MINISTRY OF TRANSPORT OF THE REPUBLIC OF TAJIKISTAN

FOURTH PHASE OF CENTRAL ASIA REGIONAL LINKS PROGRAM (CARS-4)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

June 3, 2020

Content

ABBREVIATIONS

CARs-4	Fourth Phase of Central Asia Regional Links Program
CEP	Committee on Environmental Protection
CHSP	Community Health and Safety Plan
DRS	Districts of Republican Subordination
EA	Executive Agency
EHS	Environment, Health and Safety
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESIRT	Environmental Social Incident Reporting Tool
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
FS	Feasibility Study
GBAO	Gorno-Badakhshan Autonomous Oblast
GBV	Gender Based Violence
GHGs	Greenhouse gases
GRM	Grievance Redress Mechanism
GRT	Government of the Republic of Tajikistan
IEA	Initial Environmental Assessment
LMP	Labour Management Procedures
MOT	Ministry of Transport
NGO	Non-governmental Organization
PCR	Physical Cultural Resources
PIG	Project Implementation Group
RAP	Resettlement Action Plan
RT	Republic of Tajikistan
SCPI	Supervision Consultant for the Project Implementation
SEA	Sexual Exploitation and Abuse
SEAP	Special Environmental Action Plan
SEP	Stakeholder Engagement Plan
TSEC	Technical Supervision Engineering Company
USD	United States Dollars
WB	World Bank

EXECUTIVE SUMMARY

1. *The Project Development Objectives* (PDO) of the Fourth Phase of the Central Asia Regional Links Program (CARs-4 Project), at the project level, are to enhance the efficiency of cross-border trade for participants of the regional economy and to provide reliable and safe connectivity to domestic and regional markets for population in Sughd Oblast and Gorno-Badakhshan Autonomous Region (GBAO).

2. *Rationale of the Proposed Project*. The CARs-4 Project is the Fourth Phase of the Central Asia Regional Links (CARs) program, a series of projects (SOP) in multiple countries (borrowers). The CARs program has evolved from having a single focus on cross-border transport connectivity towards a multi-sector agenda to pursue integrated regional development, improve regional connectivity and create market opportunities. The objectives of Phase 1 (CARs-1 Project for Kyrgyz Republic, completed) and Phase 2 (CARs-2 Project for Tajikistan, to close in mid-2020) were to increase transport connectivity between Tajikistan and Kyrgyz Republic along priority cross-border road links in the populated Fergana Valley, and to support harmonization and improvements in road operations and asset management practices in the countries. Phase 3 (CARs-3 Project for Kyrgyz Republic) is now under implementation with a PDO to increase regional connectivity and support sustainable tourism development in Issyk-Kul Oblast, Kyrgyz Republic. As such, Phase 3 and the proposed Phase 4 aim to increase the physical cross-border links of regional importance in the region, while reducing operational constraints and creating market opportunities for the development of trade and tourism at the regional level to reap the benefits of the full development potential of the oblasts. This is expected to revitalize the historically active economic exchanges in Central Asia and beyond along the Silk Route.

3. *Expected Beneficiaries.* The direct beneficiaries of the project include the residents of the project areas in Sughd and Khorog/Barsem areas, as well as travelers, traders, transit traffic, and population at large in the communities located along the corridors, who would have access to better quality, more resilient and safer transport infrastructure. Moreover, improved connectivity—both physical and institutional—would improve opportunities for trade and linkage to global value chains for local producers, and will also lower the prices for consumers, improving their welfare. Additionally, the project would also benefit the public administrations responsible for infrastructure development and management and for customs and trade facilitation, who would expand their knowledge and enhance capacity to perform their roles and responsibilities. The indirect beneficiaries of the project will be the residents of Sughd Oblast (2.6 million) and of GBAO Region (227,000) who are expected to be regular road users travelling along the road sections, traders both within and cross borders, as well as consumers to benefit from lower prices of traded goods.[1]

4. *Project components.* The CARs-4 Project is structured around the following four components:

Component 1: Improve regional connections in Sughd Oblast and GBAO Region (US$83 million equivalent from IDA; US$1 million from PACT Trust Fund). The objective of this component is to improve connectivity and road infrastructure resilience along the priority trade and travel routes for Sughd Oblast and GBAO Region, selected on the basis of the government priorities, available financing envelope as well as sequencing of construction works. Improved and more resilient road infrastructure will facilitate less costly access to markets and economic opportunities for the residents in the two regions. Activities to be financed under this component include: (i) rehabilitation of a 50.5 km long, Category II and III roads in Sughd Oblast in four sections, facilitating better connectivity within the Ferghana Valley; (ii) construction of Khorog bridge and tunnels/galleries and bridges around Barsem Village in GBAO to enhance the resilience of the road connectivity from climate hazards such as mudslides and avalanches; (iii) provision of construction supervision services for road construction and rehabilitation works; and (iv) preparation of feasibility studies for improvement of regional road connectivity for Khatlon and GBAO Oblasts as basis for potential lending operation (CARs-5), to be partially financed by PACT Trust Fund.

[1] Statistics Office under the President of Tajikistan, "Population of Republic of Tajikistan January 1, 2019 Report". 2019

Component 2. Improve road asset preservation and road safety (US$20 million equivalent, with IDA financing and counterpart funding), comprising two sub-components.

Sub-Component 2a Improve road asset preservation (US$8 million equivalent) will enhance preservation of road assets and its sustainability, the ongoing CARs-2 operation has supported various elements of road asset management system (RAMS), including development of strategic plan on weight and axle load control, design and installation of a high-speed dynamic weigh-in-motion (WIM) system, supply of roughness profiler, development of software for RAMS and deployment of traffic counters.

Sub-Component 2b Improve Road Safety (US$12.0 million equivalent) will enhance measures to reduce the high levels of road accident deaths and injuries through three activities. The first will provide immediate support to the Traffic Police to enforce use of 4-wheel vehicle safety belts, through (i) a legal review of existing laws and regulations that will include drafting revisions for mandatory seat belt in rear, when fitted; (ii) design of a publicity campaign to warn of start of enforcement, and (iii) design of, and implement support for, an enforcement campaign. The second activity will support retrofitting of selected sections of roads in severe mountainous terrain where upgrading of safety barriers was omitted as a demonstration pilot. The third activity will support the development of a National Road Safety Strategy.

Component 3. Facilitate cross-border movement of goods (US$20 million equivalent). This component aims to improve efficiency and transparency of cross-border trade by enhancing automation in customs procedures. Through a new information and communication technology (ICT) platform, this component would support the implementation of policy and institutional reforms, financing of equipment and facilities (e.g. computers, networking equipment, end-use terminals), customs automation software, and capacity building. Through the upgrading of the Customs ICT system, the project will help streamline and rationalize processes and procedures at the border and to provide a platform for the application of a range of internationally agreed norms and standards, many of which are incorporated in the Government of Tajikistan's Medium-Term Program for Customs Development.

Component 4. Support project implementation, coordination and management (preliminary cost estimate US$2 million equivalent). Component 4 includes support towards project implementation, coordination and management including provision of goods, consultants' services and training, operating costs and financial audit. A steering/coordinating committee at the level of the office of the Prime Minister or Executive Office of the President is expected to oversee the Project Implementation Group (PIG) under MoT and Project Support Unit (PSU) under the Customs Service.

Component 5: *Contingent Emergency Response*. This zero-dollar component is designed to provide swift response in the event of an eligible crisis or emergency, by enabling Tajikistan to request the World Bank to reallocate project funds to support emergency response, and reconstruction, where needed.

5. *Location.* The project will cover 2 areas in GBAO (Shughnon district and Khorog) and 3 districts in Sughd Province (Spitamen, Kanibadam and Gafurov). If the project savings allow the MoT proposes to cover also 2 districts in Khatlon Province (Kulob and Vose districts).

6. *Project Risk Ratings*. The social and environmental risks and impacts are mostly construction induced and contextual The Environmental Risk is due to the fact that much of the road rehabilitation work is expected to take place in remote and mountainous regions of GBAO; therefore, the risk of landslides resulting in damage to ecosystems is higher than for roads in the more populated parts of the country. On the social front, while the project is expected to result in positive impacts due to increasing the number of people with access with improved transportation resulting in enhanced employment and livelihood opportunities, there are a variety of risks are evident, most of which are identifiable and can be mitigated. Some of these will have a bearing on the project as it manifests in risks related to security and safety. Apart from this, the project interventions, especially the activities under component 1, require additional lands for the widening of the road and potential economic displacement due to livelihood losses. On securing lands, the established procedures outlined in the RPF to be followed and RAPs will be prepared for the subprojects that have land acquisition and resettlement

issues. In planning and designing interventions as well as during implementation, due consideration to be given to vulnerable and disadvantaged groups/communities and need to be monitored closely to ensure full compliance with ESS standards in the remote areas being targeted by the project. Preliminary assessments suggest that capacity of the client in reaching out to remote and poorer households and the provision of appropriate technologies is quite inadequate. Considering the above, the social and environmental risks are both rated as *Substantial*.

7. *Purpose of Environmental and Social Management Framework.* The main goal of the ESMF is to avoid, minimize or mitigate, potential negative environmental and related social impacts caused by implementation of the project. The Framework approach is chosen as the project is financing a broad range of small and medium scale CARs-4 facilities rehabilitation and retrofitting activities, most of which will not be identified until implementation begins. The Framework ensures that the identified CARs-4 subprojects are correctly assessed from environmental and social point of view to meet the WB's Environmental and Social Framework (ESF) and its applicable Standards, as well as Tajikistan's Environmental and Social Laws and Regulations for adequate mitigation of any residual and/or unavoidable impacts. The ESMF serves as the screening tool and provides overall implementation guidance for the Project Implementation Group (PIG) under the Ministry of Transport (MoT), the implementing agency, in identifying and assessing the potential environmental and social impacts of subprojects, in preparing environmental and social management plans that will summarize necessary mitigation measures to minimize or prevent them, and to provide guidance on environmental and social monitoring and reporting.

8. *Institutional capacities to manage environmental and social risks and impacts.* The project is the second in a series of projects on improving Tajikistan's regional connectivity and unlocking economic opportunities – the on-going project is the CARs-2 Project (P145634). There is a Project Implementation Group (PIG) within the Ministry of Transport (MOT) in place with capacity and a successful track record in managing Environment and Social Risks. MOT PIG also manages the transportation work under the Strengthening Critical Infrastructure against Natural Hazards (P158298). Thus, the MOT is equipped to address E&S risks. However, given that the ESF is new, some capacity building programs would be essential in the field of labor management procedures and management of broad social risks beyond land acquisition and resettlement. Also, some capacity development may also be necessary on Occupational and Community Health and Safety issues. For the on-going CARs-2 project, a Resettlement Policy Frameworks (RPF) and RAPs for selected subprojects were prepared and have been successfully implemented. Environment and social ratings in the latest ISR for the project was satisfactory. At the request of the MOT PIG, the Bank team is planning a series of borrower capacity building measures and training on the ESF application, including innovative mechanisms for ESF reporting, labor management, occupational health and safety, Gender Based Violence (GBV), and the Environmental Social Incident Reporting Tool (ESIRT) during the project preparation stage.

9. *Potential environmental impacts* are limited to the impacts associated with road construction and rehabilitation projects, and rehabilitation of existing facilities such as: (i) air pollution and noise from trucks and other construction machinery, and asphalt plants, (ii) soil disturbance during earthmoving and material (gravel/sand/soil) extraction, (iii) tree-cutting and loss of vegetation, (iv) generation and disposal of construction and household solid waste, and (v) construction camp management. In addition, some risks associated with landslides are also not ruled-out. Hence, project preparation tasks may also include Disaster Management Plans as a part of Environmental and Social Impact Assessments/Environmental Management Plans (ESIA/ESMP), if necessary. The risk level is substantial due to the remote mountainous areas of many of the potential roads to be rehabilitated.

10. *Potential social impacts and resettlement issues*. Two categories of risks are recognized: one, as related to the impacts of the project activities; and the other, contextual. The former relates to civil works related environmental disturbances, and land acquisition and resettlement. The latter, contextual risks, at times, could have a bearing on security to contractors and laborers and community safety. The project's primary aim is to support rehabilitation of existing roads, including the 50.5 km sections in Sughd and the installation of galleries to protect from landslides at Barsem village in Gbao, and renovation of existing facilities. The only new

construction envisaged is the 300 m bridge in Khorog and the 1.1 km section of road to integrate it into the main north-south corridor to allow through traffic to bypass the town. All these risks are identifiable and manageable.

11. *ESMF disclosure and consultation*. MOT/PIG conducted public consultations on the results of social assessment survey and environmental assessment in the target areas in June-December 2019. The draft ESMF was disclosed on the MOT website on April 1, 2020 and updated on June 2, 2020 (http://mintrans.tj). MOT/ PIG officially also submitted the final ESMF to the World Bank for disclosure in English on the Bank's external webpage on June 4, 2020. The final version of this document will be used by respective government agencies and other project stakeholders during project implementation.

1. INTRODUCTION

The Central Asia Regional Links Program (CARs) consists of a series of projects (SOP), of which Phase 1 and Phase 2 are under implementation. They have evolved from having a single focus on cross-border transport connectivity towards comprehensive integrated regional development, improving regional connectivity and creating market opportunities. The objectives of Phase 1 (CARs-1 Project in Kyrgyzstan) and Phase 2 (CARs-2 Project in Tajikistan) are to increase transport connectivity between Tajikistan and Kyrgyz Republic along priority cross-border road links in the populated Fergana Valley, and to support harmonization and improvements in road operations and asset management practices in the countries. Phases 1 and 2 are scheduled for completion in the next two years. The new generation of this series of projects (SOP), namely Phase 3 (CARs-3) in Kyrgyzstan and the proposed Phase 4 in Tajikistan, strive to address regional integration in a more comprehensive approach encompassing both physical and economic connectivity among neighboring countries, while also unlocking economic opportunities by promoting local integrated development in a spatially identified area.

The proposed CARs-4 Project will contribute to the achievement of key priorities of Tajikistan's National Development Strategy until 2030, including its ambitious public-infrastructure investments to (i) ensure highest-possible development impact; (ii) allow the country to take full advantage of emerging commercial opportunities; and (iii) avoid potential risks of macro-fiscal sustainability. Taking advantage of the country's strategic location is at the forefront of its development endeavor and the government of Tajikistan sees the proposed CARs-4 project as a multi-phase program to address long-term development challenges through an adaptive and programmatic approach within the existing regional connectivity program.

1.1 Purpose of the ESMF

The main goal of the ESMF is to avoid, minimize or mitigate, potential negative environmental and related social impacts caused by implementation of the project. The Framework approach is chosen as the project is financing a broad range of small and medium scale activities, most of which will not be identified until implementation begins. The Framework ensures that the identified subprojects are correctly assessed from environmental and social point of view to meet the WB's Environmental and Social Framework (ESF) and its applicale Standards, as well as Tajikistan's Environmental and Social Laws and Regulations for adequate mitigation of any residual and/or unavoidable impacts. The Framework serves as a guidance tool for Project Implementation Unit (PIG) under the Ministry of Transport (MoT), the implementing agency, in identifying and assessing the potential environmental and social impacts of subprojects, in preparing environmental and social management plans that will summarize necessary mitigation measures to minimize or prevent them, and to provide guidance on environmental and social monitoring and reporting.

1.2 Rationale for the ESMF

The ESMF provides guidelines for the development of appropriate prevention and mitigation measures for adverse impacts caused by the project activities. This document outlines the background / context, the policy and regulatory framework, a brief description of the environmental impacts of possible CARs-4 sub-projects, Environmental and Social Assessment (ESA) procedures and guidelines, institutional arrangements, and consultations and disclosure procedures. The policy & regulatory framework includes also a section describing both measures, which will be used to ensure compliance with the national laws and WB requirements. Under the ESA procedures and guidelines, there are details on responsibilities for sub-project preparation, screening, appraisal, implementing and monitoring. These guidelines will assist in outlining what is required for the site-specific Environmental and Social Management Plans (ESMPs). It includes guidelines for proposed small-scale construction sub-projects in the form of an ESMP checklist. Under institutional arrangements, the project will also support training and capacity building of sub-project beneficiaries and their consultants / contractors.

Lastly, under ESMF disclosure and consultation, there is an outline of what will be done both for the ESMF as well as for the sub-projects to be funded under the CARs-4 Project.

This ESMF has been approved by the Government of the Republic of Tajikistan and cleared with the World Bank (WB). It was disclosed at the MoT website and the WB's portal, in compliance with the WB's ESF requirements. The ESMF has been translated into Russian and further disseminated in such a way as to be available to central and local government agencies and community members.

1.3 Approach and Methodology for Preparation of ESMF

During preparation of the ESMF the following research methods were applied: desk review of the available national regulatory and legal documents related for the environmental and social assessment; screening of secondary socio-economic statistical data available for the targeted provinces and districts, individual interviews with international and local experts, focus groups discussions, public meetings and consultations.

The MoT PIG staff conducted field visits to Sughd and GBAO target districts and were assisted to identify potential environmental and social risks and impacts of the proposed Project in order to draft this document. The public consultations on the draft ESMF were held with key stakeholders in four target districts.

