaint in writing to the PMG. The grievance must be signed and dated by the complainant. The PMG social affairs specialist serves as the main contact point.The grievanceshouldbereviewedandresolvedwithin 15 days.
Step 3: Conflict Resolution Commission (CRC)	If the grievance is not resolved after receiving a response from the PMG, the Project uses the Conflict Resolution Commission as an appeal mechanism. The Conflict Resolution Commission consists of at least 5 members: 2 of which are PMG staff and the remaining three are represented at the level of Contractor's representative and local government representatives.

Table16.Grievancelevel

All grievances will be processed within clearly defined timeframes. The established deadlines for grievance resolution are as follows:

Grievances will be resolved within the following timeframes: 10 days at the local level, 15–20 days at the regional level, and up to 30 days at the national level.

The Conflict Resolution Commission is established at the request of the applicant, from the PIU or local Hukumat (in the districts of the project area). Decisions made by the Commission and agreed between all parties are formalized in the form of an order by the participating Hukumats. If the beneficiary has any objections to the CRC decision, the case can be taken to court by the affected party.

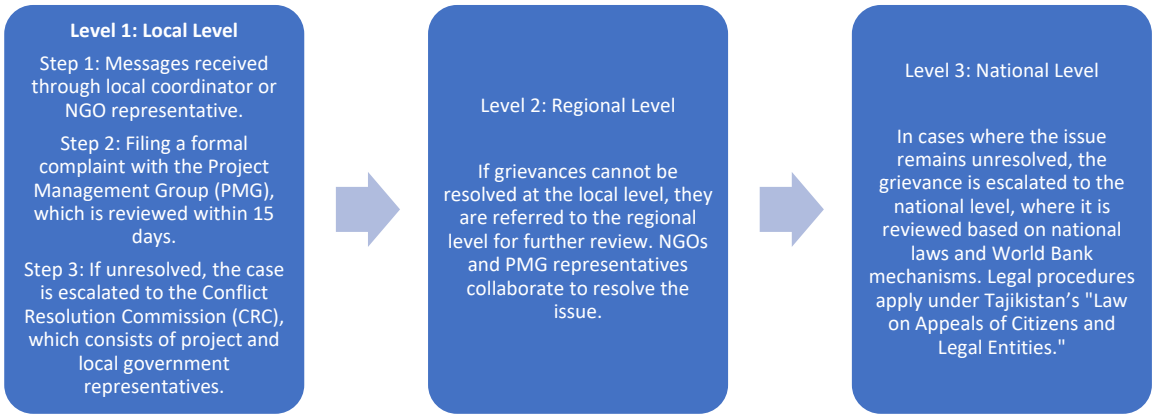
Level 2 (regional).

Step	Action
Level 2 (regional)	The review of applications submitted by stakeholders during project implementation is carried out with the involvement of NGOs and PMG representatives. At this level, applications that could not be resolved at the local level are reviewed. The process includes collecting and analyzing information about the application, meeting with the applicant and stakeholders, and making recommendations to resolve the problem. NGO representatives play an important role in providing independent assessment and advocacy for applicants, while PMG representatives coordinate the process and ensure that decisions are implemented. Decisions must be made and communicated to the applicant within a set timeframe, usually within 15-20 days. If the applicant is not satisfied with the decision, their application may be referred to the next level of review. At the regional and national levels, the GRM will operate in compliance with the Law of the Republic of Tajikistan on Appeals of Citizens and Legal Entities. This ensures that grievances unresolved at lower levels are addressed within the national legal framework. Collaboration with local Hukumats and NGOs will ensure that grievances are handled in a culturally sensitive manner, maintaining transparency and stakeholder trust.

Table17.Grievancelevel

Level 3 (national).At the national level, the GRM aligns with the Law of the Republic of Tajikistan on Appeals of Citizens and Legal Entities. This ensures that grievances unresolved at regional levels are addressed within the legal framework of the country, maintaining compliance with both national and World Bank standards. This level will be based on the existing WB mechanism and national legislation, where, in accordance with the legislation of the Republic of Tajikistan, legal provisions reflected in the "Law of the Republic of Tajikistan on Appeals of Citizens and Legal Entities" are used. Within the framework of the Project implementation, information on the GRM for the Project will be placed on the websites of implementing organizations. The online feedback mechanism will also function as a GRM, allowing users to leave comments or submit complaints. Contact details of PMG will also be available on the websites. At the national level, grievances unresolved at regional levels will be addressed in accordance with the Law of the Republic of Tajikistan on Appeals of Citizens and Legal Entities. This ensures that all complaints are handled within the framework of national legislation, maintaining alignment with World Bank standards.

Grievance Redress Mechanism (GRM):



Key Performance Indicators (KPIs) for evaluating GRM effectiveness include:

- Number and types of grievances received.
- Percentage of grievances resolved within specified timeframes.
- Satisfaction rates of complainants, based on follow-up surveys.
- Frequency of recurring grievances and their resolution strategies.

If technical components are unavailable or of poor quality, the complainant can apply through a number of procedures: verbally (by phone), in writing, or during designated reception days and hours. Information on the reception schedule shall be placed on the information stand and published on the websites of the Executive Body. Applications related to the implementation of project activities are subject to review. Based on the application, a working committee for grievance resolution is established, which will be represented at the level of PMG responsible person (each in its specific work) and representatives of the Contractor/contractors. The timeframe for consideration and resolution of the grievance will be established in accordance with the provisions reflected in the Law on Appeals of Citizens and Legal Entities of the Republic of Tajikistan.

The GRM at local/regional/national levels will be finalized at the project inception stage and will be adjusted as necessary throughout the project life cycle. The GRM is closely linked with the Stakeholder Engagement Plan (SEP) and the Environmental and Social Management Plan (ESMP). For further details on stakeholder engagement activities, refer to SEP Section 5.1 "Collaboration methods and tools" and Subsection 5.1.1 "Description of interaction methods". For monitoring protocols and management measures, refer to ESMP Section 2 "Environmental and social management plan and monitoring plan». Grievance data, including types, frequency, and resolution status, will be analyzed quarterly and incorporated into the Project's semi-annual monitoring reports. This data will be used to identify recurring issues and improve Project implementation. Independent reviews of GRM functionality will be conducted every two years to assess its effectiveness and ensure compliance with World Bank standards. Findings from independent GRM reviews will be integrated into semi-annual reports, shared with stakeholders, and presented during consultations to ensure transparency and continuous improvement.

World Bank Grievance Redressal Service

Communities and individuals who feel that they are adversely affected by a World Bank (WB)-financed project may submit complaints to existing project-level grievance mechanisms or to the WB's Grievance Redress Service (GRS). The Grievance Redressal Service ensures that grievances received are promptly addressed to resolve project-related issues. Project-affected communities and individuals can submit their grievance to

the WB's independent Inspection Panel, which determines whether harm has occurred or is likely to occur as a result of the WB's failure to comply with its policies and procedures. Complaints may be filed at any time after issues have been raised directly with the WB and Bank management has had an opportunity to respond. For information on how to file complaints with the World Bank's Corporate Complaint Management Service (CCMS), visit: https://projects.vsemirnyjbank.org/ru/projects-operations/products-and-services/grievance-redress-service#file

For information on how to file complaints with the World Bank Inspection Panel, visit: www.inspectionpanel.org

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

11. INFORMATION DISCLOSURE AND PUBLIC CONSULTATION

During the project preparation phase, consultations were held with key stakeholders in the proposed project areas to inform them about the proposed project activities, consider the needs of potential stakeholders, and jointly identify the social and environmental risks and impacts that may arise during the implementation of project activities. To mitigate the social and environmental risks of the proposed project, a consultant represented by Bars Consulting LLC, hired by PMG, prepared draft.