Environment and Social Management Framework (ESMF) structure: The document consists of eight chapters that outline environmental and social assessment procedures and mitigation requirements in line with the Bank's ESF requirements and standards for the subprojects which will be supported by the Project.

- Chapter 1 includes a brief description of the project context, its development goals and components. It also sets out the rationale and purpose of the ESMF prepared to provide guidance on the appropriate procedures for evaluating subprojects that will be identified during project implementation.
- Chapter 2 provides baseline data on the environmental and social background of the Sughd, Khatlon and GBAO Provinces, providing an analysis of current environmental and social systems at the regional and district levels.
- Chapter 3 describes the legal, regulatory and regulatory framework and provides an overview of laws and regulations related to the environmental and social issues of the project. It also provides a brief description of the World Bank's Environmental and Social Standards that are designed to support Borrower projects.
- Chapter 4 analyzes the potential environmental and social risks and specific measures, or actions planned to prevent, minimize, reduce or mitigate those impacts during the project cycle in accordance with the ESSs requirements.
- Chapter 5 describes the ESMF implementation arrangements. It contains details on the procedures and responsibilities associated with the preparation, evaluation, implementation and monitoring of subprojects.
- Chapter 6 underlines the public consultation procedures and grievance redress mechanisms.

Relevant Annexes are enclosed at end of this document to compliment the above-mentioned chapters.

1.4 Project Description

The **Project Development Objectives** are to enhance the efficiency of cross-border trade for participants of the regional economy and to provide reliable and safe connectivity to domestic and regional markets for population in Sughd Oblast and Gorno-Badakhshan Autonomous Region (GBAO).

The CARs-4 Project is structured around the following four components:

Component 1: Improve regional connections in Sughd Oblast and GBAO Region (US$83 million equivalent from IDA; US$1 million from PACT Trust Fund). The objective of this component is to improve connectivity and road infrastructure resilience along the priority trade and travel routes for Sughd Oblast and GBAO Region, selected on the basis of the government priorities, available financing envelope as well as sequencing of construction works. Improved and more resilient road infrastructure will facilitate less costly access to markets and economic opportunities for the residents in the two regions. Activities to be financed under this component include:

1) Rehabilitation of a 50.5 km long, Category II and III roads in Sughd Oblast in four sections, facilitating better connectivity within the Ferghana Valley. These roads carry high traffic but in poor and unsafe condition, with high roughness (IRIs, or International Roughness Index, of 8-10 m/km), cracks, potholes, and edge breaks, which require immediate interventions. Most of the roads pass through irrigable lands on relatively flat terrains and some sections are affected by seasonal mudflows. The intervention strategy, which is being finalized based on the ongoing engineering surveys, assessment of natural hazard vulnerability, and an ESIA/ESMP, would consist of (i) reconstruction with removal of asphalt and placing of new pavement layers along existing alignment and (ii) new pavement construction along alignment.

2) Construction of the 300 m Khorog Bridge and 1.1 km bypass. The town of Khorog is the capital of GBAO and has a population of 28,000 (2000 census). The Pamir Highway passes though the city of Khorog causing heavy congestion. In 2015, the Government passed a decision to construct a bypass road including a new Khorog Bridge over Gunt River, to alleviate traffic delays for the traffic travelling on the regional corridor. The bypass is expected to reduce travel time and improve safety both for transit and local traffic by separating them.

3) Galleries and bridges in Barsem Village, GBAO. The regional corridor that runs from Dushanbe in the west to the Chinese boarder in the east, passes through the valleyed Barsem area, highly susceptible to natural hazards such as avalanches, landslides, flooding and earthquakes, In May 2015, prolonged torrential rains caused serious floods and mudslides in the area, destroying about 3.3km (km 636 to km 639) of the Dushanbe-Khorog-Murgab-Kulma regional corridor. After a 1.5 month-long closure, a temporary road was built. Construction of climate resilient structures, consisting tunnels/galleries and bridges in Barsem area, will minimize vulnerability of the corridor to natural hazards, directly contributing to regional connectivity and trades. The specific interventions will be determined based on the engineering study and economic viability of the options.

Preparation of feasibility studies and related ESIA/ESMPs for improvement of regional road connectivity for Khatlon and GBAO Oblasts as basis for potential lending operation (CARs-5), to be partially financed by PACT Trust Fund.

Component 2. Improve road asset preservation and road safety (US$20 million equivalent, with IDA financing and counterpart funding), comprising two sub-components. Sub-Component 2a Improve road asset preservation (US$8 million equivalent) will enhance preservation of road assets and its sustainability, the ongoing CARs-2 operation has supported various elements of road asset management system (RAMS), including development of strategic plan on weight and axle load control, design and installation of a high-speed dynamic weigh-in-motion (WIM) system, supply of roughness profiler, development of software for RAMS and deployment of traffic counters.

Sub-Component 2b Improve Road Safety (US$12.0 million equivalent) will enhance measures to reduce the high levels of road accident deaths and injuries through three activities. The first will provide immediate support to the Traffic Police to enforce use of 4-wheel vehicle safety belts, through (i) a legal review of existing laws and regulations that will include drafting revisions for mandatory seat belt in rear, when fitted; (ii) design of a publicity campaign to warn of start of enforcement, and (iii) design of, and implement support for, an

enforcement campaign. The second activity will support retrofitting of selected sections of roads in severe mountainous terrain where upgrading of safety barriers was omitted as a demonstration pilot. The third activity will support the development of a National Road Safety Strategy.

Component 3. Facilitate cross-border movement of goods (US$20 million equivalent). This component aims to improve efficiency and transparency of cross-border trade by enhancing automation in customs procedures. Through a new information and communication technology (ICT) platform, this component would support the implementation of policy and institutional reforms, financing of equipment and facilities (e.g. computers, networking equipment, end-use terminals), customs automation software, and capacity building. Through the upgrading of the Customs ICT system, the project will help streamline and rationalize processes and procedures at the border and to provide a platform for the application of a range of internationally agreed norms and standards, many of which are incorporated in the Government of Tajikistan's Medium-Term Program for Customs Development.

Component 4. Support project implementation, coordination and management (preliminary cost estimate US$2 million equivalent). Component 4 includes support towards project implementation, coordination and management including provision of goods, consultants' services and training, operating costs and financial audit. A steering/coordinating committee at the level of the office of the Prime Minister or Executive Office of the President is expected to oversee the Project Implementation Group (PIG) under MoT and Project Support Unit (PSU) under the Customs Service.

Component 5: Contingent Emergency Response (US$0). This zero-dollar component is designed to provide swift response in the event of an eligible crisis or emergency, by enabling Tajikistan to request the World Bank to reallocate project funds to support emergency response, and reconstruction, where needed.

2. BASILINE DATA

2.1 Physical Environment

The Republic of Tajikistan is a landlocked country located in the mountainous part of Central Asia between latitudes 36°40'N-41°05'N and latitudes 67°31'E-75°14'E. the Area of the Republic of Tajikistan is 143.1 thousand km2. Tajikistan borders Uzbekistan and Kyrgyzstan in the North and West, Afghanistan in the South, and China in the East. The length of the country's borders reaches 3,000 km.

Figure 1. Map of Tajikistan

The country has 4 administrative divisions, including Khatlon Province, Sughd Province, Gorno-Badakhshan Autonomous Oblast (GBAO) and Districts of Republican Subordination (DRS).

Khatlon Province is situated in the south-western part of Tajikistan and it is the most populous of the four first-level administrative regions. It is situated in the southwest of the country, between the Hisor (Gissar) Range in the north and the Panj River in the south and borders Afghanistan in the southeast and Uzbekistan in the west. The capital is the city of Bokhtar, formerly known as Kurgan-Tyube. During Soviet period Khatlon was divided into Kurgantyube (Western Khatlon) and Kulob regions (Eastern Khatlon). Both regions were merged in 1992 into today's Khatlon Province. The region has an area of 24,800 km² and consists of 24 districts – 14 in Western Khatlon and 10 in Eastern Khatlon. The project will cover 2 districts of Khatlon, if project savings will allow.

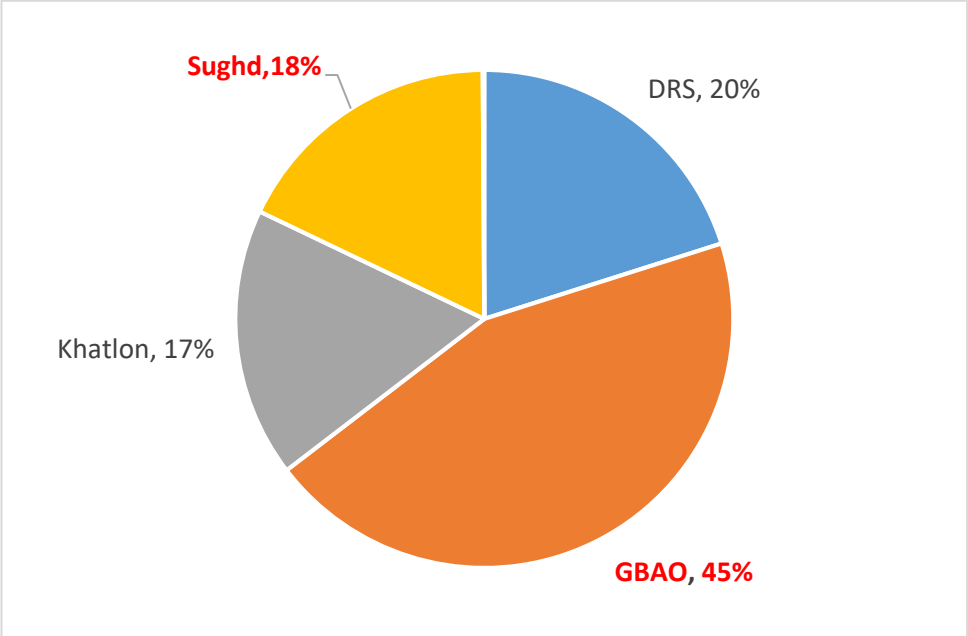
Sughd Province is located in the northwest of the country, with an area of some 25,400 km² and shares a border with the Jizakh, Namangan, Samarkand and Fergana provinces of Uzbekistan, and the Osh and Batken regions of Kyrgyzstan. It is separated from the rest of Tajikistan by the Gissar Range. The southern part of the region is the east-west valley of the upper Zarafshon River. North, over the Turkestan Range, is the Ferghana Valley. The province has 30% of Tajikistan's population and one-third of its arable land. It consists of 14 districts, and only Kuhistoni Mastchoh district will be covered by the project, which is the southern district of Sughd and belongs to the Zarafshon sub-basin. The physical environment is characterized by a long glacial valley, formed by the Zarafshan glacier.

Districts of Republican Subordination (DRS) are considered direct rule districts reporting directly to the central government. They were formerly known as Karotegin Region. There are 13 districts of them located in the central part of the country. Their plateau is traversed by the Vakhsh River, a right-hand tributary of

the Amu Darya. On the northern border run the Hissar and Zeravshan mountains, and on the southern border the Darvaz range 7,600 metres. The total area of DRS is 28,400 km².

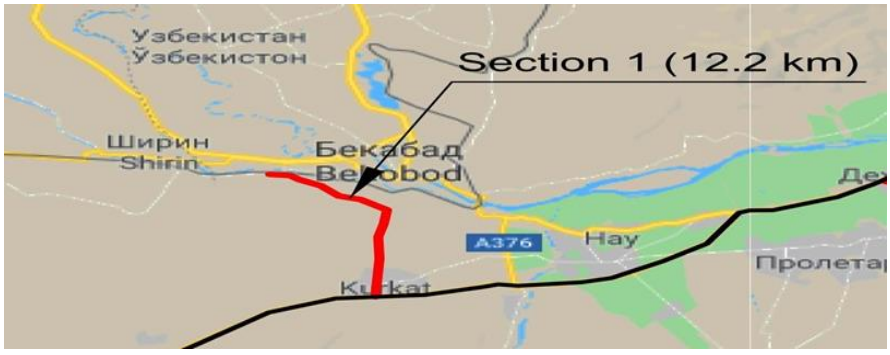
Gorno-Badakhshan Autonomous Oblast (GBAO) is situated in the eastern part of Tajikistan occupying about 64.1 km² or 44.9% of the area of Tajikistan with the population of about 223,6 thousands people (2018 estimates) making up only about 3% of the total country population. GBAO is a rural region with only 13.8% of urban population living in the capital city of Khorog.

Figure 2. Administrative Divisions of Tajikistan



The following road sections will be rehabilitated in Sughd Region:

Section 1: *Spitamen-Dekhmoy Road (12.2 km)*



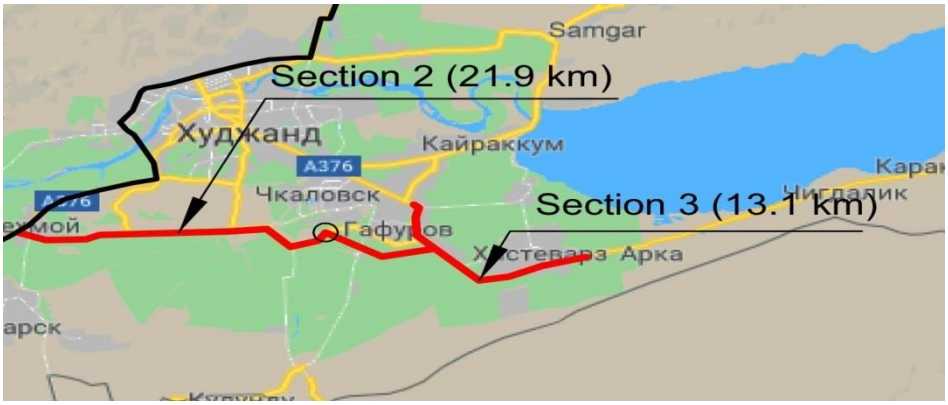
Spitamen is a district in north-central Sughd region of Tajikistan, stretching across the province‘s narrow part from the border with Uzbekistan and border with Kyrgyzstan and also with Rasulov, Devashtich, Mascho district of the Republic of Tajikistan. The district population is 137,012 and the total area of the district is 355, 7 km².

Section 1 on the existing Bekabad / Spitamen-Dekhmoy highway, 16 meters wide allows and assumes the reconstruction of a category III road to the existing highways, and which ends at the border checkpoint “Hashtiyak” of the Kurush jamoat of Sughd region and connects with the city of Bekabad, Republic of

Uzbekistan. The Bekabad / Spitamen-Dehmoy road section passes through one Jamoat of Spitamen district. The road section passes through four settlements in Kurush Jamoat of Spitamen district: *Kurkat village*, (Kurush) *Shirin village*, *Hashtiyak village* and *Navbunyod village*, 30,275 people live in Kurush jamoat, including 14,950 men and 15,325 women.

Sections 2-3 *in Gafurov district*: *Dekhmoy-Gafurov-Khishtevarz (26, 9 km)*

Gafurov district is located in the southern part of the Sughd region. The population of the district is 378,100 people and the total area of the district is 265174 km². There are 12 Jamoats and the capital of district is Shahraki-Ghafurov, a town in the south of the district. Other major towns in the district are Taboshar (in the north), Buston city ("Chkalovsk" in the south, between Ghafurov and the provincial capital Khujand), and Kayrakum (Qairoqqum), also in the south.



Section 2 of the CARs-4 project, the Dehmoy-Gafurov highway 26.9 km long, the section Dekhmoy-Gafurov highway passes through 7 settlements (*Dehmoy, Haftrang, Dashtiasht, Dustii Khalkho, Istiklol, Kutalma and Madaniyat*) of the *3 jamoats of the Gafurov district* and *one Dehmoi jamoat of Jabor Rasulov* district. The width of the road allows more than 17 and 19 meters and involves the construction of existing roads of a new roadbed of category III. At this stage of the rehabilitated section of the Dekhmoy-Gafurov road, 26.9 km long, within the framework of the CARs-4 project, resettlement and negative impact on the environment are not expected, because it is envisaged on an existing highway.

Dehmoy Jamoat of the Jabbor Rasulov district, located nearby the section of the Dekhmoy-Gafurov highway, runs along the outskirts of the settlements, there are *no settlements along the highway*, 16,323 people live in the jamoat, including 8540 men and 7783 women (based on the local adminstration data, 2019).The following measures were taken to improve the infrastructure of settlements and all conditions in the rehabilitated road zone: assessment and inspection on both sides of the road of the existing drinking water line, there are 3 (three) bridges on irrigation canals and 21 pipes of reinforced concrete pipes to be examined underground irrigation communications and additional measures were laid, which requires special attention to ensure safety at this site. At this stage, no social impact on the is expected, because it is envisaged on an existing route the width of the road is 17-19 meters and road extension is not required. Felling of trees and shrubs is not excluded, which can be mitigated by the subsequent planting of two trees, instead of one cut down. No acquisition of land is required either. In addition, bridges need to be rehabilitated. Culvert piping is also required to ensure the functioning of the existing water management irrigation system and monolithic reinforced concrete anti-mudflow bridge pipes. Long-term mitigation measures will not be needed. From an environmental and social perspective, this option is not critical.

Jamoat Isfisor of the Gafurov district: - a 26.9 km section of the Dekhmoy-Gafurov road passes through four settlements — the village of *Haftganj, Madaniyat, Dashti Amin, Kutarma*. The following measures were taken to improve the infrastructure of settlements and all conditions in the area of the rehabilitated road; assessment and inspection on both sides of the road, the existing three pieces of bridges in the irrigation canals, 6 (six) pieces of a monolithic rectangular reinforced concrete pipe for mudflow purposes, 16 laid concrete pipes for

irrigation communications existing, one hydraulic fracturing pipeline the existing 3 pieces of drinking water lines, the existing one high-voltage underground cable, the existing 1 piece of telecommunication cable, additional activities that require special attention to ensure safety at this om site.

Jamoat Sharaki-Gafurov(town) of the Gafurov district: - a 26.9 km section of the Dekhmoy-Gafurov highway, passes through two settlements of the *Istiklol village, Dustia Khalkkho*, 20,375 people live in the jamoat, including 9,931 men and 10644 women. The following measures were taken to improve the infrastructure of settlements and all conditions in the rehabilitated road zone: assessment and inspection on both sides of the road, existing laid 5 (five) pieces of reinforced concrete underground communications, existing 10 pieces of drinking water line, existing 2 (two) pieces of railway branches are additional events, which requires special attention to ensure safety at this site. At this stage, no negative impact on the environment is expected, because it is foreseen already existing track. Extension of the road is not required.

Jamoat Khistevarz of the Gafurov district: -Dehmoy-Gafurov 35 km section of the highway, passes through *two settlements - the village of Khistevarz, Sohilob*, 60,519 people live in the jamoat, including 30298 men and 30221 men. The following measures were taken to improve the infrastructure of settlements and all conditions in the rehabilitated road zone: assessment and inspection on both sides of the road, two existing bridges in the irrigation canals of the BFK and Vokhuri, 6 (six) monolithic rectangular sewage pipes for rural use, existing 61 pieces of reinforced concrete underground pipes for irrigation communications; two large iron pipes (1500 mm diam.) were laid from the "Khodzhabokirkhon pumping" station, additional measures required an emphasis on safety in this sector. At this stage, no negative impact on the environment is expected, because it is envisaged on an existing route. Extension of the road is not required. There will be no impact on the animal habitat.

Section 4: *Kanibadam_Patar, 9 km*

Kanibadam is located in the eastern part of Sughd Province and the eastern part of the Fergana Valley between the Qairoqum Reservoir and the Tien Shan Range at 40 ° 03 'and 40 ° 23' in the eastern latitude of 69 ° 59 'and 70 ° 35' at 388 meters above sea level. is located. The distance from Khujand, the capital of Sughd province, to Kanibadam is 73 km. From the regional center to the city of Kanibadam can be reached by minibus. Kanibadam is bordered on the south by the city of Isfara, on the north by the Asht district, on the western-east by the Kyrgyz Republic, and on the north-east by the Republic of Uzbekistan. The length of the border from south to west with the Kyrgyz Republic is 43 km, and from north to west with the Republic of Uzbekistan is 34 km. The city limits 86 km from west to east and 23 km from north to south. The area of Kanibadam city is 828.9 sq. Km. - is formed.

In Kanibadam district, the Project section passes through 2 (two) - Jamoatovato Jamoat Gafurdzhon Ortykova and Jamoat Rajab Hamroboev. The width of the road allows more than 18 meters and involves the construction of a new Category II roadway to existing roads and which road expansion is not required. Felling of trees and shrubs is not excluded, which can be mitigated by the subsequent planting of two trees, instead of one cut down. No land acquisition will be required, and additional mitigation measures are provided below.

Jamoat R Hamroboev: - According to the Resolution of the Supreme Council of the Republic of Tajikistan from 3.11. 1950 №320 the jamoat was named Rajab Hamraboev. The center of the jamoat is Kuchkak village. The total area of the jamoat is 51.5 km. There are 5 villages in the jamoat. As of October 1, 2019, the total population of villages in the territory of the jamoat is 29,300 people. There are 7 secondary schools, 1 regional hospital, 2 health centers, 3 medical clinics, 3 gyms and 3 libraries in the jamoat.

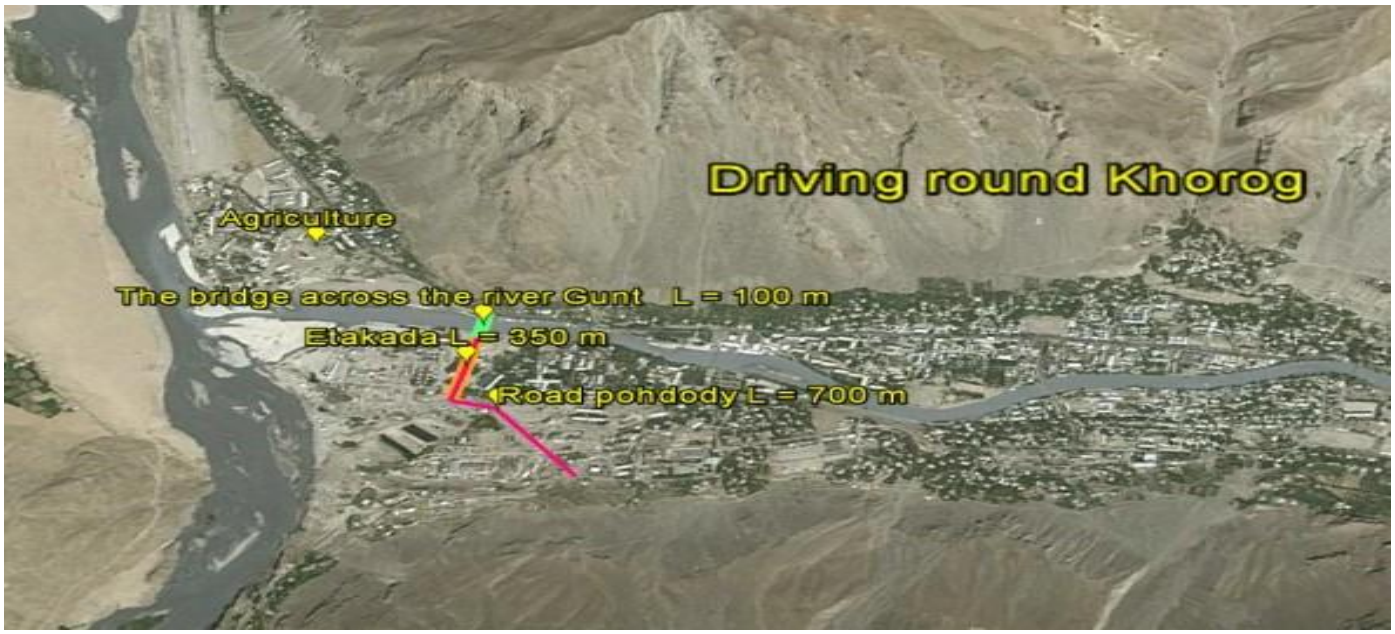
Ortikov Jamoat: As of 1 October 2019, the population of villages in the territory of the jamoat is 26,400 people. There are 7 villages and 2 settlements in the territory of the jamoat. The total number of secondary schools - 6 units, the number of health centers - 3 units, health centers - 4 units, libraries - 3 units, 5 gyms. Extension of the road is not required. There will be no fragmentation of the animal habitat. Felling of trees and

shrubs is not excluded, which can be mitigated by the subsequent planting of two trees, instead of one cut down.

The following construction sections will be in GBAO:

1. Construction of a new bridge in Khorog city,
2. Construction tunnel and new bridge in Suchan Jamoat of the Shugnan district,

Section 1: *Construction of the new bridge (300m) Over the Gund River with approaches in Khorog city of GBAO*



Section 1 of the CARs-4 project in GBAO, construction of the new bridge is located in 1 settlements Khorog city (Selkhoztekhnika and Sharifstroy Mahalla). Construction of the bypass road with a bridge in view of the construction of the bulk soil gravel instead of overpass must be designed and built with the following parameters:

- The length - 1.1 km.
- The bridge length - 100 m and dimensions G-12 + 2x1.
- Construction of the bulk gravel soil medium -8 meters and a length of -350 m.
- The technical category - the main street of regional significance. Average speed - 60 km / h.
- The width of the carriageway - 12 meters.
- Double-sided pavement width of 1.5 m.
- The maximum longitudinal gradient - 8%.

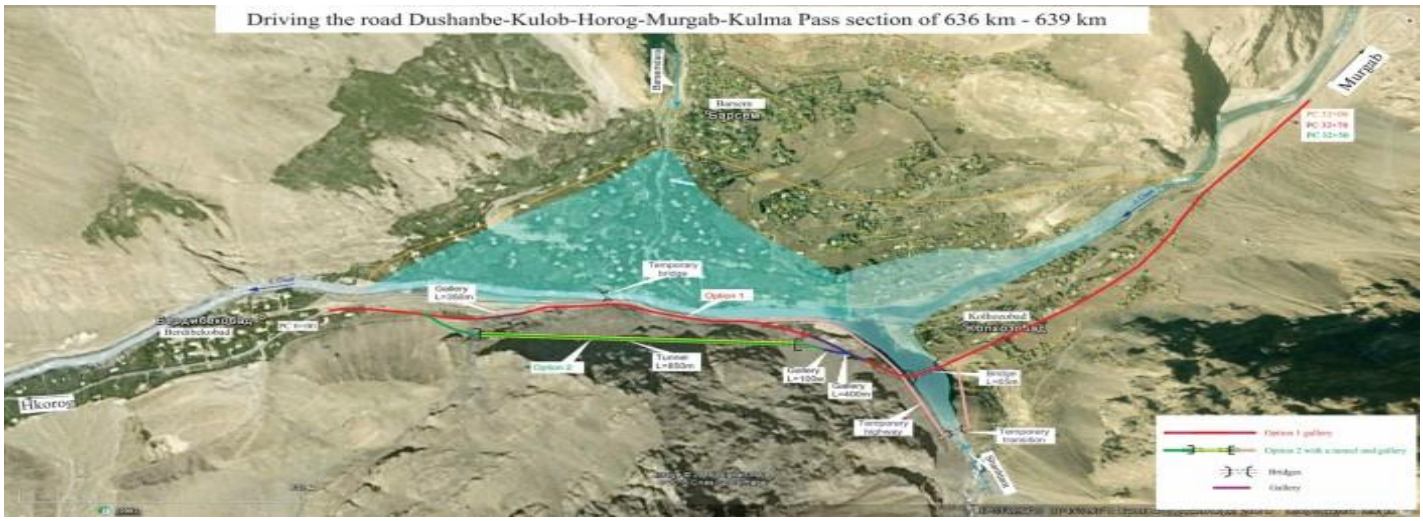
The construction of a bridge bypassing the center of the city of Khorog is of strategic importance, since upon completion it will provide reliable uninterrupted year-round communication of the republican center of the Gorno-Badakhshan Autonomous Region and further with the PRC. This will positively affect the solution of Badakhshan's existing economic problems and will contribute to the development of agriculture, energy, mining and tourism, etc. This project is part of the Euro-Asian highway connecting the state of the Central Asian region with China, Pakistan, and the ports of the Indian Ocean.
The goal of the project is to ensure the safe transportation of the uninterrupted road Dushanbe-Kulyab-Kalaykhum-Khorog-Murgab-Kulma.

Khorugh is the capital of the Gorno-Badakhshan Autonomous Region (GBAO) in Tajikistan. Khorugh is 2,200 metres (7,200 ft) above sea level in the Pamir Mountains at the confluence of the Gunt and Panj rivers.

The city is bounded to the south (Nivodak village) and to the north (Tem village) of the by the deltas of the Shakhdara and Gunt, respectively. The two rivers merge in the eastern part of the city flow through the city, dividing it almost evenly until its delta in the Panj River, also being known as Amu Darya, or in antiquity the Oxus) on the border with Afghanistan. Population of Khorog city is 33,300 people. Khorugh is known for its poplar trees that dominate the flora of the city.

SECTION 2

Section 2 of the CARs-4 project in GBAO, construction of the left-handed tunnel or gallery and bridge are located in 1 settlement Barsem village of the Shugnon district. The main road Dushanbe - Kulob - Khorog - Murghab - Kulma Pass is of international importance. A new left-handed tunnel or gallery with a length of 3.5 km and a new bridge will be built in the village of Barsem Shugnan district. The movement of transit vehicles will be completely paralyzed for maximum 1 month. At this time, transport links between Khorog and Murgab, as well as with neighboring China, are carried out by the Khorog-Ishkashim - Langar-Khargush-Pass automobile road - exit onto the Khorog-Murgab-Kulma highway for 812 km with a length of 329 km. To resume the movement of vehicles along the main road, it will be necessary to build a new section of road in the project area.



Shughnon District is a district in east Tajikistan, in the central-western part of GBAO. It is bordered by the Panj River and Afghanistan on the west, the Rushan Range and Rushon district on the north, Murghab district on the east and the Shughnon Range and Roshtqal'a district on the south. It corresponds to the valley of the Gunt River. The population of Shughnon District is 40,180 (2015). The district capital is Shahraki Vahdat town (or Porshinev village). The CARs-4 project will implementation in Barsem villaje of the Suchon Jamoat of the Shugnan district.

Barsem village, located in the Gunt valley, sixteen kilometers east of the city of Khorog in the mountainous Pamir region of Tajikistan. Dirt filled the Gunt River and a large lake formed, lnterrupting the Pamir Highway, which leads along the river. Barsem located in the Jamoat Suchon and the population of the village is 5600. The population is mainly engaged in cattle breeding, workshops and agricultural industries.

Summer 2015, the village of Barsem suffered from the mudslide. The mudslide in Barsem was triggered by a period of heavy rainfall and exceptionally high temperatures that caused glaciers and snow to melt more rapidly than usual. Accordingly, the Barsem case was only one of many flood related incidents in the Pamirs. Thus, for instance, the Houses and the bridge of the Barsem were washed away.

Government of Tajikistan evacuated the affected people from the natural hazard (mudslide) in another safe place and provided them with all the harm for housing (houses, land, water lines and everything necessary) the new village of the evacuated - is Rahmonobod.

2.2 Air and Climate

The climate of Tajikistan is characterized by the interaction of the main climate factors (geographical location, atmospheric circulation and solar radiation) that determine the main features of its climate: aridity, abundance of heat and light, and its continentality, which is expressed by a large inter annual and inside the year variability of almost all climate elements. Relatively cold winter gives place to the rainy spring which rapidly changes to the dry summer characterized by the near absence of precipitation within the several months. Climatic features in Tajikistan are determined by its inland location and remoteness from the oceans (lack of humidity), location in relatively low latitudes (the magnitude of the radiation balance), and topography that impacts atmospheric circulation processes. By climatic conditions, Tajikistan is divided into several climatic belts (Figure 3). The locations of project sites within the deep valleys mainly relate to the areas with Western Asian insufficiently humid climate.

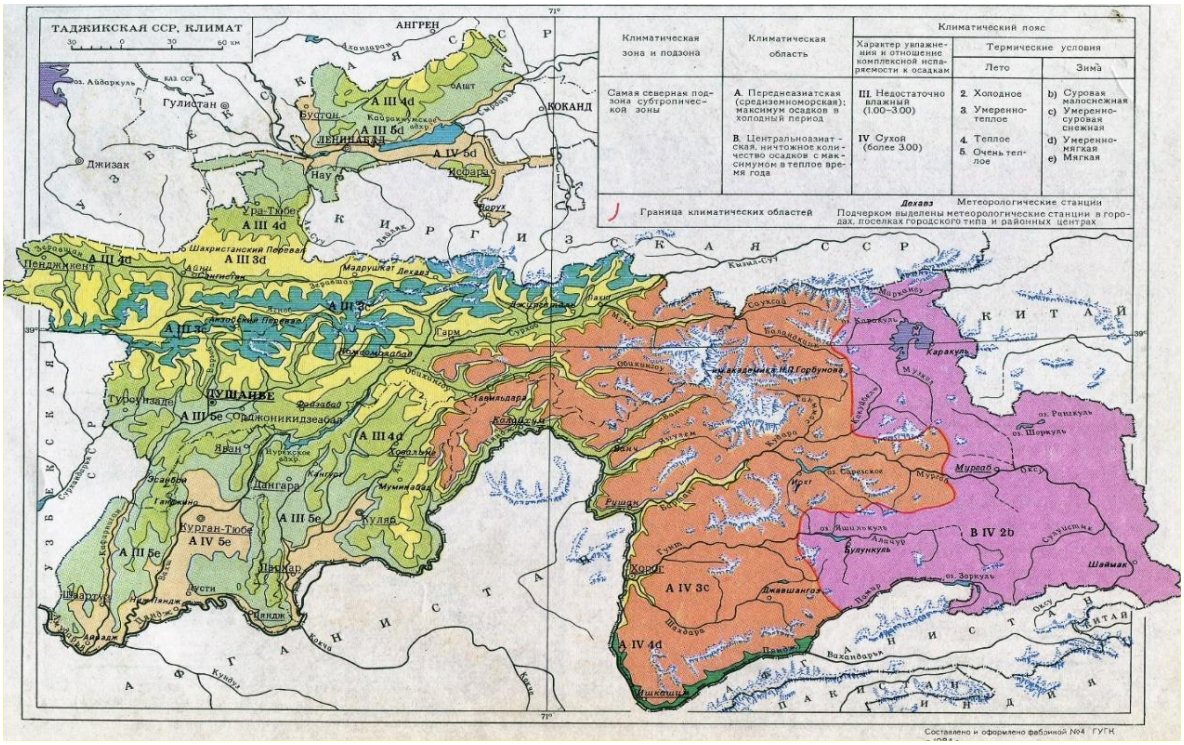


Figure 3. Map of Climate Zones of Tajikistan

Air quality in all project regions is of good quality due to a lack of industrial pollutants and a relatively low level of vehicular use.