Key Objectives:

Inform key stakeholders about the planned project activities, actions taken to ensure environmental and social safety of the project. (Information materials used for consultations are provided in Annex 3). Disclose the preliminary version of the social and environmental assessment reports. Obtain comments and feedback from stakeholders on the whole package of documents to be disclosed. The following project materials were disclosed:

Project Summary;

- Environmental and Social Management Framework (ESMF);
- Stakeholder Engagement Plan (SEP);
- Resettlement Policy Framework (RPF);
- Labor Management Procedures (LMP);
- Gender Development Framework (GDF);

In addition, project materials were shared with local Hukumats in the project areas and district environmental committees for wider coverage of project activities and feedback. Details of the process for meeting with local authorities can be found in Annex 2. Minutes of the public hearings are provided in Annex 6

ANNEX 1. INDICATIVE BUDGET FOR THE IMPLEMENTATION OF THE ESMP CONDITIONS

Expenditure category	Description	Approximate cost (USD) - per year
1. Pollution monitoring		
- Soil sampling	Soil samples for contamination control	$2,000 (quarterly)
- Laboratory tests	Laboratory tests of all samples taken	$1,000
- Specialized monitoring equipment	Procurement of sensors for pollution control (e.g. SF6 emission control)	$2,000 (one-time)
- Equipment maintenance and calibration	Regular maintenance of equipment	$1,000
2. Site visits for monitoring		
- Transportation costs	Rental of vehicles for the monitoring team for regular site visits	$10,000
- Travel expenses	Meals and per diem for the monitoring team	$8,000
- On-site monitoring equipment	Procurement of portable inspection equipment	$2,000
- Preparation of reports on the results of visits	Costs of preparing reports and analyzing them	$5,000
3. hiring specialists for monitoring and consultation		
- Environmental expert	Specialist for environmental assessments	$12,000
- Expert on social issues	Specialist to assess the impact on local communities	$8,000
- Legal Advisor	Consultant on legal issues related to land alienation and compensation	$5,000
- Health and Safety Consultant	Safety specialist to carry out regular inspections	$8,000

4. training and capacity building		
- Training of PMG employees	Conducting training seminars on environmental and social standards	$8,000
- Occupational health and safety trainings	Special HSE courses for personnel	$5,000
- Training materials	Development of training materials for trainings	$5,000
5. Administrative expenses		
- Documentation and reporting	Preparation, translation and dissemination of reports	$5,000
- Translation of documents into local languages	Translation of materials for local communities	$4,000
6. operating costs		
- Rental of office equipment	Equipment for the monitoring team's work	$5,000
- Communication costs	Internet and telephone costs for project coordination	$2,000
Total budget		**$104,000 (for the year)**

ANNEX 2. HOLDING MEETINGS WITH LOCAL AUTHORITIES.

Figure27. Meeting with a representative of the Shahrinav district governmental authority

The meeting with the representative of the state authority of Shahrinav district, Chairman Valizoda Abdukodir Isuf, was held on May 14, 2024 in the building of the hukumat of the Chairman of Shahrinav district. The meeting was also attended by Payrav Bahriddinovich Sayfiddinov, Chief of Staff, contact phone number: 988858488.The purpose of the meeting was to discuss the implementation of the project on construction of new power lines and modernization of substations, as well as to consider potential environmental and social risks and measures to mitigate them. Particular attention was paid to coordination and coordination with local authorities at all stages of project activities. During the meeting the participants discussed a brief description of the project, including its goals and objectives, as well as the main stages of implementation. Information on potential risks and impacts on the environment and local communities was presented and measures to mitigate these risks were proposed. Valizoda Abdukodir Isuf expressed understanding of the importance of the project and emphasized the need for careful monitoring of compliance with all environmental and social standards. Chief of Staff Payrav Bahriddinovich Sayfiddinov raised issues related to the role and participation of local authorities in the project and expressed readiness for close interaction and coordination at all stages of implementation. The discussion also touched upon possible questions and suggestions from the representatives of the governmental authority, which provided valuable feedback. As a result of the meeting,

important agreements on further steps and interaction were reached. All participants expressed their willingness to continue constructive dialogue and cooperation for the successful implementation of the project. The outcome of the meeting confirmed the need for close cooperation with local authorities, ensuring strict compliance with environmental and social standards, as well as the importance of open and regular communication with community representatives to minimize potential risks and negative impacts.

Figure28. Meeting with representatives of the public authority of the city of Tursunzadeh

The meeting with the representatives of the public authority of Tursunzadeh city, Chairman Akramzoda Parviz, was held on May 15, 2024. The meeting was attended by Shahboz Abdusattor, Head of the Industry and Energy Department, his contact number: 918886855, working phone number: 8313028898, and Suhrob Nazarov, Lead Specialist, his working phone number: 8313022093.The purpose of the meeting was to discuss key aspects of the new transmission lines and substation modernization project, as well as to review the associated environmental and social risks and mitigation measures. The issues of interaction and coordination with local authorities at all stages of project activities were considered. During the discussion, the participants reviewed in detail the main stages of project implementation, its goals and objectives. Information on possible environmental and social impacts was presented and measures to minimize them were proposed. Akramzoda Parviz emphasized the importance of the project for the development of the region and noted the need for strict compliance with all environmental and social standards. Shahboz Abdusattor expressed the readiness of the Department of Industry and Energy to actively participate in the project and raised issues related to coordination and interaction with local authorities. Suhrob Nazarov provided additional information and supported the discussion, emphasizing the importance of effective project management. The outcome of the meeting confirmed the need for close cooperation with local authorities,

ensuring strict compliance with environmental and social standards, as well as the importance of open and regular communication with community representatives. All participants expressed their willingness to continue constructive dialog and cooperation for successful implementation of the project.

Figure29. Meeting with representatives of the governmental authority of Hissar city

At the meeting with the representatives of the Hissar city state authority, which was headed by Chairman Nosirzoda Jabbor, key aspects of the project for construction of new power lines and modernization of substations were discussed. Information and necessary data were provided by Bobokhonov Akhliddin, specialist of the economic department, his contact number is 901406960. During the meeting they discussed in detail the goals and objectives of the project, its significance for the region, as well as possible environmental and social risks. They discussed measures to mitigate them and mechanisms of interaction with local authorities at all stages of project implementation. Nosirzoda Jabbor emphasized the importance of the project for improving infrastructure and increasing the reliability of energy supply in the region, focusing on the need for strict compliance with environmental and social standards. Bobokhonov Ahliddin provided additional information on the current state of the economic situation in the district and expressed readiness for active cooperation for the successful implementation of the project. The participants of the meeting confirmed the need for continuous and open dialogue with the local population, as well as the importance of coordination with various stakeholders to achieve all project objectives. The meeting outcomes emphasized the importance of the project for the development of the region and confirmed the readiness of local authorities to actively participate and support all stages of its implementation.

Figure30. Meeting with representatives of the Rudaki district government authority

At the meeting with representatives of the Rudaki district government authority, which was led by Chairman Abdugaffor Hikmatullozoda, key aspects of the project on construction of new transmission lines and modernization of substations were discussed. The contact person was Mr. Nizomudinzoda Abdurasul, Head of the Department of the Statistical Agency under the President of the Republic of Tajikistan in Rudaki district, his phone number is 988060899. During the meeting, they discussed in detail the goals and objectives of the project, its significance for the district, as well as potential environmental and social risks. They discussed measures to mitigate them and mechanisms of interaction with local authorities at all stages of project implementation. Abdugaffor Hikmatullozoda emphasized the importance of the project for improving infrastructure and increasing the reliability of energy supply in the district, focusing on the need for strict compliance with environmental and social standards. Nizomudinzoda Abdurasul provided additional information on the current state of the district and expressed readiness for active cooperation for the successful implementation of the project. The participants of the meeting confirmed the need for a continuous and open dialogue with the local population, as well as the importance of coordination with various stakeholders to achieve all project objectives. The meeting outcomes emphasized the importance of the project for the development of Rudaki district and confirmed the readiness of local authorities to actively participate and support all stages of its implementation.

Figure31. Meeting with representatives of the Varzob district government authority

At the meeting with representatives of the Varzob district government authority, which was led by Chairman Damonzoda Khusrav Nazarali, key aspects of the new transmission lines and substation modernization project were discussed. The contact person was a specialist of the statistics department, his phone number is 90 088 1537.During the meeting, the main goals and objectives of the project, its importance for the district, as well as potential environmental and social risks were discussed. Measures to mitigate them and mechanisms of interaction with local authorities at all stages of project implementation were discussed. Damonzoda Khusrav Nazarali emphasized the importance of the project for improvement of infrastructure and reliability of energy supply in the district, emphasizing the need for strict compliance with environmental and social standards. Specialist of the Statistics Department provided additional data on the current state of the district and expressed readiness for active cooperation for successful implementation of the project. The participants of the meeting confirmed the need for continuous and open dialogue with the local population, as well as the importance of coordination with various stakeholders to achieve all project objectives. The meeting outcomes emphasized the importance of the project for the development of Varzob rayon and confirmed the readiness of local authorities to actively participate and support all stages of its implementation.