Khatlon's ambient air quality is generally good and pollution free. The climate here is characterized by moderately cold winters and hot summers which are typical in this area. Summer temperatures can reach 45°C and winter temperature can fall to - 20°C. The project area in Khatlon province is in the arid and semi-arid zones with very low precipitations, hot dry summer climate and moderate as well as relatively dry winter periods. This climatically condition determines the conditions for agricultural land use, which is very limited and dependent on irrigation and fertilization. The precipitation from November to March is about 200-400 mm in most of the area (in the plains) and can reach 400 and more in more hilly areas. The precipitation consists mainly of rain and wet snow. Snow cover is rarely more than 10 cm deep and melts very quickly and does not accumulate. The period from June to October is the driest. Snowfall occurs mostly between mid-December and mid-February; rainfall from March to mid-May.

The South East has a variable climate with moderate cold winters and hot summers. The summer months are very hot and summer temperatures are high and can vary from +35° C and reach +45°C and more. The average July temperature exceeds +30° C. The winter months are relatively cold and average January temperatures are above 0° C, but temperatures can drop to – 20°C in the winter.

Sughd Province has a variable climate with moderately cold winters and hot summers. The summer months are very hot, and temperatures can reach more than +45°C. The average July temperature exceeds +30°C. The winter months are relatively cold and average January temperatures are about -6°C, but temperatures may drop to – 28°C. In Zerafshan valley the climate is characterized as continental, warm temperate, and semi-arid. Precipitation follows an annual pattern with peaks in late autumn and spring with annually 400 to 700 mm. The micro-climate of the most elevated Kuhistoni Mastchoh district is determined by its high mountain environment exceeding 5000 m.[2]

The surrounding mountainous territories of the Western Pamir in **GBAO** belong to a dry climate, moderately warm summers and moderately severe winters. The greatest amount of precipitation in the valleys falls in the form of rain and snow in the winter-spring period. The total annual rainfall in Vanj river valley depends on the height and ranges from 800-1200 mm in the vicinity of the Medvezhy glacier to 180-200 mm per year in the vicinity of the Hamrogi weather station in the lower part of the valley near the confluence of the Vanj and Pyanj rivers. In the proposed areas of GBAO, located in the Vanj River Valley, the annual rainfall reaches 450-500 mm. At an altitude of more than 2000 m above sea level, snow cover remains on the ground for up to 90 days a year. The minimum winter temperature can drop to -30°C, while the maximum summer temperature reaches + 40°C. For 12 years of observations (from 2005 to 2017), the maximum temperature in the area of the Vanj weather station was recorded in July 2013 (+ 36.6 ° C), and the minimum temperature was recorded in January 2012 (-20.5 °C) (www.gr5.ru).

2.3 Water resources

The hydrographic network of the Republic of Tajikistan is represented by more than 25 thousand rivers with a total length of 69,200 km. Of these, 947 rivers have a length of 10 to 100 km, 16 rivers - from 100 to 500 km, and 4 rivers - over 500 km. River systems are divided into four river basins: 1) the Syrdarya river basin (with the Zeravshan river basin in the form of a tributary basin); 2) the Kafirnigan river basin (the Kafirnigan river system and the tributaries of Ilyak, Sorbo and Varzob, with the basin of the Karatag river tributary); 3) the basin of the Vakhsh river and all its tributaries; and 4) the Panj River Basin with the Pyanch River and its tributaries. Thus, four inflow basins are recognized, namely the Zeravshan, Surkhob, Kafirnigan and Karatag river basins.

[2] Andreas Mandler, Knowledge and Governance Arrangements in Agricultural Production: Negotiating the Access to Arable Land in Zarafshan Valley of Tajikistan, December 2012 https://www.zef.de/fileadmin/user_upload/wp106.pdf

Table 1. Characteristics of the main river basins in the project area

Rivers	**Length (km)**	**Catchment area in**	**Average annual river run-off**	**Months of maximum**
Tajikistan (thousand km2)	**(billions m3/g)**		**river flow2**	
Vakhsh	524	31,2	19,6	July-August
Kafirnigan	387	11,6	5,2	April-May
Karatag	112	13,5	65,8	June-August
Zeravshan	310	14,3	59,5	July-August
Pyanj	521	114	33,4	July-August

Source: Environmental Performance Review, Republic of Tajikistan. UN, 2014, 2017.

Rivers with glacial-snow nutrition. High water lasts up to seven months a year, the largest volumes of water in July and August. These are almost all the main rivers of the country, especially Vanj, Panj, Zeravshan, etc.

Glacier-snow-fed streams. Examples of such rivers are the Karatag and Kafirnigan rivers with their tributaries, including the Varzob River, on the banks of which the capital of the republic is located. The largest volume of water is in May-June.

Snow-fed rivers. High water lasts four to six months, the largest volumes of water in April or May. These are such rivers as Kafirnigan, a tributary of Varzob - Luchob, Harangon and others.

2.4 Flora and Fauna

The vegetation of the Sughd region is represented by mountain forests and woodlands, mountain steppes, tugai forests and semi-deserts. The animal world is rich in birds, reptiles and mammals. The Zeravshan glacier junction is located in the high-mountain region of the district. As regards vegetation, dominated by forests with juniper and forests, high-grass semisavannas, and mountain steppes. The animal world is mainly represented by high-mountain steppe species - snow leopard (Uncia uncia), Siberian mountain goat (Capra sibirica), wild boar (Sus scrofa), marmot (Marmota) and birds.

The GBAO district has a very long history of human population and agricultural development. Due to the lack of land suitable for agriculture, most forest areas have been converted to agricultural land. The remaining part of the natural vegetation cover in the project area belongs to the subalpine type (up to 3,500 m above sea level). Tugai are mainly shrub communities that grow along riverbanks and around water sources at an altitude of up to 3,500 m above sea level. In the past, the tugai forests in the floodplain of the Vanj river were included in the list of natural heritage monuments of the Western Pamir. Currently, only sparse fragments of tugai forests grow in the floodplains of the Vanj and Yazgulem rivers. The predominant species are birch (Betula Pamirica) and Pamir poplar (Populus Pamirica). In the floodplain of the Vanj river, thickets of rhamnoid buckthorn (Hipophae rhamnoides) and whole-edged barberry (Beberis integerrima) have been preserved. Most of the natural forests were cut down by the local population in the 1990s for fuel wood due to the lack of reliable power supply during severe winters. Small groups of juniper (juniper) grow on the steep, stony slopes of the Vanj and Yazgulem ridges).

In Khatlon region, biodiversity is generally not rich due to lack of water, rare rains, and poor soil. The ecosystem type is desert-ephemeral, characterized mainly by dwarf shrubs and very few trees. The most important types of trees are mulberry, Western sycamore, and poplar. Mid-mountain and low-mountain semi-savanna landscapes are common. The most valuable communities of this type are high-grass and suffrutescent communities. A significant area (70%) of the southern Tajik semi-savanna is significantly depleted due to unsustainable agricultural practices. Communities in foothill semi-deserts and deserts occupy upper terraces and form a typical valley landscape in the lower reaches of major rivers: Panj, Vakhsh, Kafirnigan. Cotton is grown in large areas of sandy-desert ecosystems.

There is one IBA that occur within Dusti district of Khatlon: IBA site—Tigrovaya Balka Natural Reserve (68 o 26.52' E 37o 19.16' N) spans 49786 ha.

This reserve is known to contain resident Saker Falcon (Falco cherrug) listed as vulnerable and a species known to be susceptible to electrocutions, and passage populations of Common (Eurasian) Crane (Grus grus), a species susceptible to collisions16, winter populations of Red-crested Pochard (Netta rufina), Pygmy Cormorant (Phalacrocorax pygmeus) and breeding populations of Pallid Scops-owl (Otus brucei) all classified as of least concern.

There is a Ramsar site—1084, at the Lower part of Panj River (68o 30’8.107 E 37o 10’ 30’.436 N). It is a wetland area valuable for its birdlife and tugai vegetation. This Ramsar site is right on the border with Afghanistan and has overlapping habitat with Imam Sahib IBA within the Afghanistan side.

The Tajik national Park in GBAO, located in Pamir (UNESCO world heritage site), covers an area of 26,000 km2 or 18% of the total area of the Republic of Tajikistan, and is located on the territory of GBAO, as well as on the territory of the Lakhsh and Sangvor DRS. The surroundings of the National Park surrounding the project area include the watershed areas of the Vanj and Yazgulem ranges and the upper reaches of the Vanj river valley, located approximately 40 km from the project area. It is unlikely that project activities will directly affect the habitat or species in the Park.

2.5 Cultural, archaeological, ritual and historical resources

The following cultural heritage sites are located within the project area:

Table 2. Cultural heritage sites within the region

Khatlon	
Kushoniyon district	The ancient settlement of Halkajar (the period of the Kushan kingdom, II-VI century) Central Museum of Kurgan-Tube Ancient Buddhist temple (in the vicinity of Bokhtar)
Vakhsh district	Ajina-Tepe (Buddhist monastery) Chorgulteppa
Vose district	Hulbuk castle
Kushoniyon district	The ancient city of Takhti-Sangin
Sughd	
Gornyi Mastchoh	Soiyi Saboh
GBAO	
Ishkoshim	Yamchun fortress

2.6 Socio-Economic Characteristics

2.6.1 Population

The Republic of Tajikistan is one of the countries with a rapidly growing population; in 2019, it reached 9.1 million people (49% of them are women, 40.6% are children under 18 and 66% are young people under 30). The average permanent population in Tajikistan has increased from 6.1 million., people (2000) to 9.1 million people (2019), or 49 percent. About 74 percent of the population lives in rural areas. The population of Tajikistan is very young.

Table 3 Population of Tajik regions based on census and latest official estimates

Name	Capital	Area A (km²)	Population Census 1979-01-12	Population Census 1989-01-12	Population Census 2000-01-20	Population Census 2010-09-21	Population approx. 2019-01-01
Tajikistan	Dushanbe	141,400	3,801,357	5,109,000	6,127,493	7,564,502	9,126,600
Dushanbe	Dushanbe	100	500,966	605,135	561,895	724,844	846,400
GBAO	Khorog	62,900	126,783	160,860	206,004	205,949	226,900
Sughd	Khujand	25,200	1,194,683	1,558,158	1,871,979	2,233,550	2,658,400
Khatlon	Bokhtar	24,700	1,220,949	1,701,380	2,150,136	2,677,251	3,274,900

The project area covers 3 districts of Sughd region, 2 districts of Khatlon region, and 2 districts of GBAO.

Table 4 Population by Target Areas

Oblast	**District/city**	**Population thousand people**	**Population density per 1 km2**	**Number of Jamoats**
GBAO	Khorog	30,3	3,6	43
GBAO	Shugnan	37,7		
Sughd	Gafurov	374,3	105,5	93
Sughd	Kanibadam	159,0		
Sughd	Spitamen	139,2		
Khatlon	Vose	211,7	132,6	133
Khatlon	Kulyab	211,5		

2.6.2 Economy

Agriculture is the main economic activity in regions where the majority of the population lives in rural areas. The main crops and agricultural products are cotton, cereals, oilseeds, potatoes, carrots, onions, cucumbers, cabbage, melon, vine, milk, wool, honey and eggs. Vegetable gardens and small farms are also considered an important part of the local economy. These include apples, peaches, apricots, almonds, pears, pomegranates, mulberries, and walnuts grown in homesteads in addition to crops. Cotton makes an important contribution to both the agricultural sector and the national economy. Cotton accounts for 60 percent of agricultural output, supports 75 percent of the rural population, and uses 45 percent of irrigated arable land. Cotton is a cash crop that is widely grown in the project's target areas, but it involves high levels of irrigation and chemicals, while many local farmers make small profits from its sale (compared to intermediaries and dealers). With the declared freedom to cultivate agricultural land has declined dramatically, giving way to other crops preferred by farmers. The irrigation infrastructure inherited at the end of the Soviet era suffered from a lack of investment in routine maintenance, which led to the gradual loss of cultivated land and damage to embankments, water intakes, and canals.

About 45 percent of the country's irrigated land is located in the Khatlon region. Cotton is the main crop grown in the area and accounts for 60 percent of the country's cotton crop. Its industry is represented by 334 enterprises specializing in chemical production, production and processing of agricultural and food products, as well as steel production. The Sughd region has 38% of the irrigated land in the country, together with the

Khatlon region, they make up 83% of all irrigated land in Tajikistan. Its industry is represented by 459 enterprises. Sughd region has important industries such as uranium deposits, reservoirs, textile enterprises, gold mining and coal mining plants. The province's production rate is 31.5% of the country's total industrial output. About 44% of rice yield accounts for Zeravshan and the Ferghana valleys in Sughd oblast. In the North of the country, apricots, pears, plums, apples, cherries, pomegranates, figs and nuts are produced. Crops grown mainly include grain, wheat, barley, maize, rice, beans, potatoes, vegetables, fruits, grapes, forage, etc. Livestock is distributed throughout the region in the form of small cattle (mainly cows, yaks, goats, and sheep) and small poultry. There is no real forage production, the animals graze randomly along canals, roads and meadows and live off the remnants of crops in late autumn / winter / early spring. The soils are mainly gray-brown serozems (gray soils), brown-carbonate and ermine. The regions of Republican subordination are engaged in the production of construction materials and agricultural products, mainly vegetables and fruits. More detailed information on the agricultural potential of the target areas is provided in the table below.

2.6.3 Migration and Employment by Gender

Most people in these areas are forced to combine subsistence agriculture, labor migration and shuttle trade in order to earn a living. People try to find different ways of earning income by working in villages or elsewhere as a driver, a day laborer, shopkeeper, tailor, obstetrician, shepherd, etc. The labor market at the local and district level is very limited, and the pay for temporary work is very low. Therefore, the most significant way to generate income is labor migration- mainly to Russia. The increase in migration since independence has created both challenges and opportunities for women. According to the interviews, the wives of migrant workers assume the role of head of household after the departure of their husbands and make most of the decisions. From numerous individual examples, it can be said that migration also led to an increase in the number of female headed households (abandoned or divorced women) in Tajikistan. The right to make individual decisions in households, for example, concerning agricultural production, remains with men, and it is granted based on age, merit and experience. Women do most of the domestic and agricultural work in rural areas, in particular in areas where there is a migratory outflow among men. The proportion of officially registered labor migrants averages 5% in the Khatlon region and over 10% in the target regions of GBAO.

A different level of migration is observed in the villages, where it makes up about 10% of the working population of villages. Mostly local residents migrate to the Russian Federation. Most migrants (over 90%) are men who go abroad for seasonal work. There are also people who leave for several years, or, as they are often called, long-term migrants. Despite the fact that only 10-15% of the total population of villages migrate, they send relatively high incomes to their households. The level of labor migration and its growth is associated with unemployment, which reaches 60% of the total working population of the community.

Table 5 Data on the number and employment by district, persons.

Oblast	**District**	**Number of women**	**Number of men**	**Number of employed men**	**Number of employed women**	**Number of migrants**
GBAO	Khorog					
GBAO	Shugnan	20125	20055	710	541	4369
Sughd	Gafurov	186300	187700	8212	3254	12508
Sughd	Spitamen	69300	69800	3096	1333	5052
Khatlon	Vose	3535	7219	4878	2308	7219
Khatlon	Kulyab	51315	50887	2935	1412	4911

Source: UNDP Jamoat Database, Jambi, 2012

Significant unemployment has led to large-scale migration, especially among men who leave women to manage their households, which makes them responsible for supporting their families, as well as for other household duties and caring for children. By the age of 25 years, 70% of women become inactive, which

means that they do unpaid work at home, compared with 20% of men who also become inactive by this age. Over 43% of Tajik women do unpaid housework, work in the garden or care for other family members compared to 9% of men. The proportion of households managed by women is growing, often due to labor migration. A third of men aged 20 to 39 years emigrate for most of the year or more, and about 41% of men divorce their Tajik wives after leaving the country. According to the results of the divorce proceedings, about 80% of Tajik women are denied property rights and alimony. Women are forced to cope with the situation by performing, in addition to their traditional roles of caring for children and senior family members, traditionally male responsibilities, such as maintaining and maintaining the household, caring for fields and animals. These additional responsibilities limit their participation in education and income-generating activities outside the home. In addition, women's paid employment is hampered by a significant decline in the number of preschool educational institutions, especially in rural areas, which is the result of the collapse of the socialist system and the civil war in the country.

2.6.4 Food Security

Tajikistan imports about 70 percent of its products due to insufficient domestic food production. Wheat and barley imports mainly come from Kazakhstan and the Russian Federation. Import accounted for 58% of Tajikistan's intestinal necessity and 81% of total food consumption in 2012-2013. Without significant investment, a lack of arable land, population growth, and inadequate domestic supply, Tajikistan's dependence on food imports is likely to increase. High food prices in recent years have significantly affected rural communities in Tajikistan.

2.6.5 Poverty and Vulnerability

Despite various efforts to promote growth and development in Tajikistan, the country is still hampered by high levels of poverty and limited economic opportunities. In Tajikistan, 27.4% of the population lives below the national poverty line in 2018. There are significant variations in the poverty rates among the regions with poverty being predominantly the rural phenomena. The average poverty rate for urban areas is 21.5%, while the same indicator for rural areas was 30.2% in 2018. By regions, the lowest poverty rate is in Sughd, which is 17.5%, and the highest is 33.2% in the Districts in Republican Subordination, while in GBAO the poverty rate was 27.7%.[3]

Poverty rates fluctuate considerably during any given year resulting from the availability of the employment and remittance income. Job creation was slow and unable to keep pace with a fast-growing population.

The issue of the working poor continues to be one of the dominant features of poverty in Tajikistan. Half of the employed in the domestic labor market are poor. Almost 80 percent of the working poor live in rural areas. Low labor incomes and high prevalence of temporary work arrangements, informality (no labor contract), and unpaid work are the main reasons there are so many working poor.

A high household dependency ratio related to high fertility and the low labor market participation of women are substantial barriers to poverty reduction. The average fertility rate of three children per woman results in the very high dependency rate within a household, especially since women's participation in the labor market is low for various reasons. Among 2 million people who are out of the labor force, about 1 million are housewives. The analysis indicates that households with three or more children account for 53 percent of the total population, and 62 percent of all poor. The poverty risk in this group of households is above 60 percent compared with a 43 percent poverty risk for households with one child and 33 percent for households with no children.[4]

Migration, mostly in the form of temporary work abroad, has become one of the key strategies for households to cope with poverty. The analysis indicates that a quarter of households have at least one migrant abroad. In households that have migrants, remittances account for as much as 35 percent of household consumption—and even more for the households in the lower deciles of the consumption distribution. The Tajikistan

[3] https://www.worldbank.org/en/news/infographic/2019/10/17/poverty-in-tajikistan-2019
[4] Republic of Tajikistan Poverty Assessment, World Bank, 2009

migration model is one of predominantly seasonal low-skill migration, with 96 percent of the migrants heading to Russia, and of those, 55 percent worked in the construction sector, and another 30 percent in other low-skill jobs.

Against a background of high poverty and low employment, Tajikistan runs a rudimentary social protection (SP) system dominated by old-age and disability pensions. The largest program in terms of coverage is the old-age pension, which is received by one-third of households. Total social assistance spending is very low—at 0.5 percent of GDP it is the lowest in the ECA Region—and programs are small in size and benefit coverage. Less than 1 percent of households receive any of the smaller social assistance benefits, such as the gas and electricity compensation. To improve the SP system and its impact on poverty, the Government of Tajikistan introduced a targeted social assistance to achieve a higher coverage of the poor and vulnerable, though they are considered very small payments.

3. DESCRIPTION OF THE ADMINISTRATIVE, POLICY AND REGULATORY FRAMEWORK

3.1 Legislative and Regulatory Framework

3.1.1 List of Relevant National Laws and Regulations and International Treaties

An overview of laws and regulations that have relevance for environmental[5] and social issues for the Project is as follows (see Table below).

Table 6. List of National Laws and Regulations

- Law on Environment Protection (2011, amended 2017)
- Water Code (2000, amended 2012)
- Land Code (1996, amended 2016)
- Law on Land Administration (2008, amended 2016)
- Law on Pastures (2013)
- Law on Ecological Monitoring (2011)
- Law on Environmental Education of Population (2010)
- Law on Ecological Information (2011)
- Law on State Ecological Expertise (2012)
- Law on Dekhkan Farms (2016)
- Law on Land Valuation (2001)
- Regulation # 641 "Order of compensation for losses of land users and damage of the agricultural production process", approved by the Resolution of the Government of the Republic of Tajikistan (2011)
- Law on Appeals of Individuals and Legal Entities (2016)
- Law on Freedom of Information
- Law on Public Associations (amended 2018)
- Law on Public Meetings, Demonstrations and Rallies (2014)
- Law "On Self-Government Bodies in Towns and Villages (1994, amended 2009 and 2017)
- Labor Code (2016) (includes Chapter 35 on Occupational Safety)

In addition to national legislation and regulations on environmental and social issues[6], Tajikistan is also party to several international treaties focused on environmental and social issues (see Table below).

Table 7. List of International Treaties and Convention ratified by Tajikistan

- Rotterdam Convention on Prior Informed Consent (PIC) procedure (1998);
- Signatory of the Stockholm Convention on Persistent Organic Pollutants (2002);
- Convention on Biological Diversity (1997) and to its Cartagena Protocol on Biosafety (2004);
- Convention for the Protection of the World Cultural and Natural Heritage (1992);
- The United Nations Convention to Combat Desertification (1997);
- The United Nations Framework Convention on Climate Change (1998);
- The Ramsar Convention (2000);
- The Convention on the Conservation of Migratory Species of Wild Animals (2001);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (2016);
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (2016)
- Convention for the Safeguarding of the Intangible Cultural Heritage (2006);
- International Covenant on Economic, Social and Cultural Rights;
- Convention on the Elimination of all forms of Discrimination Against Women;
- Convention on Minimum Age for Admission to Employment (1993);
- Convention on Worst Forms of Child Labor (2005);
- Abolition of Forced Labour Convention (1999);
- Employment Policy Convention (1993);
- Labour Inspection Convention (2009);
- UN Convention on the Rights of the Child CRC (1993)
- Tripartite Consultation (International Labour Standards) Convention, (2014);
- Occupational Safety and Health Convention (2009)

[5] Used source for updating – Third Environmental Performance Review of Tajikistan, UNECE, 2017

[6] ILO Information System on International Labour Standards, checked on 06.11.2019

3.1.2 Overview of Key National Environmental Legal Provisions

The *Law on Environmental Protection* (2011, amended 2017) stipulates that Tajikistan's environmental policy should prioritize environmental actions based on scientifically proven principles, and to balance consideration of economic and other activities that have an impact on the environment with that on nature preservation and sustainable use of resources. To secure public and individual rights to a safe and healthy environment, the Law requires that an environmental impact assessment for any activity that could have a negative impact on the environment. It also defines environmental emergencies and ecological disasters and prescribes the order of actions to be taken in such situations, including the obligations of officials and enterprises to prevent and eliminate adverse consequences, and liabilities of the persons or organizations that caused damage to the environment or otherwise violated the Law. The Law also establishes state, ministerial, enterprise and public control over compliance with environmental legislation, which is affected by the Committee for Environment Protection, the Sanitary Inspectorate of the Ministry of Health and Social Protection, the Inspectorate for Industrial Safety and the Mining Inspectorate. Public control is carried out by public organizations or trade unions and can be exercised with respect to any governmental body, enterprise, entity or individual.

Article 12 of the *Law on Environmental Protection* proclaims the right of citizens to live in a favorable environment and to be protected from negative environmental impacts. Citizens also have the right to environmental information (Article 13), as well as to participate in developing, adopting, and implementing decisions related to environmental impacts (Article 13). The latter is assured by public discussion of drafts of environmentally important decisions and public ecological reviews. Public representative bodies have an obligation to take into consideration citizens' comments and suggestions.

The *Land Code* (1996, last amendment 2016) defines the types of land use rights, the authority and the role of regional and local governments for land allocation, collection of land taxes, land use planning, land use right mortgaging and settlement of land disputes. It defines the rights of land users and lease holders and specifies the use of a special land fund for the purpose of land privatization and farm restructuring. The law does not provide for purchase or sale of allotted land. The Land Code regulates land relations and it is directed at the rational "use and protection of land and fertility of the soil…[7] ." The land may be used in a rational manner only and the Code allows local authorities to decide what constitutes "rational" land use. It also includes mechanisms that make it possible to take the land-use permit away from farmers, including in situations where land use causes land degradation. This decision is taken by the *rayon* administration.

The *Law on Land Administration* (2008, last amendment 2016) obliges the authorities to map and monitor the quality of land, including soil contamination, erosion and logging.

The *Law on Sanitary and Epidemiological Safety of the Population* (2003, amended in 2011) introduced the concept of sanitary and epidemiological expertise that establishes the compliance of project documentation and economic activities with the state sanitary and epidemiological norms and rules, as well as strengthened provisions on sanitary-hygienic, anti-epidemic and information measures.

The *Law on Pastures* (2013) defines the basic principles of pasture use, including protection of pastures and the environment, and attraction of investments for more effective use and protection of pastures. The Law specifies the powers of local administrations to control environmental safety and pasture use in accordance with state regulations and standards. The law prohibits the implementation of a number of activities in pastures, such as cutting down trees or bushes, building roads, misuse of grazing land, pollution of the environment with waste, and grazing of livestock beyond the established rate. The law requires users to ensure effective use of pastures, including protection of pastures against degradation and pollution. It provides geobotanical research on pastures to assess the potential productivity of natural forage land.

[7] Land Code of the Republic of Tajikistan (1992)

The *Law on Ecological Expertise* (2012) stipulates that the mandatory cross-sectoral nature of state ecological "expertise" (SEE) shall be scientifically justified, comprehensive, and objective and which shall lead to conclusions in accordance with the law. The SEE precedes decision-making about activities that may have a negative impact on the environment. Financing of programs and projects is allowed only after a positive SEE finding, or conclusion, has been issued. The following activities and projects will be subject to state ecological review: a) draft state programs, pre-planning, pre-project, and design documentation for economic development; b) regional and sectoral development programs; c) spatial and urban planning, development, and design; d) environmental programs and projects; e) construction and reconstruction of various types of facilities irrespective of their ownership; f) draft environmental quality standards and other normative, technology, and methodological documentation that regulates economic activities; g) existing enterprises and economic entities, etc. This law also stipulates that all types of economic and other activities shall be implemented in accordance with existing environmental standards and norms, and that sufficient environmental protection and mitigation measures will be put into place to prevent and avoid pollution and enhance environmental quality. ESA studies that have analyzed the short- and long-term environmental, genetic, economic, and demographic impacts shall be evaluated prior to making decisions on the selection of sites, construction or reconstruction of facilities, irrespective of their ownership. If these requirements are violated, construction will be terminated until necessary improvements are made, as prescribed by the Committee for Environmental Protection and/or other duly authorized control bodies, such as sanitary, geological, and public safety agencies.

Right after adopting the Law on Environmental Expertise, the GoT the subsequently adopted the following in pursuance of this legislation:

- *Procedure of Environmental Impact Assessment* (adopted by the Resolution of the Government of the Republic of Tajikistan as of 01.08.2014 #509 provides guidelines on the composition, order of development, coordination and approval of design estimates for construction of facilities, buildings and structures and EIA chapters, SEA and feasibility documents;
- *List of objects and types of activities for which preparation of documentation on the environmental impact assessment is mandatory* (adopted by the Resolution of the Government of the Republic of Tajikistan as of 01.08.2014 #509). This extensive list contains 180 types of activities that are grouped according to four environmental impact categories (from (I) "high risk" to (IV) "local impact"). If the facility is not included in the list, then it is not required to pass an EIA or a SEE.

Article 12 of the *Law on Production and Consumption Waste* (2011) defines the requirements on handling the hazardous waste and assigns the waste producer to follows the requirements and assigns the state body responsible for waste management supervision to control proper handling and management of the hazardous wastes.

3.1.3 Overview of Key National Resettlement and Citizen Engagement Legal Provisions

Law on Freedom of Information is underpinned by Article 25 of the Constitution, which states that governmental agencies, social associations and officials are required to provide each person with the possibility of receiving and becoming acquainted with documents that affect her or his rights and interests, except in cases anticipated by law.

Law on Public Meetings, Demonstrations and Rallies (Article 10) bans persons with a record of administrative offenses (i.e. non-criminal infractions) under Articles 106, 460, 479 and 480 of the Code for Administrative Offences from organizing gatherings[8]. Article 12 of the Law establishes that the gathering organizers must obtain permission from local administration fifteen days prior to organizing a mass gathering.

[8] These provisions concern the hampering of gatherings (Article 106); disorderly conduct (Article 460); disobedience to police (Article 479); and violation of rules of conducting gatherings (Article 480).

Land Code contains basic provisions on land acquisition for public and state purposes. The Code allows the state to seize the land from land users for the needs of projects implemented in the interests of state and at the state scale, and describes methods, system and order of protection of rights and interests of persons whose land is subject for withdrawal for the purposes of the project, and provides for the complex of compensatory measures to cover the land users' losses. The Regulation about an order of compensation of the land users' losses and losses of agricultural production, approved by the *Resolution of the Government of the Republic of Tajikistan #641*, from 30th December 2011, establishes concrete and detailed order of reimbursement of the land users' losses.

Law on Appeals of Individuals and Legal Entities (from July 23, 2016, № 1339), contains legal provisions on established information channels for citizens to file their complaints, requests and grievances. Article 14 of the Law sets the timeframes for handling grievances, which is 15 days from the date of receipt that do not require additional study and research, and 30 days for the appeals that need additional study. These legal provisions will be taken into account by the project-based Grievance Redress Mechanism.

Labour Code prohibits forced labour (Article 8). The Labor Code also sets the minimum age at which a child can be employed as well as the conditions under which children can work (Articles 113, 67, and 174). The minimum employment age is 15, however, in certain cases of vocational training, mild work may be allowed for 14-year old adolescents (Article 174 of the Labor Code). In addition, there are some labour restrictions on what type of work can be done, and what hours of work are permissible by workers under the age of 18. Examples of labor restrictions include: those between 14 and 15 cannot work more than 24 hours per week while those under 18 cannot work more than 35 hours per week; during the academic year, the maximum number of hours is half of this, 12 and 17.5 hours, respectively. These limitations are consistent with the ILO Convention on Minimum Age.

According to the Labor Code of the Republic of Tajikistan (Article 349) occupational safety is mandatory for legal and individual entities in all types of activities, including designing, construction (reconstruction) and use of facilities, designing tools, mechanisms and other equipment, development of technological processes and arrangement of industry and labor. The Employer shall be in charge of regular control over the compliance with all requirements, rules and norms of safety in running works and labor protection by employees. Article 350 of the Labor Code of the Republic of Tajikistan requires compulsory occupational safety training conducted by the employer.

3.1.4 Overview of Key National Sectoral Legal Provisions *State Sectoral Program on Transport Sector Development of the Republic of Tajikistan up to 2025* (2011) describes the state policy priorities in the transport sector development. In the road connectivity subsector, the Program entails the reconstruction and rehabilitation of over 4,000 kms of roads of international and national importance and about 166 bridges connecting those roads.

Law on Transport (2000) sets legal provisions for the state policy regulatory agency in the transport sector, i.e. Ministry of Transport, including a) planning and monitoring of programs that promote competitive and efficient use of resources and improve efficiency of transport systems; b) development of transport development plans; c) analysis of investment needs of transport industry and possibilities of transport organizations, development of long-term program of public investments; d) promoting competition in order to facilitate access to transport sectors; e) promotion of international and regional cooperation in transport etc.

Law on Transport Safety (2012) regulates the legal. Organizational, economic and other relations associated with the transport safety and sustainable development of the transport sector. Article 5 of the Law provides legal basis for the Ministry of Transport to secure safety of transport infrastructure and to control transport safety measures.

Customs Service Mid-term Development Program of the Republic of Tajikistan for 2020-2024 (2019) sets the following development priorities: 1) customs legislation improvement; 2) customs administration enhancement; 3) risk management system development; 4) fiscal policy and financial management improvement; 5) customs related law-enforcement mechanisms development; 6) ICT systems development of customs bodies; 7) human resource management systems development; 8) customs control, expertise and examination procedures improvement; 9) customs infrastructure improvements; 10) interagency communication and interaction mechanisms development; 11) public services system enhancement etc.

Customs Service Order on Customs Procedures of Internal Transits of Goods by Automobile Transports (2012) covers the rules and responsibilities of the custom service staff, including weight inspection and management rules.

Chapter 7 of the *Customs Code* (2004) identify the grievance redress mechanism and filing complaints with the customs service and customs staff. The complaints are considered by the head of the relevant customs service regional branch within the timelines set in the Law on Appeals of Individuals and Legal Entities of the Republic of Tajikistan. If the complainant is not satisfied it is escalated to the national level.

Customs Service Order #22F "On Grievance Redress" (2008) includes the written form to be filled by the physical and legal entities in case they have complaints or grievances.

3.2 Administrative and Institutional Framework

3.2.1 Relevant Institutions

Identified potential[9] government institutions to be engaged in CARs-4 project implementation are outlined in the Relevant Institutions Matrix in Table below. They are divided into categories based on at what administrative level(s) the institutions represent: National, oblast, and district, authorities.