ANNEX 3. INFORMATION MATERIALS

Table 1. Air quality standards

#	pollutant	Tajikstandard (mg/m3)
1.	solidparticles	0.150
2.	Nitricoxide (NO)	0.060
3.	NitrogenDioxide (NO2)	0.040
4.	Sulfur (SO2)	0.050
5.	Carbondioxide	3.000
6.	Ammonium	0.200

ANNEX 4. PRE-SOCIAL SCREENING CHECKLIST (SCREENING)

	Kinds activities	Yes	Not	Notes
1.	Acquisition of land, buildings (residential and business)			If “Yes” and “No” to the other questions, please provide the relevant

				documents available to complete the final purchase and sale transaction
2.	Business acquisition or expansion to be undertaken by demolition/relocation homeowners, tenants, formal and informal user assets			If the answer is “Yes”, exclude from funding
3.	Acquisition of assets that will result in the loss of access of individuals or a particular community/group, especially ethnic minorities, to: - Natural resources - traditional places of residence - Traditional activities - Objects communal farms			If the answer is “Yes”, exclude from funding
4.	Acquisition/or expansion of a business capable of increasing/increasing the risk of: 1. Violations of the labor code and laws, including the use of child labor 2. Harassment of ethnic minority groups in the project areas (related to their identity, dignity, and livelihoods, life support systems, cultural identity) 3. Trade people and forced work			If the answer is “Yes”, exclude from funding
5.	Will the acquisition of land be made using the law on the right of the state to expropriate property?			If the answer is “Yes”, exclude from funding
6.	Will there be permanent or temporary loss of housing and residential land due to land acquisition?			If the answer is “Yes”, exclude from funding
7.	Will there be a permanent or temporary loss of agricultural and other productive assets due to land acquisition?			If the answer is “Yes”, exclude from funding
8.	Will there be loss of crops, trees and fixed assets due to land acquisition?			If the answer is “Yes”, exclude from funding
9.	Will there be a permanent or temporary loss of business or business due to land acquisition?			If the answer is “Yes”, exclude from funding
10	Will there be permanent or temporary loss of income and livelihoods due to land acquisition?			If the answer is “Yes”, exclude from funding
11	If land or private property is acquired through the principle of a willing buyer and a willing seller, will this result in permanent or temporary relocation or relocation of landlords or tenants?			If the answer is “Yes”, exclude from funding
12	If land or private property is acquired through negotiation or through the principle of a willing buyer and a willing seller, will this result in permanent or temporary relocation, or displacement of informal land users (people without legal rights to the land) or land occupiers?			If the answer is “Yes”, exclude from funding

13	Will the project include any permanent or temporary restrictions on land use, or access to protected parks or areas, thereby forcing people or any community to lose access to natural resources, traditional habitats, communal lands or facilities?			If the answer is “Yes”, exclude from funding
14	Will the project use government land or any public land or property that will require permanent or temporary relocation of informal residents or users (residential or economic)?			If the answer is “Yes”, exclude from funding

ANNEX 5. RESULTS OF PRELIMINARY ANALYSIS OF THE ENVIRONMENTAL AND SOCIAL ENVIRONMENT

☐	Risk category: "High". Significant impact, exclude from funding	Name and signature: Position:
☐	Risk category: "Significant". Limited or temporary impact	Date: Approved:
☐	Risk category: "Moderate" Limited or temporary impact	Name and signature: Position:
☐	Risk category: "Low". No impact	Date: Name and signature:

Any subprojects that include activities that are the same as those included in the lists of unacceptable species and that may have high environmental risks will be disqualified. If the answer to one of the following questions is "YES", the project should be revised to reduce the level of risk.

Questions asked as part of the preliminary analysis of the state of the environment and social environment

A. Location subproject

- Is the sub -project area located less than 300 m from any of the following environmentally sensitive areas? _____
- Cultural heritage and historical object _____
- Legally protected area (core zone or buffer zone, all 5 types of protected areas, as defined by national environmental legislation)

  _____
- Wetlands lands _____
- Mangroves forests

  _____
- Estuary

  _____
- Special area for the protection of biodiversity

  _____
- Residential neighborhoods, schools and hospitals

B. Types of potential significant environmental impacts for which no mitigation measures have been proposed by the sub-borrower

- Social and environmental conflicts or additional strain on existing infrastructure and systems if a large number of workers from other regions are hired?
- Occupational health and safety risks and vulnerabilities due to physical, chemical, biological and radiological hazards during the construction and operation of the subproject?

- Public health and safety risks associated with the transport, storage, use and/or disposal of materials such as explosives, fuels and other chemicals during construction and operation?

C. Purchase and use of prohibited fertilizers, pesticides/herbicides or hazardous materials.

Acquisition and use of new plant species that may be considered invasive alien species without following national regulations and proper risk assessment or strict control measures to minimize the possibility of their introduction into the local environment.

ANNEX 6. MINUTES OF PUBLICHEARINGS

MINUTES OF PUBLIC HEARINGS

By project " Preparation of environmental and social documentation for prioritized transmission investments needed to evacuate electricity from Rogun "

Republic of Tajikistan, District of Republican Subordination, Varzob District, Jamoat Chorbog Village Chorbog

Date held: _____03.08.2024_____

Venue: Republic of Tajikistan, Rayon of Republican Subordination, Varzob District, Chorbog Jamoat, Chorbog village

Body responsible for organizing public hearings: Bars Consulting LLC

Grounds for public hearings: Submission of project documents that include:

- Environmental and Social Management Framework (ESMF);
- Stakeholder Engagement Plan (SEP);
- Resettlement Policy Framework Document (RPFD);
- Labor Management Procedures (LMP);
- Gender Development Framework (GDF);

The public hearings were attended (Annex 1)

Listened to:

Introductory remarks by the Chair of the public hearing.

Good afternoon, dear participants of the public hearings!

Today Limited Liability Company "Bars Consulting" at the request of the Customer (Ministry of Energy and Water Resources of the Republic of Tajikistan) of the proposed activity holds public hearings on the project "**Preparation of environmental and social documentation for priority investments in power transmission necessary for evacuation of electricity from Rogun**" in the Republic of Tajikistan in the District of Republican Subordination in Varzob District Jamoat Chorbog village Chorbog with the presentation of project documentation, including the framework document.

"Customer of the proposed activity and initiator of public hearings Ministry of Energy and Water Resources of the Republic of Tajikistan.

We hold these public hearings on the basis of fulfillment of the requirement of the World Bank, legislation of the Republic of Tajikistan, "On Environmental Protection", "On Environmental Impact Assessment", etc."

The project documentation regarding "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for the Evacuation of Electricity from Rogun" includes materials from the ESMF, ESMP, RPFD, RPF, SEP and is the subject of public hearings.

The purpose of the public hearing is to:

- Informing the public about the possible outcomes of the ESMF, ESMP, RPFD, RPF, SEP and draft decisions;
- Identification of comments and suggestions of stakeholders to be taken into account in the development of project documentation and materials ESMF, ESMP, RPFD, RPF, SEP
- Realization of the right of interested parties to receive information on planned activities, ask questions and receive answers.
  Today's event was preceded by public input on the following materials:
- Preliminary environmental, sociological assessment of the project
- Information on the location of the preliminary environmental, social assessment.

The following rules of order and agenda have been proposed for tonight's public hearing events.

First, we will hear from Ulugov Umidjon Amonovich, team leader and security specialist, Poltavets Alexei, social specialist, and Azizov Firuz, lawyer.

Then the reports from the members of Bars Consulting LLC will be heard regarding "Justification of the adopted technical solutions and development of project documentation for RDUOSS, PESUM, RDUOSS, RPFD, PWTP, PWTO, RPGR

Speakers' presentations will be followed by specialists' answers to the questions received. The duration of answers to the questions of the participants of the hearings - no more than 3 minutes per question. The number of questions is not limited. I draw special attention of the participants to the fact that all questions are asked orally.

After the questions are answered, we conclude the paper.

The outcome of the public hearings will be a protocol reflecting the conduct of the event.

The secretary of the public hearing is Azizov Firuz, a member of the report writing group.

We'll move on to the public hearing topic reports.

Ulugov U.A. in his speech presented the project documentation on the development of RDUOSS, PESUM, RDUOSS, RPFD, RPF, RPGR of the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"**,** in Chorbog Jamoat, Varzob district, with mentioning the role of the Ministry of Energy and Water Resources of the Republic of Tajikistan.

Next, the participant of the project team Poltavets Alexey Poltavets spoke, with the presentation of the message "On conducting social research and studies for writing the RDUOSS".

The last speaker was Azizov Firuz, with a report on "Conclusions on the results of development of PESUM, RDUOSS, RDPT, PRTO, RPGR". In his report, he pointed out the significance of the upcoming construction for the residents of the district and indicated the results of preliminary assessment of sociological and environmental conditions.

Public Hearing Chair: We have heard prepared presentations from members of Bars Consulting, LLC and will move on to answering questions from interested parties.

1. Question.
   How much money is given for resettlement?
   Answer: / Ruslan Shukurov, expert on work with the population: at the moment the exact amount is not known, the exact amount will be known after the engineers will conduct monitoring work to determine exactly how much will need to be spent on each m2.