The transport sector in Tajikistan is regulated and governed by several actors. At the central level, the MoT (through its subdivisions) develops and implements state policy and strategy, sets priorities for developing transport infrastructure, and approves unified standards for transportation service provision. Other state entities have the following roles:

Table 8: Relevant Government Institutions

Institution Category	National level	Oblast (region)	Rayon (district)	Role and Engagement
Government Administrations	Cabinet of Ministers	Governor's office	District and town administrations, including chairman's office	Approvals and strategic planning
Line Ministries and Agencies	Ministry of Finance (MOT)			Financial guarantor
	Ministry of Transport (MoT)	Department of state road administration	State administration of road maintenance	Implementation agency
	Customs Service	Customs Department	None	PIG for Component 2
	Ministry of Internal Affairs/ Department of	Regional Department	District Department	Enforce road safety, including use of 4-wheel

[9] The word *potential* is used to emphasize that this analysis will serve as a point of departure for identification of stakeholders for the different activities during the project preparation and implementation.

Institution Category	National level	Oblast (region)	Rayon (district)	Role and Engagement
	State Automobile Inspection			vehicle safety belts
	Labour Inspection under the Ministry of Labour, Migration and Employment	Regional Department	District Department	controls compliance to occupational safety norms and rules
	The State Committee for Architecture and Construction (SCAC)	Chief Oblast Architect	Chief District Architect	Controls compliance to the construction standards for social infrastructure and Local Master Plans
	The State Committee on Environmental Protection (SCEP)	Regional Committee for Environmental Protection	District Committee for Environmental Protection	Environmental expertise and control compliance
	State Committee for Land Management and Geodezy	Regional Department for Land Management and Geodezy	District Department for Land Management and Geodezy	Land Management Issues
	Women and Family Affairs Committee	Regional/Oblast Department for Women and Family Affairs	District Office for Women Affairs	Support women engagement and GBV prevention

3.2.2 Environmental Assessment Administrative/Institutional Framework

EIA responsibilities. Conducting the EIA study is the responsibility of the project proponent. The Procedure for carrying out the EIA (Government Resolution No. 509 of 2014) establishes general requirements for contents of the EIA documentation. The State Ecological Expertise for all investment projects is the responsibility of the Committee for Environmental Protection under Government of Tajikistan (CEP) and its regional offices. Furthermore, according to the 2012 Law on the State Ecological Expertise, all civil works, including rehabilitation, should be assessed for their environmental impacts and the proposed mitigation measures reviewed and monitored by the CEP.

Screening categories. The laws on Environment Protection and EE stipulate that the Government is to approve a list of activities for which the complete EIA is mandatory. The current guidelines for EIAs do not provide for any preliminary assessment of the project to decide on the need for an EIA (screening) or define the scope of the EIA's contents. This is because the list of objects and activities for which the development of EIA materials is required is already very detailed. Therefore, although the CSP will not be required to prepare an EIA per existing legislation, upon its approval it will be necessary to consult with the CEP experts for further guidance on compliance with the SEE.

The Law on EE provides for the rights of citizens to conduct Public Environmental Expertise (art. 7). Tajikistan is also a member party to the 1998 Aarhus Convention (July 17, 2001) that contains provisions for public EE.

The 2014 Procedure (Order) for Conducting an EIA also describes procedures for public participation. Public participation procedures are envisaged for all categories of projects, although in practice they are mainly applied to Category I projects. The Procedure (Order) for conducting the EIA of 2014 changed the focus and timing of public discussions. Compared to the 2006 version of the Procedure for preparing EIAs which provided the opportunity for public inputs during the scoping stage while drafting the technical task, the 2014 version of the Procedure provides space for public discussions only after the preparation of the EIA report by the project's customer.

Implementation of environmental laws. A number of legal acts establish liability for violation of environmental laws, which can be enforced by several State bodies. In particular, the 2010 Code on Administrative Violations establishes administrative liability for organizations, their officers and individuals for a range of violations, including careless treatment of land, violation of rules for water use or water protection or failure to comply with a SEE. Administrative sanctions for environment related violations can be imposed by the administrative commissions of khukumats, courts, CEP inspectors, the Veterinary Inspectors of the Ministry of Agriculture, and the State Committee for Land Management and Geodezy. The most common administrative sanction is a fine of up to 10 minimal monthly salaries for individuals and up to 15 minimal salaries to officers of organizations. The 1998 Criminal Code also covers crimes against ecological safety and the environment, such as violations of ecological safety at work, poaching and spoiling land, as well as violation of rules for the protection and use of underground resources. The maximum fine is up to 2,000 minimal monthly salaries and the maximum sentence is up to eight years in prison.

3.2.3 Social and Resettlement Administrative/Institutional Framework

The Land Code articles contain basic provisions on land acquisition for public and state purposes. The Code allows the state to seize the land from land users for the needs of projects implemented in the interests of state and at the state scale, and describes methods, system and order of protection of rights and interests of persons whose land is subject for withdrawal for the purposes of the project, and provides for the complex of compensatory measures to cover the land users' losses. The Regulation about an order of compensation of the land users' losses and losses of agricultural production, approved by the Resolution of the Government of the Republic of Tajikistan # 641, dd. 30th December 2011, establishes concrete and detailed order of reimbursement of the land users' losses.

District Administrations for locations in target areas are responsible for addressing and solving the social and resettlement issues. A project District Coordination Committee (DCC) will be established in each targeted district to coordinate, facilitate and monitor implementation of the project activities, including land acquisition issues in a district. This committee will be chaired by the Deputy Head of District and will include representatives from various line departments, Regional Coordinator or Regional Social Development Specialist (to be hired by the PIG), NGOs and community. Determination of losses of land users during the acquisition of agricultural lands should be established on the basis of corresponding documents, provided by the land user and the requirements of the WB Environment and Social Standard 5.

3.3 World Bank Environmental and Social Standards (ESSs)

The World Bank Environmental and Social Framework sets out the World Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards (ESSs) that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity.

The ESSs[10] set out the requirements for Clients/Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing. The Bank believes that the application of these standards, by focusing on the identification

[10] www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards and http://projects-beta.vsemirnyjbank.org/ru/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards

and management of environmental and social risks, will support Borrowers in their goal to reduce poverty and increase prosperity in a sustainable manner for the benefit of the environment and their citizens.

The standards will:
(a) support Borrowers/Clients/Implementing Agencies in achieving good international practice relating to environmental and social sustainability;
(b) assist Borrowers/Clients/Implementing Agencies in fulfilling their national and international environmental and social obligations; (c) enhance nondiscrimination, transparency, participation, accountability and governance;
(d) enhance the sustainable development outcomes of projects through ongoing stakeholder engagement

The ten ESSs establish the standards that the Implementing Agency and the project will meet through the project life cycle, as follows:

ESS 1 - Assessment and Management of Environmental and Social Risks and Impacts

ESS1 sets out the Client's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).
The environmental and social assessment will be based on current information, including a description and delineation of the project and any associated aspects, and environmental and social baseline data at an appropriate level of detail sufficient to inform characterization and identification of risks and impacts and mitigation measures. The assessment will evaluate the project's potential environmental and social risks and impacts, with a particular attention to those that may fall disproportionally on disadvantaged and/or vulnerable social groups; examine project alternatives; identify ways of improving project selection, siting, planning, design and implementation in order to apply the mitigation hierarchy for adverse environmental and social impacts and seek opportunities to enhance the positive impacts of the project. The environmental and social assessment will include stakeholder engagement as an integral part of the assessment, in accordance with ESS10.

According to ESS1 the Client will manage environmental and social risks and impacts of the project throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the project and the potential risks and impacts.

ESS 2 – Labor and Working Conditions

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. ESS2 applies to project workers including fulltime, part-time, temporary, seasonal and migrant workers.

The Borrower will develop and implement written labor management procedures applicable to the project. These procedures will set out the way in which project workers will be managed, in accordance with the requirements of national law and this ESS. The procedures will address the way in which this ESS will apply to different categories of project workers including direct workers, and the way in which the Borrower will require third parties to manage their workers in accordance with ESS2. In consultation with the Bank, the Borrower will develop and implement the Labour Management Procedures (LMP) proportionate to the nature and scale of the project and its potential labour risks and impacts.

ESS 3 – Resource and Efficiency, Pollution Prevention and Management

ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local,

regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable. This ESS sets out the requirements to address resource efficiency and pollution1 prevention and management throughout the project life cycle consistent with GIIP.

The ESMF should include sections pollution prevention and management. Assessment of risks and impacts and proposed mitigation measures related to relevant requirements of ESS3, including raw materials, water use, air pollution, hazardous materials, and hazardous waste are included within scope of the ESMF, and ESMPs as relevant.

ESS 4 – Community Health and Safety

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities.

ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

ESS 5 – Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement

ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

Experience and research indicate that physical and economic displacement, if unmitigated, may give rise to severe economic, social and environmental risks: production systems may be dismantled; people face impoverishment if their productive resources or other income sources are lost; people may be relocated to environments where their productive skills are less applicable and the competition for resources greater; community institutions and social networks may be weakened; kin groups may be dispersed; and cultural identity, traditional authority, and the potential for mutual help maybe diminished or lost. For these reasons, involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented.

ESS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems. Biodiversity often underpins ecosystem services valued by humans. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services.

ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the nonliving environment. All habitats support complexities of living organisms and vary in terms of species diversity, abundance and importance.

This ESS also addresses sustainable management of primary production and harvesting of living natural resources.

ESS6 recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, whose access to or use of, biodiversity or living natural resources may be affected by a project. The potential, positive role of project affected parties, including Indigenous Peoples, in biodiversity conservation and sustainable management of living natural resources is also considered.

ESS 7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

This ESS applies to distinct social and cultural groups. The terminology used for such groups varies from country to country, and often reflects national considerations. ESS7 uses the term "Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities," recognizing that groups may be referred to in different countries by different terms. Such terms include "Sub-Saharan African historically underserved traditional local communities," "indigenous ethnic minorities," "aboriginals," "hill tribes," "vulnerable and marginalized groups," "minority nationalities," "scheduled tribes," "first nations" or "tribal groups."

ESS7 contributes to poverty reduction and sustainable development by ensuring that projects supported by the Bank enhance opportunities for Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities to participate in, and benefit from, the development process in ways that do not threaten their unique cultural identities and well-being.

ESS 8 – Cultural Heritage

ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.

The requirements of ESS8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified or disturbed. The requirements of ESS8 apply to intangible cultural heritage only if a physical component of a project will have a material impact on such cultural heritage or if a project intends to use such cultural heritage for commercial purposes.

The Borrower will implement globally recognized practices for field-based study, documentation and protection of cultural heritage in connection with the project, including by contractors and other third parties.

A chance finds procedure is a project-specific procedure which will be followed if previously unknown cultural heritage is encountered during project activities. It will be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, flooding or other changes in the physical environment. The chance finds procedure will set out how chance finds associated with the project will be managed.

The procedure will include a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence-off the area of finds or sites to avoid further disturbance; to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with the requirements of this ESS and national law; and to train project personnel and project workers on chance find procedures.

ESS 9 – Financial Intermediaries

ESS9 recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. The Bank is committed to supporting sustainable financial sector development and enhancing the role of domestic capital and financial markets.

FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.

FIs are required to develop and maintain, in the form of an Environmental and Social Management System (ESMS), effective environmental and social systems, procedures and capacity for assessing, managing, and monitoring risks and impacts of subprojects, as well as managing overall portfolio risk in a responsible manner.

ESS 10 – Stakeholder Engagement and Information Disclosure

This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

The client will engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. The nature, scope and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts.

Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts.

In consultation with the Bank, the Borrower will develop and implement a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of the project and its potential risks and impacts.

ESSs 1, 2, 3, 4, 5, 6, 8, and 10 are all relevant to the project.

3.4 World Bank Group Environmental Health and Safety Guidelines[11]

The EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP) and are referred to in the ESF. The EHS Guidelines contain the performance levels and measures that are normally acceptable to the World Bank Group financed projects. The World Bank Group requires borrowers to apply the relevant levels or measures of the EHS Guidelines. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects will be required to achieve whichever is more stringent.

In the case of the CARS 4, the General EHS Guidelines apply. The PIG will pay particular attention to the

[11] http://documents.worldbank.org/curated/en/157871484635724258/Environmental-health-and-safety-general-guidelines

following General EHS Guidelines:

a. EHS 1.1 – Air Emissions and Ambient Air Quality;
b. EHS 1.6 – Waste Management;
c. EHS 1.7 - Noise;
d. EHA 1.8 – Contaminated Land;
e. EHS 2.2 – Communication and Training;
f. EHS 2.3 – Physical Hazards;
g. EHS 2.6 – Radiological Hazards;
h. EHS 2.7 – Personal Protective Equipment (PPE);
i. EHS 2.9 – Monitoring;
j. EHS 3.2 – Structural Safety of Project Infrastructure;
k. EHS 3.4 – Traffic Safety;
l. EHS 3.6 – Disease Prevention;
m. EHS 4.1 – Environment;
n. EHS 4.2 – Occupational Health and Safety; and
o. EHS 4.3 – Community Health and Safety.

4. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

This section discusses the potential environmental and social impacts that may arise from the project and suggests measures to mitigate them. It also discusses the measures developed to mitigate and reduce the identified consequences to a technically feasible minimum. The text distinguishes between the various stages of the project, the phases of design, construction, and operational activities of the project.

Ultimately, all proposed measures to prevent or mitigate possible adverse effects related to construction will be included in the tender or contract documentation, thus becoming mandatory elements of contracts for construction work and construction supervision.

4.1 Environmental impacts and mitigation measures

The environmental consequences of the project in general terms can be classified as those that occur during the design, construction and further activities. Estimated effects are analyzed depending on the type, scale and location, environmental sensitivity and degree of exposure.

The extent of environmental impacts can be divided into minor and significant, while both positive and negative. The effect is significant if the project is able to influence the environmental component. Direct consequences are caused by the project activity, they occur at the same time and in one place and can be formed both during construction and during the project activity. The direct impact will be limited in this project, as the work will focus on the construction of roads, bridges and the construction of access roads. Indirect consequences, which may include consequences that stimulate growth, are caused by the activity of the project or the project as a whole, and although they appear later or are subsequently eliminated from a distance, they are nevertheless reasonably foreseeable.

Short-term consequences, such as noise and gas emissions, are associated with the use of heavy equipment during road construction and, as a rule, do not have a long-term effect. Long-term consequences, on the other hand, can affect regional patterns of land use and development and even mobility and migration.

It is recommended that mitigation be achieved through strategic avoidance combined with monitoring. It will require Contractor Environmental and Social Management Plans (C-ESMP) for each specific site, which will be prepared by the Contractor and monitored by the Supervision Consultant for the Project Implementation (SCPI).

The potential direct and indirect adverse environmental effects associated with the proposed road projects are relatively minor compared with the benefits of construction. The following sections describe the identified environmental impacts of the project during the construction and operation phases.

4.1.1 Impacts before construction commencement

The potential impact on environment due to design work will be related to topographic, geotechnical, geological and prospecting studies. It is assumed that the consequences for environment will be negligible due to small-scale field works. However, the researcher should exercise extreme caution when conducting surveys in villages or near cemeteries and hold brief discussions with communities before starting any work.

Mitigation: An approach to the preparation of a project implementation plan, based on the development of environmentally sound technical projects designed to reduce the physical impact of potential work, was adopted, in particular:

- Minimizing of productive land use;
- Development of appropriate technical solutions for implementation of drainage work;
- Slope stabilization as per geological conditions;
- Development of appropriate technical projects of bank protection structures and river crossings;
- Identification and development of safety measures suitable for mountainous terrains.

In addition, it is necessary to ensure that the prepared projects are effective and appropriate to local conditions. During development, the following should also be considered:

- Facing and fastening channels in downstream of river due to rockfills or other protective works;
- Protecting bridges and water channels as far downstream as necessary to ensure their safety;
- Placement of drainage outlet points to avoid cascading effect.

As a rule, the consequences for environment during the design phase at construction site are insignificant, temporary and reversible.

4.1.2 Construction impacts and their mitigation measures

The consequences arising from construction activities and related measures to mitigate these impacts are discussed at the level of the following environmental sectors:

- Landscape Impact
- Temporary land use and production area loss
- Water pollution
- Erosion and sedimentation
- Air pollution and dust
- Impact of geological work
- Solid Waste Pollution
- Biological diversity
- Noise and vibration
- Habitat destruction
- Resource usage
- Cultural resources
- Disruption of public utilities work
- Security
- Operational Health Safety
- Community Health & Safety
- Labor Influx issues due to deployment of foreign and outside labor force
- Temporary access restrictions and traffic management during civil works
- Potential risk of GBV in locations where construction camps to be set up

4.1.2.1 Impacts for the natural landscape

The areas of location of roads and bridges are mainly mountainous, where the rural landscape is dotted with small villages on the mountain slopes, or roads and bridges are located near the main rivers and on alluvial fan formations of the side tributaries. The main features of the landscape are river channels with banks and temporary islets covered with various vegetation, gardens, agricultural land and hills with grazing land. High, steep, rocky-mountains, covered with eternal snows, and the ice sheet are clearly visible from anywhere. The natural landscape is a valuable factor, according to local residents, and an important component of the ecological balance.