2. Question.
   At what points will the power lines be located?
   Response: /Ulugov Umidjon Amonovich, Team Leader: "We showed the plan on the map with approximate marks of the location points of each of the transmission lines" after the survey the exact positions of the tower's location will be determined.
3. Question.
   Will social facilities such as schools, roads, hospitals, etc. be built?
   Response: / Poltavets Alexey Vitalievich Poltavets, social expert: the project has no social fund and therefore construction of social facilities is not considered.
4. Question.
   Will there be crop compensation for dekhkan-farmers?
   Response: /Ulugov Umidjon Amonovich, Team Leader: The project provides for crop compensation.
5. Question.
   What is the minimum distance provided between power lines and private properties?
   Answer: /Poltavets Alexey Vitalievich, social expert: The contractor will act on the basis of the norms of the Republic of Tajikistan international standards of power line construction.
6. Question.
   Will jobs be provided for anyone who wants to participate in the demolition and construction of power lines?
   Answer: /Ulugov Umidjon Amonovich, Team Leader: You will need to contact the construction and demolition company on this issue.
7. Question.
   For MRW issues, who will be available to contact?
   Answer: // Ruslan Aleksandrovich Shukurov, expert on community outreach: This issue will be solved before the project implementation, namely the system of RTM, stake centers will be developed and brochures with necessary information will be printed and distributed.

Closing remarks by the Chair of the public hearing:

So, we have heard all the planned reports, answered all the questions received. According to the results of public hearings on the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"

Do those present in the hall have any comments, applications or objections to the organization and conduct of public hearings? We fix that there are no comments, proposals and objections on the organization and conduct of public hearings.

Thank you all for a job well done!

Attachment to the Minutes of the Public Hearing:

1. List of participants of public hearings (registration sheets):

Список участников

общественных слушаний в рамках проекта REMIT MPA

Джамоат/село Чорбог   *Дата* 03.08.2024

№	ФИО	Джамоат/село	Телефон	Имзо
1	Мукимов Сиёсат	Бон Зарафшон Экономика Чорбог	918528247	
2	Саидов Музаффар	Мугоб Чорбог	800607773	
3	Меликова Зарина	Чорбог	X	
4	Разабов Иброхим	Чорбог	100 36 54 54	
5	Салимова Замира	Чорбог	X	
6	Нуралиев Усмон	Чорбог	880387774	
7	Мухаббати Махмадюсуф	Чорбог	887604747	
8	Раджабов Сабрали	Чорбог	779896224	

9	Шарипов Карам	Горбот	300005793	
10	Абдулоев Анвар	Горбот	201961519	
11	Хафизова Г.	Горбот	X	
12	Хафизова Гулнор	Горбот	+	
13	Исроилов Парвиз	Горбот	0 X	
14	Расулова Шамала	Горбот	988762993	

15	Хонова Зарина	Горбот	X	
16	Ашурова Нозокат	Горбот	918226080	
17	Алимов Восе	Горбот	502141410	
18	Шаров Исроил	Горбот	888807254	
19	Салимов Ахлиддин	Горбот	919652110	
20	Нусратзода Нигора	Горбот	808777746	

21	Алиева Мохира	Чорбоғ	901-353656	
22	Шарипов Одил	Чорбоғ	919230757	
23	Самадов Садорбек	Чорбоғ	808 84 84 49	
24	Шарипов Шамшод	ҷ. Чорбоғ д. Дзоба	110 74 24 24	
25	Сафаров Асатулло	Ш.Х.М 34 с	907909533	
26	Нозимзода Фахриддин	Чорбоғ	918447744	
27	Розиқов Раҷабали	Чорбоғ	908782013	

Appendix No. 2 Photos

To the minutes of the public hearings on the project Preparation of environmental and social documentation for priority transmission investments required for evacuation of electricity from Rogun

MINUTES OF PUBLIC HEARINGS

On the project "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for Evacuation of Electricity from Rogun"

Republic of Tajikistan, District of Republican Subordination, Hissar District, Khonakhoi Kuhi Jamoat, Almosy village

Date held: ____01.07.2024_____

Venue: Republic of Tajikistan, Rayon of Republican Subordination, Hissar District, Honahoi Kuhi Jamoat, **Almosy** village

Body responsible for organizing public hearings: Bars Consulting LLC

Grounds for public hearings: Submission of project documents that include:

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- Stakeholder Engagement Plan (SEP);
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Listened to:

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"Customer of the proposed activity and initiator of public hearings Ministry of Energy and Water Resources of the Republic of Tajikistan.

We hold these public hearings on the basis of fulfillment of the requirement of the World Bank, the legislation of the Republic of Tajikistan, "On Environmental Protection", "On Environmental Impact Assessment", etc.".

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Then the reports from the members of Bars Consulting LLC will be heard regarding "Justification of the adopted technical solutions and development of project documentation for ESMF, ESMP, RPFD, RPF, SEP

Speakers' presentations will be followed by specialists' answers to the questions received. The duration of answers to the questions of the participants of the hearings - no more than 3 minutes per question. The number of questions is not limited. I draw special attention of the participants to the fact that all questions are asked orally.

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We'll move on to the public hearing topic reports.

Ulugov U.A. in his speech presented the project documentation on development of ESMF, ESMP, RPFD, RPF, SEP of the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"**,** in Honahoi Kuhi Jamoat, Hissar district, with mentioning the role of the Ministry of Energy and Water Resources of the Republic of Tajikistan.

Next, the participant of the project team Poltavets Alexey Poltavets spoke, with the presentation of the message "On conducting social research and studies for writing the ESMF".

The last speaker was Azizov Firuz, with a report on "Conclusions on the results of development of ESMF, ESMP, RPFD, RPF, SEP ". In his report, he pointed out the significance of the upcoming construction for the residents of the district and indicated the results of preliminary assessment of sociological and environmental conditions.

Public Hearing Chair: We have heard prepared presentations from members of Bars Consulting, LLC and will move on to answering questions from interested parties.

8. Question.
   What is the minimum distance provided between power lines and private properties?
   Answer: /Ulugov Umidjon Amonovich, Team Leader: Calculation and design will be done by the contractor, who in turn will refer to the normative legal regulations of the Republic of Tajikistan.
9. Question.
   How much money is given for resettlement?
   Answer: /Azizov Firuz Khairiddinovich, lawyer: this issue will be resolved by referring to the normative legal acts of the Republic of Tajikistan, as well as the Land Code of the Republic of Tajikistan.
10. Question.

Will social facilities such as schools, roads, hospitals, etc. be built?
Answer: / Ruslan Shukurov, expert on community outreach: social facilities will not be considered, as no social fund has been allocated under the project.

11. Question.
    At what points will the power lines be located?
    Answer: /Poltavets Alexey Vitalievich, social expert: at this stage there are only approximate locations of the towers, which are indicated on the map, after a thorough study there will be exact locations of each of the towers.
12. Question.
    Will there be crop compensation for dekhkan-farmers?
    Answer: /Azizov Firuz Khairiddinovich, lawyer: Yes, compensation of dekhkan-farming crops will be, referring to the normative legal acts of the Republic of Tajikistan and the Land Code.
13. Question.
    Will jobs be provided for anyone who wants to participate in the demolition and construction of power lines?
    Answer: /Ulugov Umidjon Amonovich, Team Leader: you will need to discuss this issue directly with the contractor himself.

Closing remarks by the Chair of the public hearing:

So, we have heard all the planned reports, answered all the questions received. According to the results of public hearings on the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"

Do those present in the hall have any comments, applications or objections to the organization and conduct of public hearings? We fix that there are no comments, proposals and objections on the organization and conduct of public hearings.

Thank you all for a job well done!

Attachment to the Minutes of the Public Hearing:

2. List of participants of public hearings (registration sheets):

Список участников

общественных слушаний в рамках проекта REMIT MPA

Джамоат/село Хонақои Кӯҳи, Алмоси *Дата* ____________

№	ФИО	Джамоат/село	Канцелярия	Телефон	Имзо
1	Шарипов Тағоймурод	Хонақои Кӯҳи	✓	907910768	
2	Нусратов Акрам	Хонақои Кӯҳи	✓	004445375	
3	Мирозидинов Фаррух	Хонақои Кӯҳи	✓	905742828	
4	Шамсов Диловар	Хонақои Кӯҳи	✓	003661782	
5	Абдулмоев Золим	Хонақои Кӯҳи	✓	907048504	
6	Шамсов Далер	Хонақои Кӯҳи	✓	907322827	
7	Буриев Маъруф	Хонақои Кӯҳи	✓	918503219	
8	Иброҳимов Тоҷимурод	Хонақои Кӯҳи	✓	988868897	

9	Мулложонов Фаридун	Хонахон Кухи	✓	800800200	
10	Каримов Амир	Хонахон Кухи	✓	501310592	
11	Хабибов Хамид	Хонахон Кухи	✓	907140778	
12	Косимов Човид	Хонахон Кухи	✓	902863131	
13	Рахимов Насриддин	Хонахон Кухи	✓	989424218	
14	Шамсов Бахрулло	Хонахон Кухи	✓	1028658383	

15	Сафаров Латиф	Хонахон Кухи	✓	007079534	
16	Назими Исмоил	Хонахон Кухи	✓	×	
17	Рахиев Саид	Хонахон Кухи	✓	×	
18	Абдуллоев Хуршед	Хонахон Кухи	✓	×	
19	Нусратзода Умед	Хонахон Кухи	✓	918527171	
20	Шамсов Шарофиддин	Хонахон Кухи	✓	987128765	

21	Абдуллаев Тимур	Хоккейчи Кузи	✓	204444400	
22	Сафаров Шахбоз	Хоккейчи Кузи	✓	907818195	
23	Сафаров Баракатулло	Хоккейчи Кузи	✓	902802520	
24	Салимов Кирьян	Хоккейчи Кузи	✓	938869[illegible]3	
25	Шигров Тимур	Хоккейчи Кузи	✓	918446064	
26	Набиев Набиджон Сулаймон	Хоккейчи Кузи	✓	903303753	

Appendix No. 1 Photos

To the minutes of the public hearings on the project Preparation of environmental and social documentation for priority transmission investments required for evacuation of electricity from Rogun

MINUTES OF PUBLIC HEARINGS

On the project "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for Evacuation of Electricity from Rogun"

Republic of Tajikistan, District of Republican Subordination, Shahrinav District, Chust village Chust jamoat

Date held: __20.06.2024_____

Venue: District of Republican Subordination, Shahrinav district, Chust village Chust jamoat

Body responsible for organizing public hearings: Bars Consulting LLC

Grounds for public hearings: Submission of project documents that include:

- Environmental and Social Management Framework (ESMF);
- Stakeholder Engagement Plan (SEP);
- Resettlement Policy Framework Document (RPFD);
- Labor Management Procedures (LMP);
- Gender Development Framework (GDF);

The public hearings were attended (Annex 1)

Listened to:

Opening remarks by the Chair of the public hearings.

Good afternoon, dear participants of the public hearings!

Today Limited Liability Company "Bars Consulting" at the request of the Customer (Ministry of Energy and Water Resources of the Republic of Tajikistan) of the proposed activity holds public hearings on the project "**Preparation of environmental and social documentation for priority investments in power transmission necessary for the evacuation of electricity from Rogun**" in the Republic of Tajikistan in the District of Republican Subordination, Shahrinav District, Chust Jamoat, Chust village.

with submission of project documents, including Environmental and Social Management Framework (ESMF); Stakeholder Engagement Plan (SEP); Resettlement Policy Framework (RPF); Labor Management Procedures (LMP); Gender Development Framework (GDF); government stakeholders as well as local residents.

"Customer of the proposed activity and initiator of public hearings Ministry of Energy and Water Resources of the Republic of Tajikistan.

We hold these public hearings on the basis of fulfillment of the requirement of the World Bank, legislation of the Republic of Tajikistan, "On Environmental Protection", "On Environmental Impact Assessment", etc."

The project documentation regarding "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for the Evacuation of Electricity from Rogun" includes materials from the ESMF, ESMP, RPFD, RPF, SEP and is the subject of public hearings.

The purpose of the public hearing is to:

- Informing the public about the possible outcomes of the ESMF, ESMP, RPFD, RPF, SEP and draft decisions;
- Identification of comments and suggestions of stakeholders to be taken into account in the development of project documentation and materials ESMF, ESMP, RPFD, RPF, SEP
- Realization of the right of interested parties to receive information on planned activities, ask questions and receive answers.

Today's event was preceded by public input on the following materials:

- Preliminary environmental, sociological assessment of the project
- Information on the location of the preliminary environmental, social assessment.

The following rules of order and agenda have been proposed for tonight's public hearing events.

First, we will hear from Ulugov Umidjon Amonovich, team leader and security specialist, Poltavets Alexei, social specialist, and Azizov Firuz, lawyer.

Then the reports from the members of Bars Consulting LLC will be heard regarding "Justification of the adopted technical solutions and development of project documentation for ESMF, ESMP, RPFD, RPF, SEP

The speakers will be followed by the specialists' answers to the questions received. The duration of answers to the questions of the participants of the hearings - no more than 3 minutes per question. The number of questions is not limited. I draw special attention of the participants to the fact that all questions are asked orally.

After the questions are answered, we conclude the paper.

The outcome of the public hearings will be a protocol reflecting the conduct of the event.

The secretary of the public hearing is Azizov Firuz, a member of the report writing group.

We'll move on to the public hearing topic reports.

Ulugov U.A. in his speech presented the project documentation on development of ESMF, ESMP, RPFD, RPF, SEP of the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"**,** in Chust Jamoat, Shahrinav district, with mentioning the role of the Ministry of Energy and Water Resources of the Republic of Tajikistan.

Next, the participant of the project team Poltavets Alexey Poltavets spoke, presenting the report "On conducting social research and studies for writing the RDUOSS".

The last speaker was Azizov Firuz, with a report on "Conclusions on the results of development of PESUM, RDUOSS, RDPT, PRTO, RPGR". In his report, he pointed out the significance of the upcoming construction for the residents of the district and indicated the results of preliminary assessment of sociological and environmental conditions.

Public Hearing Chair: We have heard prepared presentations from members of Bars Consulting, LLC and will move on to answering questions from interested parties.

1. Question.

Will jobs be provided for anyone who wants to participate in the demolition and construction of power lines?

Answer: /Ulugov Umidjon Amonovich, Team Leader: the acceptance of the application for work will be discussed directly with the contractor himself

2. Question.

How much money is given for resettlement?

Answer: / Poltavets Alexey Vitalievich, social expert: this question will be precisely answered after calculation works by the project implementers according to all laws of the Land Code of the Republic of Tajikistan.

3. Question.

For MRW issues, who will be available to contact?

Answer: /Shukurov Ruslan Aleksandrovich, expert on working with the population: the project includes this function, which will be developed before its entry into force, that is, a system will be created by which citizens whose houses will be affected during construction works, to contact the call center for the solution of their questions.

4. Question.

At what points will the power lines be located?

Answer: /Azizov Firuz Khairiddinovich, lawyer: at the moment there are approximate points on the map where the power lines will stand, in the future, after the calculation work will be carried out, thoroughly studying all the details of construction works, will be given accurate information about the location of power lines.

5. Question.

Will social facilities such as schools, roads, hospitals, etc. be built?

Answer: / Ulugov Umidjon Amonovich, Team Leader: in this project no funds were allocated for construction of social facilities, and in this regard this issue will not be considered.

Closing remarks by the Chair of the public hearing:

So, we have heard all the planned reports, answered all the questions received. According to the results of public hearings on the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"

Do those present in the hall have any comments, applications or objections to the organization and conduct of public hearings? We fix that there are no comments, proposals and objections on the organization and conduct of public hearings.

Thank you all for a job well done!

Attachment to the Minutes of the Public Hearing:

1. List of participants of public hearings (registration sheets):

Шахринав

Список участников

общественных слушаний в рамках проекта REMIT MPA

Джамоат/село ____________________ Дата 20.06.2024

№	ФИО	Джамоат/село	Телефон	Имзо
1	Баротов Лутфулло Рахмонович	Чуст	907-86-68-34.	[signature]
2	Ногиров Хусейн	Чуст	907433451	[signature]
3	Комаров [illegible]	Чуст	50466601	[signature]
4	Пирова Туйгуной	Чуст.	009-997924	[signature]
5	Мукимова Фаттох	Чуст.	919-08-72-49.	[signature]
6	Абдузаббордода Гулнода	Чуст	988-44-66-55	[signature]
7	Саидов Абдукарим	Чуст.	55-700-50-10.	[signature]
8	Тошев Маҳмуд	Чуст.	978-38-19-19	[signature]

9	Норов Убайд	Чуот.	8858-535-87	[signature]
10	Чаборзода Чахонгир	Чуот.	904406655	[signature]
11	Сайдилов Фузайл.	Чуот.	987-727-95-58	[signature]
12	Алимов Эмомуддин	Чуот	501-883-507	[signature]
13	Кудбахзода Саидали	Чуот	985,55,01,55	[signature]
14	Рахмонов Кудбахали	Чует	000-10-59-59	[signature]