The existing roads, bridges and access roads are in poor condition and, as a rule; do not contribute to landscape improvement. However, new bridges, access roads construction, and old bridges demolition can to some extent negatively affect the existing landscape. The natural appearance can be disturbed by cleaning the site, removing vegetation, performing earthworks, creating embankments of excavated surplus material, redirecting the riverbed and improper waste management. Erosion, caused by inappropriate excavation and changing the watercourse.

According to local residents, the natural landscape is a valuable factor and an important element that ensures ecological balance. Therefore, the need to include new bridges in the natural landscape is of great importance. Good integration of access roads and bridges with the local landscape ensures psychological clarity of the road for drivers, while changing landscapes will contribute to road safety.

Road and bridge work might have minor impacts on the current landscape; therefore, the technical design should aim to improve terrains landscape by planting trees and shrubs along the access roads as a measure for mitigating the consequences. Contractor should avoid disposal of surplus materials near cleared access roads to protect the local landscape and nature.

As far as possible, the project will avoid the practice of destroying any crops, pastures, orchards and other productive land.

4.1.2.2 Land use practices impact

The construction of new roads will require the acquisition of land for widening of the road in certain sections. In addition, land for temporary use will be required for various purposes during the construction phase, namely, to create borrow pits (quarries) of rock dumps, stocks, construction sites and construction camps. The duration of land use will depend on the objectives pursued, but in some cases, it will be relatively short-term - less than 6 months, and in others it is possible during the entire construction period.

Lands, which are necessary for roads and bridges construction will be identified and presented in design documentation as a drawing. Consequences for potential and current land use practices will be caused by the following activities:

- Cleaning and uprooting of site;
- Searching for natural materials sources for construction, i.e. earthworks and quarrying;
- Creation of base camp and camps for builders;
- Construction debris utilization; and construction works, i.e. movement of construction machinery and equipment;
- Soil compaction due to movement of construction machinery and equipment;
- Soil pollution in location of construction camps and loss of fertile soils.

Land needed to implement supporting activities, as mentioned above, will be mostly from government owned lands and therefore direct adverse impact on private land owners is not significant. In general, as the previous CARs Project experience, the impact on potential and current land use practices in very limited

No quarries, construction camps, places for burial of construction waste will be located on productive or agricultural lands. The movement of construction equipment and vehicles will be limited exclusively to the limits of the construction zone and designated areas, as far as possible. If equipment and machinery operate on temporarily leased land, empty barren land will be used for this purpose, not productive or agricultural land. Construction waste (debris) will be disposed of in such a way as not to pollute the land and water.

After completion of the project, the location of the base camp, camps for builders and quarries will be returned to its original state. Access roads will be designed to minimize the need for additional land.

4.1.2.3 Quarries (excavations)

The locations of the quarries will be determined at the design stage. In order to reduce the adverse effects associated with working in quarries and pits, only licensed quarry operations that will be used as sources of material extraction will be specified in the contract documentation. If licensed quarries are not available, contractors will be responsible for setting up special crushing plants at quarry sites approved by the PIG. Barren and low-productive areas will be identified at the design stage to ensure the safety of valuable land. In addition, for all quarry sites, contractors will ensure that appropriate environmental permits issued by the CEP are in place before the material source is developed.

Contractors should prepare Borrow Pit Management Plan for identifying sources of materials for construction. Plan will be coordinated with the SCPI and submitted to PIG for review, which will ensure the implementation plan. Materials and action plan should reflect the location of all quarries that will be used and measures that will be taken to restore these areas after the Project completion. PIG will approve and monitor the implementation plan. Prior to construction commencement, Contractor must also include provisions for quarry

exploitation with indication of its location, access and exit roads, the proposed zone for extraction of material and geological profile (section).

The following good practices are recommended for extraction, storage and transportation of materials:

- Topsoil layer should be stored separately under cover and used to restore vegetation layer on production site or slopes on construction site;
- Materials extraction should be carried out only in specially designated areas in coordination with SCPI;
- Extracted material should be stored in specially designated places in coordination with SCPI;
- Extracted material should not be stored near surface water for preventing silting or blockage of waterways;
- Contractor should humidify ground roads passing near populated areas to suppress dust and prevent contamination when transporting materials from quarry areas;
- Fine-grained material (sand) must be covered with tarpaulins to prevent dust generation and transport roads contamination;
- Transported materials should be humidified by Contractor to reduce potential dust emissions; Trucks must not be overloaded to avoid road accidents;
- Safe quarry inclination should not exceed 45 ° at a height to base ratio of 1: 1.

In addition, Contractors should ensure that quarries and crushing plants are located:

- At a distance of at least 300 meters from residential areas to prevent noise and dust effects;
- Outside agricultural land location; and
- As far as possible, on land plots that are not currently in use.

In order to mitigate the impact of quarrying and excavation, it is recommended that, in addition to preparing materials and an action plan, the tender and contract documents contain provisions that (i) the mining sites will be restored after completion in full compliance with all applicable standards and specifications; (ii) the action plans for the creation and use of quarries for material extraction will contain legally effective provisions; (iii) excavation and restoration of mining areas and their surroundings will be carried out in an environmentally sound manner and meet the requirements of the Supervision Consultant for the Project Implementation.

Supervision work at site by CEP will be necessary until the final acceptance and payment under the terms of the contracts; (iv) topsoil layer taken in quarry area will be retained and reused to restore the vegetation cover in this section to meet the requirements of CEP.

Avoid mining of building material from the riverbed to prevent erosion and destruction of river banks, including nearby infrastructure (roads, settlements).

4.1.2.4 Effects on surface water and hydrological regime

The project is capable of creating some short-term and minor adverse effects on water quality, including (i) an increase in the volume of silt sediments in the bridge areas; (ii) construction materials such as gravel, sand and embankment will be washed into local streams and rivers during rains; (iii) hydrocarbon leaks and / or spills at storage and placement sites of mixing plants; and (iv) discharge of sewage water and sewage from construction camp sites to local watercourses and rivers, or seepage due to leakage and pollution of the water surface.

Potential locations of water sources for construction work will be determined at the design stage. The main probable types and sources of water pollution include:

- Fuel and oil leaks from vehicles, storage tanks and equipment;
- Temporarily abandoned sediment recovered during earthworks in catchment areas;
- Flushing water from the use of crushing plants;
- Human waste from construction camps and non-compliance with sanitation norms and rules;

- Indiscriminate discharge of household and construction waste;
- Chemical waste from the use and storage of chemicals during construction work, or the flushing of solvents used for equipment (asphalt mixing plant);
- Wash water containing oil or detergents used to clean equipment.

The single most devastating event, however, may be a landslide or landslides caused by construction work that partially or completely blocks the course of the river. As noted earlier, the discharge of excess fill material, stone debris, etc. into a watercourse can also lead to local flooding.

The contractor will not discharge any materials and substances, except with the permission of CEP and regulatory bodies.

The contractor will ensure that all existing watercourses and drains are not exposed to the threat of dumping construction debris and materials as a result of work, and will protect watercourses, waterways, canals, ducts, drains, etc. from pollution, siltation, flood or erosion as a result of the project.

- Watercourses, rivers, streams, drains, canals and ditches inside and adjacent to the project construction sites will be protected from pollution, siltation, flooding or erosion as a result of project activities;
- Streams, rivers and watercourses (including drains) inside and adjacent to the project construction sites will be protected from the threat of contamination with construction waste and any materials or waste resulting from the project activities;
- Measures to ensure control of sediments, such as silt fences, lintels / cofferdams and barriers, as well as other devices, will be included in technical projects to prevent both siltation and the transfer / migration of silt during project activities near rivers and streams;
- Dumping of sedimentary deposits, construction materials, or materials (including quarry soil) directly into surface waters will not be allowed. All water used during construction will be discharged into settling ponds/settling tanks or reservoirs before final discharge;
- Water used for dust suppression will be drained into specially constructed sedimentation tanks for solid particles. After precipitation, the water can be reused to suppress dust and wash vehicles and equipment;
- Dredged soil and inventories will not be located near waterways, rivers or streams;
- All gutters will have a clear outline, size and lining, if necessary;
- Camps for workers and builders will be equipped with latrines that do not pollute surface water. A waste management plan, including both liquid and solid waste, will be prepared by the contractor and submitted to the PIG;
- The discharge or deposition of any wastewater or materials will not be permitted without the consent of the relevant regulatory authorities; and
- All water, wastewater and other liquids used or generated during the implementation of project works and activities will be collected and disposed of in an approved way in approved places and will not lead to pollution or damage.

Interference with the natural flow of rivers, watercourses or streams within, or in areas adjacent to the work sites, as well as prevention of water abstraction and pollution of water resources on project sites will not be allowed;

All temporary work that is not required during the project implementation phase, such as drainage systems, should be returned to their previous or better state as soon as possible after completion of the work. In the event of flooding or other damage caused by contractors ' activities, the contractor will have to take remedial measures to restore the affected area to its previous or better condition.

Rivers, tributaries, and temporary drainage systems should be monitored, especially during and after heavy downpours, to avoid unexpected changes or flooding.

4.1.2.5 Construction works in the area of drinking water intakes

The following mitigation measures should be taken into account when performing construction work in areas where drinking water flows or catchments:

- Informing the affected population that the project will be implemented and that water quality may be affected;
- Taking all possible measures to prevent contaminants from entering drinking water sources;
- Stopping the supply of water to catchment points during periods when pollution is unavoidable, in order to prevent the consumption of contaminated water.

4.1.2.6 Storage and handling of fuel and chemicals

The implementation of the project may require the use of various chemicals that can affect the quality of water and air and, consequently, affect the health of people in the event of leakage or improper handling. Hydrocarbons, petroleum products in a mixture of bitumen and other chemicals will be stored in safe and impermeable containers or tanks located away from surface waters. storage areas will require a concrete base or other forms of containment that will keep and immediately clean the surface in the event of spills.

Transportation, storage and handling of fuel will be carried out in accordance with national or international standards. At a minimum, the following security measures will be taken:

- Impermeable dams enclosing fuel storage tanks, with a capacity of more than 110% of the reservoir volume;
- Properly maintained tanks and vehicles running on fuel, with regular inspection and maintenance, as required;
- Daily checks and reconciliation of volumes on a daily basis;
- Equipment for containment and restoration in the event of an emergency fuel spill;
- Training and practical exercises on containment and recovery in the event of a fuel spill;
- Fuel storage tanks should be located away from rivers and streams. Refueling should be done away from streams and rivers.
- Chemical storage sites will be surrounded by a dam, far from streams and rivers, and will be located in the relevant building;
- Suitable extinguishing media will be provided for each chemical stored;
- Material safety data sheets should be kept in the storage and office of the building site;
- Containers must be clearly marked.

4.1.2.7 Waste management

The project implementation will lead to the formation of a certain number of different types of waste. Improper waste management can contribute to air, water and soil pollution, acceleration of erosion and disturbance of the natural habitat. Waste generated as a result of the project can be divided into the following categories:

a. Inert building materials;
b. Household waste;
c. Hazardous and toxic waste.

4.1.2.8 Inert Constructional Materials

As a result of construction work, construction debris will be generated, including those containing asbestos plaster, asbestos shale, mineral wool and ruberoid, worn tires, filters and oils from construction equipment and transformer substations. Construction waste will be collected and disposed of separately.

Inert construction materials include surplus soil (spoils) and aggregate and other materials stockpiles. Surplus and construction material stockpiles will be susceptible to erosion, particularly during the rainy seasons.

Inert natural materials may (e.g. soil, rocks) be disposed of in the project area at the discretion of the CEP, and with due regard to all protection measures relating to solid waste. In such cases the materials disposed of should match the existing material and should not cause any adverse environmental impacts.
Disposal or storage of solid materials is not permitted in or close to the following areas:

- Villages and residential areas;
- Cemeteries;
- River/stream beds, banks or slopes directly above river/stream beds;
- Cultivated lands;
- Pastures;
- Native fauna, including trees, shrubs and grasslands.

Topsoil and fill stockpiles shall be located in areas identified as suitable by the Engineer. Stockpiles shall be made with stable side slopes to prevent excessive erosion of material during heavy rains. Stockpile surfaces shall be compacted to prevent erosion during heavy rains.

Surplus material originating from earth works has to be disposed properly without adverse impact on landscape and nature. Basically, this material could be used for noise protection walls and stabilization of slopes or as embankment material if suitable. It is also suggested to use surplus material as fill material for re-cultivation of mine galleries or open pit mines. Reuse for the access road construction should also be taken into consideration if the material is suitable.

Disposal sites and haul routes will be identified and coordinated with local officials. Disposal on existing landfills would not be recommended if the volume of the excavated material will exceed existing capacities.

4.1.2.9 Disposal of camp waste and other household waste

Operation of construction camps and other facilities may generate significant quantities of liquid and solid domestic wastes. Improper handling and disposal of domestic waste may cause health problems, odor, air and water pollution.

The Contractor should provide adequate numbers of clearly labeled bins or skips for collection of wastes in the construction camps, and construction yards. Domestic and construction wastes shall be removed from the site and disposed of to a licensed sanitary landfill, or a similar landfill approved by CEP.

4.1.2.10 Disposal and Transportation of Hazardous Waste

It is not expected that project implementation will generate significant quantities of hazardous or toxic waste. However, construction staff will be trained and informed of the hazards of the chemicals stored, as well as trained and drilled in the handling of emergency spills, fires, and incidents.

Reactive or hazardous materials (if any) shall be disposed of by the Contractor in accordance with the laws, regulations and guidelines currently in force in Tajikistan. If no such laws are available, the Contractor will dispose of these materials in accordance with international standards (ISO) or as directed by the Engineer.

Transport of hazardous chemicals / fuel shall be in accordance with the National or International Standards. At minimum, the following safety measures should be adapted:

- Well maintained transport vehicles
- Emergency fuel spill containment and recovery equipment on board vehicles;
- Regular inspections and maintenance as required;
- Daily inspections of transport vehicles and their tankers, and reconciliation of on a daily basis;
- Reporting of spills, within a reasonable time frame.

Materials containing asbestos will be handled with particular care based on national requirements or, in the absence thereof, in accordance with international standards.

4.1.2.11 Erosion and sedimentation

Soil erosion and landslides are significant problems in Tajikistan. Erosion is a widespread natural phenomenon due to the relief and climate of the country accelerated by poor land management practices, such as the cultivation of land on steep slopes; excessive cuttings of forests, shrubs and bushes including wind shelters; overgrazing; and improper irrigation.

The project may have potential for soil erosion and increased sedimentation. During construction there are a number of potential sources of erosion and sedimentation and activities that may result in increased run-off and could lead the loss of soil. Those include:

I. Site clearance and work on exposed surface

This will include removal of old bridges structures, boulders and rocks and in some cases vegetation, soils and surplus cut material. Site clearance not only exposes bare soils in the cleared area to erosion but also prompts the formation of new erosive channels and gullies that will have the capacity to cause damage (by erosion and possibly land movement) to lands outside of the cleared area. Excessive steepness of cut slopes and modification of water flows can result in landslides. Whereas side tipping of spoil material from road cuttings can kill vegetation and add to erosion and slope stability problems. Erosion might result in pollution and sedimentation of the river.

II. River diversion

It may be necessary in a number of cases for temporary stream diversions with modification of water flows to be put in place during the construction activities. Such temporary redirection of flows, or changes to drainage, can result in flooding of adjacent lands, and destruction of property, crops, and the natural environment if badly engineered.

The Contractor shall repair any damage occurring as a result of erosion an sedimentation that is related to the construction of the project. The Contractor shall minimize damage to existing vegetation, particularly in steep areas, or on vulnerable soils.

4.1.2.12 Air pollution and dust

The impact on air quality will be short-term in certain places, since the proposed project work, quarries and pits are only temporary. These sites, however, can be selected and located in an area where they can have the least impact on human and environmental receptors. The conditions in these areas should be such that the dust does not spread over long distances, and that it settles quickly, thereby exerting influence exclusively in localized areas.

Significant impact will only occur if stationary point sources such as stocks of materials, crushing and concrete mixing plants are located near vulnerable areas and in the case of transportation of large volumes of building materials or continuous operation of equipment in close proximity to sensitive areas. During construction, trucks and heavy machinery can disturb the topsoil, which can cause dusting problems for workers and residents of nearby communities.

Proposed mitigation measures: during the operation of the equipment, the contractor will use all practical methods and reasonably accessible devices to control, prevent and otherwise minimize air emissions or discharge of air pollutants. Equipment and vehicles that have excessive exhaust emissions due to poor engine regulation or other inefficient operating conditions should not be used unless remedial action is taken.

The methods used by the contractor to handle cement powder should include means of eliminating atmospheric emissions.

Waste incineration as a result of clearing trees, shrubs and combustible materials is not allowed in the immediate vicinity of any sensitive areas. The burning of garbage or other materials will not be carried out on the site without the permission of the engineer.