15	Файзиева Алина	Чует	934-11-18-50	[signature]
16	Нуралиев Умар.	Чует	0	[signature]
17	Очилдиев Пирзабали	Чует.	900-53-75-60	[signature]
18	Жаров Раховар	Чует	908-32-02-88	[signature]
19	Гулов Бахзоду	Чует	908770191	[signature]
20	Муродов Имр.	Чуот.	550-05-00-97	[signature]

21.	Бадалов Имомали	чует.	988-95-07-28	[signature]
22	Зиёев Зубайдулло	чует.	900-96-69-79	[signature]
23	Холиков Махмадюсуф			
24	Гуломов		900 756102	[signature]
25	Салиев Жаломиддин		907-39-25-25	[signature]
26	Азизов Шамсулло		90771-39-61	[signature]

27	Азизова Саодбахт	чует	900-12-09-36	[signature]

Appendix No. 1 Photos

To the minutes of the public hearings on the project Preparation of environmental and social documentation for priority transmission investments required for evacuation of electricity from Rogun




MINUTES OF PUBLIC HEARINGS

On the project "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for Evacuation of Electricity from Rogun"

Republic of Tajikistan, District of Republican Subordination, Tursunzade District, Karatog Jamoat

Date held: 20.06.2024_____

Venue: Republic of Tajikistan, District of Republican Subordination, Tursunzade District, Karatog Jamoat

Body responsible for organizing public hearings: Bars Consulting LLC

Grounds for public hearings: Submission of project documents that include:

- Environmental and Social Management Framework (ESMF);
- Stakeholder Engagement Plan (SEP);
- Resettlement Policy Framework Document (RPFD);
- Labor Management Procedures (LMP);
- Gender Development Framework (GDF);

The public hearings were attended (Annex 1)

Listened to:

Opening remarks by the Chair of the public hearings.

Good afternoon, dear participants of the public hearings!

Today Limited Liability Company "Bars Consulting" at the request of the Customer (Ministry of Energy and Water Resources of the Republic of Tajikistan) of the proposed activity holds public hearings on the project "**Preparation of environmental and social documentation for priority investments in power transmission necessary for evacuation of electricity from Rogun**" in the Republic of Tajikistan in the District of Republican Subordination, district Tursunzade, jamoat Karatog with the presentation of project documentation, including a framework document on management of the project, and the submission of the project documents.

"Customer of the proposed activity and initiator of public hearings Ministry of Energy and Water Resources of the Republic of Tajikistan.

We hold these public hearings on the basis of fulfillment of the requirement of the World Bank, legislation of the Republic of Tajikistan, "On Environmental Protection", "On Environmental Impact Assessment", etc."

The project documentation regarding "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for the Evacuation of Electricity from Rogun" includes materials from the ESMF, ESMP, RPFD, RPF, SEP and is the subject of public hearings.

The purpose of the public hearing is to:

- Informing the public about the possible outcomes of the ESMF, ESMP, RPFD, RPF, SEP and draft decisions;
- Identification of comments and suggestions of stakeholders to be taken into account in the development of project documentation and materials ESMF, ESMP, RPFD, RPF, SEP
- Realization of the right of interested parties to receive information on planned activities, ask questions and receive answers.
  Today's event was preceded by public input on the following materials:
- Preliminary environmental, sociological assessment of the project

- Information on the location of the preliminary environmental, social assessment.

The following rules of order and agenda have been proposed for tonight's public hearing events.

First, we will hear from Ulugov Umidjon Amonovich, team leader and security specialist, Poltavets Alexei, social specialist, and Azizov Firuz, lawyer.

Then the reports from the members of Bars Consulting LLC will be heard regarding "Justification of the adopted technical solutions and development of project documentation for ESMF, ESMP, RPFD, RPF, SEP

Speakers' presentations will be followed by specialists' answers to the questions received. The duration of answers to the questions of the participants of the hearings - no more than 3 minutes per question. The number of questions is not limited. I draw special attention of the participants to the fact that all questions are asked orally.

After the questions are answered, we conclude the paper.

The outcome of the public hearings will be a protocol reflecting the conduct of the event.

The secretary of the public hearing is Azizov Firuz, a member of the report writing group.

We'll move on to the public hearing topic reports.

Ulugov U.A. in his speech presented the project documentation on development of ESMF, ESMP, RPFD, RPF, SEP of the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"**,** in Karatog Jamoat, Tursunzade district, with mentioning the role of the Ministry of Energy and Water Resources of the Republic of Tajikistan.

Next, the participant of the project team Poltavets Alexey Poltavets spoke, presenting the report "On conducting social research and studies for writing the RDUOSS".

The last speaker was Azizov Firuz, with a report on "Conclusions on the results of development of PESUM, RDUOSS, RDPT, PRTO, RPGR". In his report, he pointed out the significance of the upcoming construction for the residents of the district and indicated the results of preliminary assessment of sociological and environmental conditions.

Public Hearing Chair: We have heard prepared presentations from members of Bars Consulting, LLC and will move on to answering questions from interested parties.

6. Question.
   How much money is given for resettlement?
   Answer: /Ulugov Umidjon Amonovich, Team Leader: After research works by the project implementers, the exact amount of money will be revealed, which will be credited to the local population whose land plots will be demolished during construction works.
7. Question.
8. Will there be crop compensation for dekhkan-farmers?
   Answer: /Poltavets Alexey Vitalievich, social expert: in accordance with the legislation of the Republic of Tajikistan on the Land Code, appropriate compensation will be paid for dekhkan-farming crops.
9. Question.
   Will jobs be provided for anyone who wants to participate in the demolition and construction of power lines?

Answer: / Ruslan Shukurov, expert on working with the population: you should discuss the issue of workers directly with the contractor himself.

10. Question.
    For MRW issues, who will be available to contact?
    Answer: /Azizov Firuz Khairiddinovich, Lawyer: This system, where the local population can raise complaints regarding construction works, will be developed prior to the implementation of the project itself. The GRM will include call centers and brochures with all necessary information will be developed.

Closing remarks by the Chair of the public hearing:

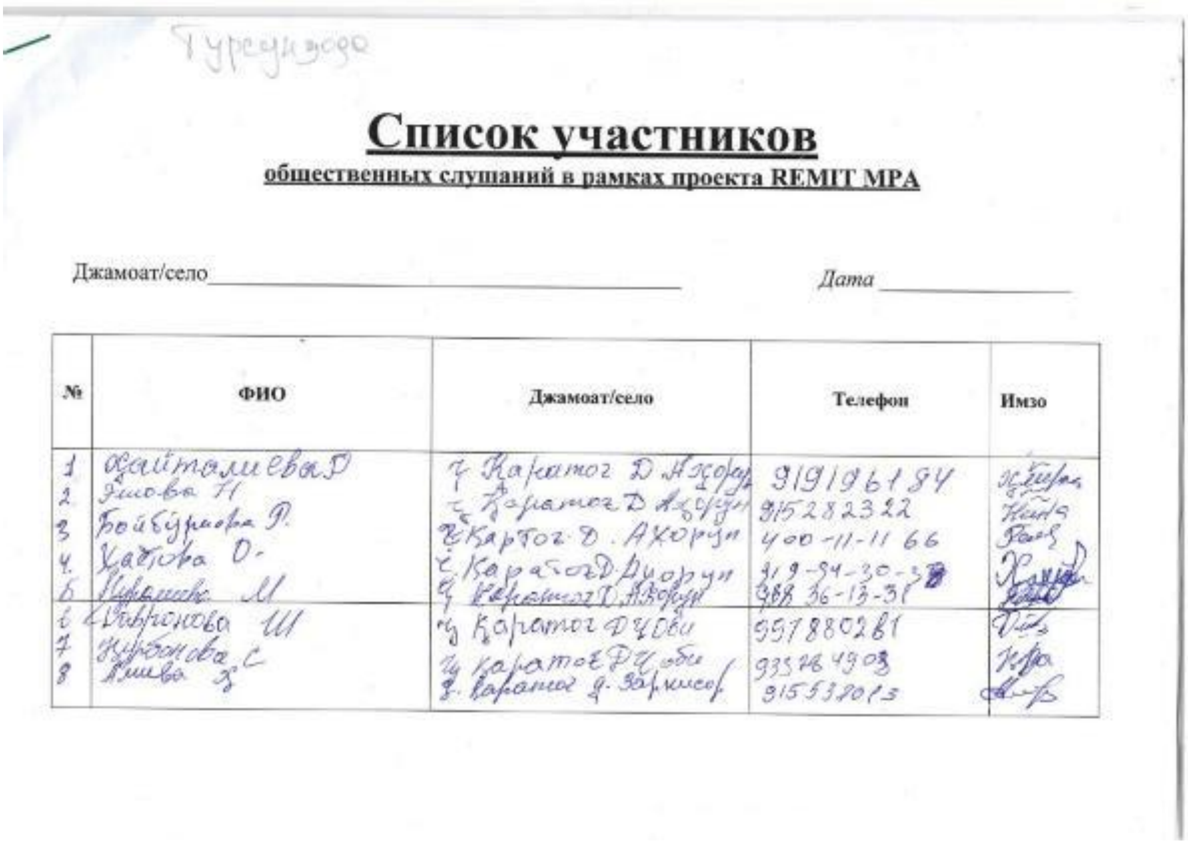
So, we have heard all the planned reports, answered all the questions received. According to the results of public hearings on the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"

Do those present in the hall have any comments, applications or objections to the organization and conduct of public hearings? We fix that there are no comments, proposals and objections on the organization and conduct of public hearings.

Thank you all for a job well done!

Attachment to the Minutes of the Public Hearing:

2. List of participants of public hearings (registration sheets):



Турсунзода

Список участников

общественных слушаний в рамках проекта REMIT MPA

Джамоат/село ____________ Дата ____________

№	ФИО	Джамоат/село	Телефон	Имзо
1	Қайтмалиева Д	ҷ. Қаратоғ Д. Ахорун	919196184	
2	Ёмова Н	ҷ. Қаратоғ Д Ахорун	915282322	
3	Бойбурнова Я.	ҷ. Картоғ Д. Ахорун	400-11-11 66	
4	Хаёова О.	ҷ. Каратоғ Д. Ахорун	919-94-30-3[illegible]	
5	[illegible] М	ҷ. Қаратоғ Д. Ахорун	988 36-13-31	
6	Убронова Ш	ҷ. Қаратоғ Д. Чоби	957880281	
7	Курбонова С	ҷ. Қаратоғ Д. Чоби	933764903	
8	Ашева З	ҷ. Қаратоғ д. Зарнисоб	915532013	

Умарова У. Л Ваисаева Г. Н	ҷ. Қаратоғ д. Зарнисор ҷ. Қаратоғ д. Зарнисор	919-44-38-23 916. 74. 36. 31.	
Шарапова С. Д Алаева Н С	ҷ. Қаратоғ д. Қаратоғ ҷ. Қаратоғ д. Адорун	919328184 911-13-34-51	
Назарова З. Ҷ. Боева Ф. М	ҷ. Қаратоғ д. Адорун 1.18.27	908.88.67.85 901-61-70-47	
Баротова Ф. А Умаева М	ҷ. Қаратоғ д. Зарнисор ҷ. Қаратоғ д. Адорун	919-50-40-86 999-44-39-79	
Рахмонова И Рахмонова Р.Г.	ҷ. Қаратоғ д. Ис. Азам ҷ. деҳ. Қаратоғ д. И. Азам		
Инатова Т.А.	ҷ. деҳ. Қаратоғ д. И. Азам	919020609	

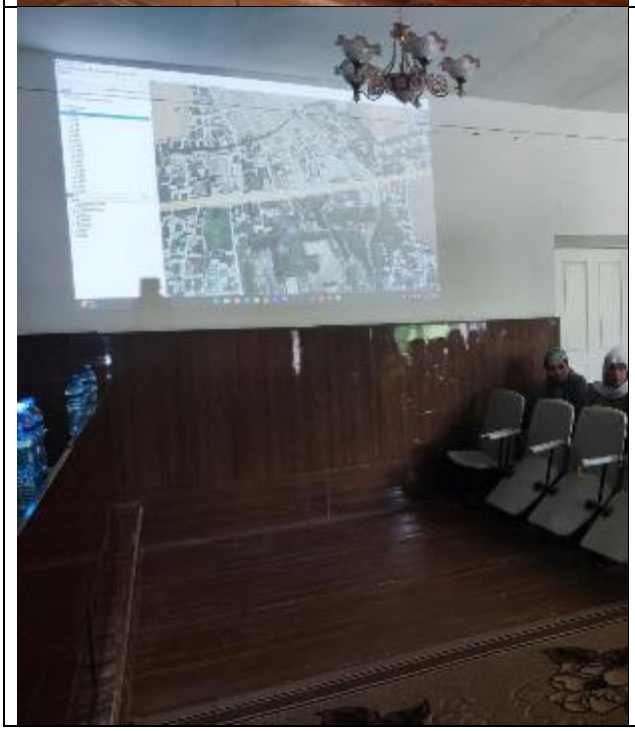
Содикова Г. Ҷ. Холиева З. Ҷ.	ҷ Д. Адорун Қаратоғ ҷ Д. Адорун Қаратоғ	917-39-74-55 918450848	
Рахимова Б. Сафурова З. Шарипова М. Холова ..	ҷД. Бофи Рахимзода	915.03.33.17. 800.11.93.73. 915-04-79-74.	
Тошева М Вохидова М	д. Зарнисор д. Зарнисор	911007355 111554590	
Гафуров С, Р	д. И. Азам	919232033	
Шарипов А.Н. Солихов. З.Х	Ҷ. - Оби Ҷ. оби	904360800 919535612	
Бобохоҷаев Б.	д. Чуғчи - Оби	901035651	

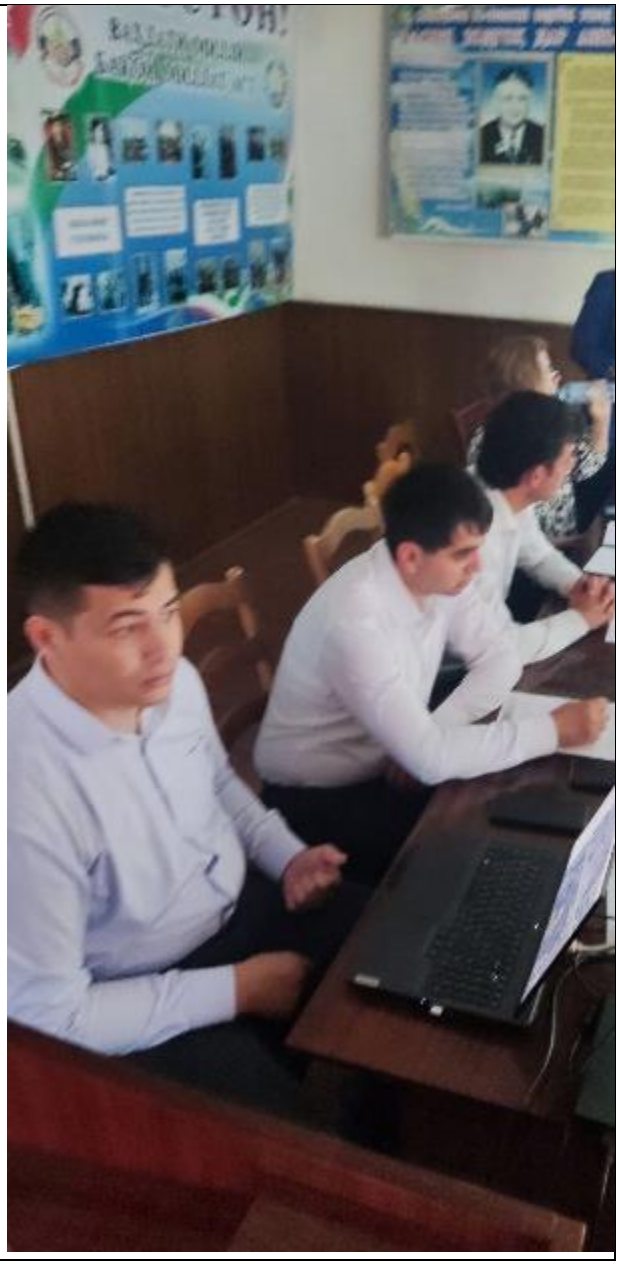
	Турсунов Н. С Махкамов М. Х	Ҷ.Ҷ. Ш. Мизан Ҷ.К. Мадания	93 880 84 71 918 140 4 95	
	Чураев А. Б. Бурхиев А. С	Ҷ.К. И. Аззам Имам Абдулло	900 66 27 55 919 35 58 88	
	Содиқов Абубакр. [illegible]	К. Қаратоғ Раиси маҳаллаи Чорбоғ	888 44 8252 919186975	
	Латифзода Абдулло	Б. Раҳимзода раиси маҳалла	907.92-32.18	
	Тиловов Р.	Б. Раҳимзода	919288 3-73	
	Чалолов М	д. Азоргун	901606285	

	Бобоев Х. С д. Азоргун	д. Азоргун	808695558	
	Haukob T. Ю	д. Азоргун	917192594	
	Сафаев С.	Азоргун	910 009549	
	Нарзуллоев Х	Мадания	908000524	
	Юсупов И	ҷ.м Чуқурсой	933240370	
2	Каримов С.	Чуқурӣ - Обод	918291159	

Appendix No. 1 Photos

To the minutes of the public hearings on the project Preparation of environmental and social documentation for priority transmission investments required for evacuation of electricity from Rogun





MINUTES OF PUBLIC HEARINGS

On the project "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for Evacuation of Electricity from Rogun"

Republic of Tajikistan, District of Republican Subordination, Rudaki District, Choryakoron Jamoat, Kalenin Village

Date held: 03.07.2024_____

Venue: Republic of Tajikistan, m

Body responsible for organizing public hearings: Bars Consulting LLC

Grounds for public hearings: Submission of project documents that include:

- Environmental and Social Management Framework (ESMF);
- Stakeholder Engagement Plan (SEP);
- Resettlement Policy Framework Document (RPFD);
- Labor Management Procedures (LMP);
- Gender Development Framework (GDF);

The public hearings were attended (Annex 1)

Listened to:

Opening remarks by the Chair of the public hearings.

Good afternoon, dear participants of the public hearings!

Today Limited Liability Company "Bars Consulting" at the request of the Customer (Ministry of Energy and Water Resources of the Republic of Tajikistan) of the proposed activity holds public hearings on the project "**Preparation of environmental and social documentation for priority investments in power transmission necessary for evacuation of electricity from Rogun**" in the Republic of Tajikistan in the District of Republican Subordination, Rudaki district, Choryakoron village Kalenin with the presentation of project documentation, including a framework document on the project's development and implementation, as well as on the project's implementation.

"Customer of the proposed activity and initiator of public hearings Ministry of Energy and Water Resources of the Republic of Tajikistan.

We hold these public hearings on the basis of fulfillment of the requirement of the World Bank, legislation of the Republic of Tajikistan, "On Environmental Protection", "On Environmental Impact Assessment", etc."

The project documentation regarding "Preparation of Environmental and Social Documentation for Priority Transmission Investments Required for the Evacuation of Electricity from Rogun" includes materials from the ESMF, ESMP, RPFD, RPF, SEP and is the subject of public hearings.

The purpose of the public hearing is to:

- Informing the public about the possible outcomes of the ESMF, ESMP, RPFD, RPF, SEP and draft decisions;
- Identification of comments and suggestions of stakeholders to be taken into account in the development of project documentation and materials ESMF, ESMP, RPFD, RPF, SEP

- Realization of the right of interested parties to receive information on planned activities, ask questions and receive answers.
  Today's event was preceded by public input on the following materials:
- Preliminary environmental, sociological assessment of the project
- Information on the location of the preliminary environmental, social assessment.

The following rules of order and agenda have been proposed for tonight's public hearing events.

First, we will hear from Ulugov Umidjon Amonovich, team leader and security specialist, Poltavets Alexei, social specialist, and Azizov Firuz, lawyer.

Then the reports from the members of Bars Consulting LLC will be heard regarding "Justification of the adopted technical solutions and development of project documentation for ESMF, ESMP, RPFD, RPF, SEP

The speakers will be followed by the specialists' answers to the questions received. The duration of answers to the questions of the participants of the hearings - no more than 3 minutes per question. The number of questions is not limited. I draw special attention of the participants to the fact that all questions are asked orally.

After the questions are answered, we conclude the paper.

The outcome of the public hearings will be a protocol reflecting the conduct of the event.

The secretary of the public hearing is Azizov Firuz, a member of the report writing group.

We'll move on to the public hearing topic reports.

Ulugov U.A. in his speech presented the project documentation on the development of RDUOSS, PESUM, RDUOSS, RPFD, RPF, RPGR of the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"**,** in Choryakoron Jamoat, Kalenin district, with mentioning the role of the Ministry of Energy and Water Resources of the Republic of Tajikistan.

Next, the participant of the project team Poltavets Alexey Poltavets spoke, with the presentation of the message "On conducting social research and studies for writing the RDUOSS".

The last speaker was Azizov Firuz, with a report on "Conclusions on the results of development of PESUM, RDUOSS, RDPT, PRTO, RPGR". In his report, he pointed out the significance of the upcoming construction for the residents of the district and indicated the results of preliminary assessment of sociological and environmental conditions.

Public Hearing Chair: We have heard prepared presentations from members of Bars Consulting, LLC and will move on to answering questions from interested parties.

11. Question.
    Will there be crop compensation for dekhkan-farmers?
    Answer: /Azizov Firuz Khairiddinovich, lawyer: Yes, compensation will be paid in accordance with the normative legal acts of the Republic of Tajikistan on compensation of dekhkan-farming farms
12. Question.
    How much money is given for resettlement?
    Answer: /Ulugov Umidjon Amonovich, Team Leader: at this stage the exact amount is not clear, it will be decided by engineers and project implementers who will carry out appropriate calculations, after which the data on payment for resettlement will be revealed.

13. Question.
    Will there be jobs during the demolition and construction of the transmission line?
    Answer: / Ruslan Shukurov, expert of work with the population: this question you will need to discuss directly with the construction company itself at the time when the construction will begin.
14. Question.
    At what locations will the power lines be installed?
    Answer: /Poltavets Alexey Vitalievich, social expert: we have a map on which the approximate location of power lines is marked, the exact location of towers will be known after a thorough study.
15. Question.
    Who will be contacted for grievance issues (MRW)?
    Answer: /Azizov Firuz Khairiddinovich, lawyer: Before the implementation of the project itself, a system of IWRM will be developed, which will function in the interests of citizens.
16. Question.
    What is the minimum, safe distance provided by the power line and private houses?
    Answer: /Ulugov Umidjon Amonovich, Team Leader: the issue of safe distance between power lines and private houses the contractor will implement referring to the normative legal acts of the Republic of Tajikistan, as well as follow international standards on construction of power lines.
17. Question.
    Will social facilities roads, hospitals, schools, etc. be built?
    Response: /Ulugov Umidjon Amonovich, Team Leader: According to the data of the project managers, the social fund has not been allocated, so the construction of social facilities such as schools, roads, etc. will not be considered.

Closing remarks by the Chair of the public hearing:

So, we have heard all the planned reports, answered all the questions received. According to the results of public hearings on the project "Preparation of environmental and social documentation for priority investments in power transmission required for evacuation of electricity from Rogun"

Do those present in the hall have any comments, applications or objections to the organization and conduct of public hearings? We fix that there are no comments, proposals and objections on the organization and conduct of public hearings.

Thank you all for a job well done!

Attachment to the Minutes of the Public Hearing:

3. List of participants of public hearings (registration sheets):

Рудоки

Список участников

общественных слушаний в рамках проекта REMIT MPA

Джамоат/село________________ *Дата*________

№	ФИО	Джамоат/село	Канцелярия	Телефон	Имзо
1	Косимов Абдукахор	Хусnобод Горякхора	✓	917040417	[signature]
2	Давлатов Сайфидин	Горякхора	✓	100342710	[signature]
3	Сафаров Самдзон	Горякхора	✓	915449193	[signature]
4	Амонуллов Авазани	Горякхора	✓	918412433	[signature]
5	Сафари Иброхим	Горякхора	✓	917123434	[signature]
6	Исмоили Иброхим	Горякхора	✓	885502959	[signature]
7	Абдиев Таваккал	Горякхора	✓	978040413	[signature]
8	Давлатов Мирзоахмад	Горякхора	✓	101414114	[signature]

9	Хамдамов Хомид	Чорякорон	✓	887778525	
10	Сулаймонов Абдухалил	Чоряккорон	—	507770441	
11	Нуъмончонов Сухроб	Чоряккорон	✓	931019062	
12	Ахмадзоков Фаридддин	Чоряккорон	✓	991925051	
13	Рахмонов Сайнурод	Чоряккорон	✓	939134036	
14	Рахимов Диловар	Чоряккорон	✓	930204818	

15	Хонибердиев Равшан	Чоряккорон	✓	919324978	
16	Узмаров Мехрожидин	Чоряккорон	✓	915516907	
17	Давлатов Саид	Чоряккорон	✓	403808063	
18	Шукуров Юнус	Чоряккорон	✓	—	
19	Бонтаева Мичина	Чоряккорон	✓	907704409	
20	Каюмова Сайёра	Чоряккорон	✓	880088418	

Appendix No. 2 Photos

To the minutes of the public hearings on the project Preparation of environmental and social documentation for priority transmission investments required for evacuation of electricity from Rogun