Storage, use and disposal of organic solvents will be carried out in such a way as to minimize solvent emissions. Solvents should be recycled for reuse, if possible. This is especially true for asphalt and concrete mixing plants, as well as all machines and tools used for handling bitumen.

Exhaust fumes - no stoves, boilers, or other similar installations or equipment using fuels that can produce air pollutants will not be installed without the prior written consent of the CEP. Construction equipment must be maintained in good condition and equipped with pollution control devices that are regularly monitored by the Contractor and CEP.

Reducing dust emissions: during the course of the work, the Contractor will ensure that reasonable and practical measures are taken, under any circumstances and as often as necessary, to prevent the formation of dust as a result of its activities, which caused damage to any natural habitats that affect human health, or created a danger to movement near its places of activity. The contractor will maintain and operate all installations, equipment and vehicles in a manner that minimizes fugitive dust emissions. This applies in particular to concrete plants, quarries, rock crushing plants and screening plants.

Access roads to construction sites will be maintained in such a way as to minimize fugitive dust emissions. Water will be adequately sprayed in open areas during dry and windy periods, or if necessary. The speed limit will apply to construction vehicles traveling on dirt roads.

The contractor must ensure that inventories are in enclosed spaces and covered with a tarp or other suitable coating to prevent the transfer of material through the air. In addition, fugitive dust emissions should be effectively controlled during material delivery and waste collection.

The location of stationary dust sources will be away from sensitive areas (preferably on the leeward side) so that dust does not adversely affect sensitive areas. Plants and habitats covered with dust should be washed.

All trucks used to transport materials to / from the construction site will be covered with canvas or other acceptable types of cover (which must be properly secured) to prevent dropping and blowing of transported garbage and / or materials from vehicles. In construction areas with regular vehicle movement, hard surfaces are required.

The contractor will be liable for any damage due to dust generated as a result of its activities.

4.1.2.13 Vegetation cover

Construction work will directly cause a slight degradation of the local ecology due to clearing small areas of vegetation (soil cover) in the main and auxiliary work areas. Short-term environmental impacts can occur within and around quarry areas, material storage areas and construction sites during the construction period due to minor clearing of areas from vegetation (not trees). A permanent, but relatively insignificant impact on the environment can occur as a result of the adjustment of sections of the access road.
Mitigation measures: The Contractor shall, where practicable, minimize the general adverse effects of clearing areas from vegetation for construction, namely:
Avoid all areas with vegetation;
Take corrective measures, including replanting native or food plant species, after all construction work is completed.
Vegetation that has been removed at the locations described above will be preserved to protect against landslides and strengthen slopes. Contractors will be responsible for planting new vegetation in the places where it was removed. Construction vehicles must use temporary mobility roads built to minimize damage to agricultural land and local access roads. Where local roads are used, they will be restored to their original state after completion of work. Compaction around the trees will be done carefully to prevent dripping moisture from dripping. Workers will be trained on environmental issues and the need to avoid tree felling during construction. Indigenous species should be used, as far as possible, as a bioengineering measure to protect the slopes, as this will ensure the survival of existing species and avoid potential problems associated with the use of new species.
Contractors will be responsible for supplying appropriate fuel to construction camps to prevent fuel wood collection.
Fauna
Potential negative consequences of construction camps placement is destruction of animals and edible birds, despite the prohibitions.

Contractor's specialist on environmental health and safety will be responsible for providing adequate knowledge to workers on the need of fauna protection. The worker's labor contract will include provisions prohibiting poaching, as well as imposing penalties for any incident that violates the requirements of this treaty.

Fish, fisheries and hydrobiology

The main potential consequences of the proposed project for aquatic life is the increase in the number of suspended particles due to earthworks, erosion and the construction of bridges, the disposal of sanitized waste from construction camps and the spill of hydrocarbons. Bridge construction will be planned in such a way as to avoid negative effects on fisheries and aquatic ecosystems.

4.1.2.14 Noise and Vibration

Noise and vibration can interfere with sleep and rest, interfere with an individual's ability to perform complex tasks, be a source of irritation, affect mood and cause stress and otherwise disrupt the quality of life. The economic impact of noise includes effects such as reduced property values, poor health, and reduced work efficiency. Noise levels within the project corridor will generally be low, especially in mountainous areas where traffic volumes are negligible.

The construction of bridges and roads will lead to noise and vibration of earth due to work of construction equipment, especially heavy equipment, and rock explosion. Explosive work will not have a strong impact, as it is rarely carried out and is of a very short duration. The noise emanating from running construction equipment usually causes more problems. The most sensitive areas within the project area are schools, medical centers and residential areas.

Building noise is usually intermittent, quickly attenuates at a distance and depends on the type of activity, location and purpose of the equipment. The most sensitive areas within the project area are schools, medical centers and residential areas.

Vibrations during construction will also receive considerable attention, especially the vibratory rolling of granular layers of pavement or blasting, or the diversion of a huge amount of public transport to usually less busy side roads. Some of the existing buildings located near the road are made of clay or have poor quality construction and can be damaged by vibration.

All reasonable measures should be taken in order to limit noise to limits permissible for Tajikistan and the World Bank Group. The construction machinery should be equipped with silencers and other noise monitoring devices. Similarly, it is expected that all equipment will be maintained in a state that minimizes noise generation under normal operating conditions. Equipment that is not in use will be turned off or throttled to prevent excessive noise. The use of construction equipment and vehicles should be limited to an acceptable time when they have the least adverse impact. The speed of construction vehicles near and inside villages will be limited to <20 km / h.

Noise barriers should be installed if the noise level during construction (or activity) exceeds national standards or causes inconvenience or interferes with the provision of educational (in schools) and medical services. Generators should be located in appropriate buildings and located away from sensitive areas, such as villages. According to the World Bank Group Guidelines for Environmental, Health and Safety, sensitive receptors, such as residential areas, institutional and educational facilities, must have a noise level of 55 dB (A) from 7 a.m. to 10 p.m. (afternoon) and not more than 45 dB (A) from 10 p.m. to 7 a.m. (at night).

Vibration: As far as possible, the Contractor will limit the use of vibration damping systems in villages and will use alternative methods, where possible, to ensure compliance with technical requirements.

The contractor will implement safety measures to prevent harm to the general public and its workers. This includes measures to ensure proper storage and handling of explosives, early warning of upcoming blasting operations, evacuation from hazardous areas, provision of protective equipment for workers, etc. The contractor should use any suitable blasting techniques, such as pre-shearing and other methods, as provided, to reduce the amount of flying pieces of rock during the blast. This includes measures to limit the amount of fly rock during

explosive processes. The contractor must agree on the timing of the explosions with local villages to determine the most suitable time for blasting.

During blasting, local communities will be informed in advance of the detonation schedule. Explosions will be conducted only during the daytime and should be carried out without the use of high-power explosives. The use of charge in small quantities will reduce the potential for vibration, which provokes damage to buildings. If it is proved that the damage was caused by the activities of the Contractor, the damage to the owners of the buildings will be fully compensated. Blasting near villages should be avoided as much as possible.

4.1.2.15 Geological consequences

In some cases, activities such as blasting, compacting, excavating, cutting and creating embankments can lead to negative consequences, including rockfalls and landslides. Landslides and other slope collapse are expensive and can lead to the roads closure for long periods of time and cause significant damage and drainage problems beyond the site boundaries. In most cases, slope collapse is the result of poor design and improper construction practices.

The project will use local geological resources, such as suitable rocky material and sand. However, the consequences for geological resources are expected to be insignificant due to the abundance of these resources in the project area.

Mitigation measures:

Therefore, it is imperative that such risks are minimized in design. The accepted design concept should be based on three approaches:

(i) Reducing the likelihood of erosion and destabilization of materials, avoiding surface runoff concentration when possible. Effective construction management will also be required to avoid disturbance of natural soil outside the area that will be used for construction and to prevent the discharge of wastewater onto unprotected natural soil, rather than into the river.

(ii) Protection of slopes of the excavation and embankments, if necessary

Specific examples of erosion protection measures on cut slopes that are offered include:

- Removal of loose materials and, if necessary, removal of materials with broken structure and their replacement with a protective coating made of rock;
- Removal of unstable rock masses;
- Use of safe gabions or bitumen jute nets with planted grass to protect the slopes if necessary and where possible;

(iii) Measures to stabilize slopes in areas prone to slope collapse.

The various types of proposed stabilization measures for the slopes include:

- Bolted fastening and anchoring of rock
- Mounting the rock with nails
- Grating with galvanized mesh
- Galvanized mesh and gunning
- Reinforcement and replacement with sprayed concrete

However, it should be noted that some aspects of the road construction cannot be completed before construction, i.e. only after exposure to soil / rock. Accordingly, it is imperative that CEP and the Contractor have the appropriate qualifications and experience in the construction of roads in difficult terrain.

4.1.2.16 Use of Resources

There are a number of resources that will be required for the construction of bridges and access roads. The extraction, processing and transportation of these resources to the construction site may affect the project area and affect its regional availability, depending on limited resources.

- Rocks and inert material: Rocks and inert materials of sufficiently high quality are available locally. However, fine filler is not easy to find and will have to be produced (crushed) using larger material. Although there is no shortage of suitable rock, mining and processing of the rock taking into account design standards can lead to effects such as loud noise, dust and water pollution that may require management.
- Cement and bitumen: It is anticipated that cement and bitumen will be imported into the region and transported to the construction site on heavy vehicles. Therefore, adverse effects will mainly be associated with transportation. Mitigation measures: The Contractor shall prepare and submit for CEP consideration the Environmental Protection Action Plans, including provisions for quarries, rock crushing, fine aggregate production, concrete mixing plants and washing plants, etc., including the following information:
- Approximate performance required for each resource;
- Activities to be carried out at each plant / site, e.g. workflow, storage, etc.;
- Product types and volumes at each plant or quarry;
- Planned treatment, handling and disposal of all types of waste;
- Plans for the rehabilitation of quarries or factory sites after use.

4.1.2.17 Water

Water use issues should be agreed with the relevant authorities; and other river tributaries should be a suitable source of water, but care should be taken not to disturb the local water supply system. Where interventions in the local water supply system are unavoidable, consultations with affected parties and communities should be conducted to ensure that their needs and requirements regarding water supply are met and to prevent significant negative consequences for water resources.

4.1.2.18 Impact to cultural resources

Mitigation measures: If undocumented burial grounds or cemeteries are found, contact religious authorities immediately. If any archaeological or valuable cultural resources are found during the survey, archaeological inspector (s) will be present at the construction stage to ensure compliance with the procedure for finding unexpected finds or other restrictions. This will probably require the presence of a qualified specialist and the availability of professional equipment, transport and driver during the construction period; it is also necessary the participation of the community residents.

Dredging and other measures provided for in the procedure for the detection of a sudden discovery, which is developed for the project, will be carried out by the construction Contractor on the basis of changes in the contract. The contractor will ensure that its own resources are used in this case.

4.1.2.19 The Safety and Personal Hygiene

Construction sites are potentially dangerous, so there are often happened serious accidents, especially if security measures are not provided. The bridges construction will include a number of activities that carry a particularly high risk, for example, blasting; use of heavy machinery; excavation on steep, potentially unstable slopes and construction equipment movement. This is a particular concern due to some construction sites remoteness from district hospital. The construction phase can lead to a number of adverse consequences for health and people's safety.

The main negative effects on health and safety are related to (1) risks in performing construction work (noise, risk of injury), (2) transmission of infectious diseases; (3) contamination of local water supplies; and (4) road safety issues.

Contractor should comply with the requirements of the laws of the Republic of Tajikistan on Health and Safety and/or the Contract must include specifications and conditions of Health & Safety, based on International Standards. Contractor is responsible for any security risk for public and will be required to compensate for any damage caused because of his negligent attitude towards the health and safety of any member of society (please refer to *Annex 8. Community Health and Safety Plan*).

Contractor must hire trained personnel to provide first aid. Number of such employees and level of their training will be described in detail in their Contracts. Contractor shall ensure and will be responsible for the proper training of all staff in the safe use of equipment and machinery.

A Health and Safety Plan shall be prepared by the Contractor to manage worker safety.

The plan should include the following elements:

(i) Occupational health and safety measures for workers at work site and camps

(ii) Safety Training Program

A Safety Training Program is required and shall consist of (i) Initial Safety Induction Course. All workmen shall be required to attend a safety induction course within their first week on Site; (ii) Periodic safety training courses: This course should be given at least every six months. All employees of the Subcontractor will be required to take part in appropriate training courses, taking into account the nature, scope and duration of the contract. Training courses for all workers on the site and at all levels of control and management.

(iii) Safety meetings

Regular safety meetings will be conducted on a monthly basis and shall require attendance by the safety representatives of subcontractors unless otherwise agreed by the CEP. The Engineer will be notified of all safety meetings in advance. The Engineer may attend in person or by representative at his discretion. The minutes of all safety meetings will be taken and sent to the Engineer within seven (7) days of the meeting.

(iv) Verification of safety standards

Safety Checks. The contractor will regularly inspect, test and maintain all equipment, scaffolding, railings, work platforms, lifts, stairs and other means of access, lifting, lighting, notification and security equipment. Lights and signs should be kept away from obstacles and easy to read. Equipment that is damaged, dirty, improperly placed, or inoperative must be repaired or replaced immediately.

(v) Safety Equipment and Clothing

Safety equipment and protective clothing are required to be available on the sites at all material times and measures for the effective enforcement of proper utilization and necessary replacement of such equipment and clothing, and all construction plant and equipment used on or around the Site shall be fitted with appropriate safety devices. These shall include but not be limited to:

1) Effective safety catches for crane hooks and other lifting devices, and
2) Functioning automatic warning devices and, where applicable, and
3) Valid test certificate, for cranes and hoists.

(vi) COVID-19 and other Infection Outbreak Risks Prevention

In order to strengthen anti epidemic measures to prevent the spread of coronavirus in the Republic of Tajikistan, the Contractor is recommended to provide preventive and prophylactic measures, including:

1) All workers involved in the construction works should be provided with protective masks and in case of symptoms similar to flu (fever, cough, chills, deterioration of breathing and angina) immediately apply to a medical facility, and also call 511 (Covid-19 Republican Headquarters);
2) Construction sites and work camps must necessarily be provided with antiseptics, handwashing facilities, single-use wipes and detergents, information materials;
3) All workers involved in construction work must maintain a "social distancing" directly at construction sites and work camps;
4) Contractors must have or hire a medical officer for the duration of construction work;
5) Other World Bank COVID-19 prevention and mitigation measures during the civil works are described in Annex 6.

To avoid health and safety impacts the Contractor shall conform to the following:

Due precautions shall be taken by the Contractor to ensure the safety and security of his staff and labor to ensure that medical staff, first aid equipment and stores, sick bay and suitable ambulance service are available at the camps, housing, and on the Site at all times throughout the period of the Contract and that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements

The Contractor shall report to the PIG and to the Bank details of any accident or incident pertaining to the security of its personnel, equipment, the site, its camp or the completed Works as soon as possible after its occurrence. The report shall be based on the Bank ESIRT guidelines and a detailed investigation by the Contractor of the event and provide particulars of what occurred (with explanatory sketch as necessary), who was involved (including names, and affiliations of such persons), what caused the incident, when the incident occurred (time and date), where the incident occurred and why the incident occurred. In addition, the report shall fully describe what means and measures the Contractor shall take to prevent the future occurrence of such incidents.

In the case of any fatality or serious injury, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means.

The Contractor shall at all times take the necessary precautions to protect all staff and labor employed on the Site from insect nuisance, rats, and other pests and reduce the dangers to health and the general nuisance caused by the same. The Contractor shall provide his staff and labor with suitable prophylactics for the prevention of malaria and shall take steps to prevent the formation of stagnant pools of water. He shall comply with all the regulations of the local health authorities in these respects and shall in particular arrange to spray thoroughly with approved insecticide all buildings erected on the Site.

Such treatment shall be carried out at least once a year or as instructed by the Engineer. The Contractor shall warn his staff and labor of the dangers of bilharzia and wild animals In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders, and requirements as may be made by the government or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

The Contractor shall be responsible in compliance with local conditions, for providing on the sites an adequate supply of drinking and other water for the use of his staff and labor. Save insofar as the Contract other-wise provides, the Contractor shall provide and maintain such accommodation and amenities as he may consider necessary for all his staff and labor, employed for the purposes of or, in connection with the Contract, including all fencing, water supply (both for drinking and other purposes), electricity supply, sanitation, cookhouses, fire prevention and fire-fighting equipment, air conditioning, cookers, refrigerators, furniture and other requirements in connection with such accommodation or amenities. On completion of the Contract, unless otherwise agreed with the Employer, the temporary camps/housing provided by the Contractor shall be removed and the site reinstated to its original condition, all to the approval of the Engineer

The Contractor shall supply all safety materials, protective clothing (including provision of protective masks to workforce in all areas where fugitive emissions are potentially significant), and emergency vehicles etc for the project.

The contractor will ensure that proper temporary road signs and markings will be employed when required, e.g. during road diversions. Footpaths and roads will be kept free of debris, spoil and other material at all times.

4.1.3 Operation Phase

Key operational issues relate to road and bridge maintenance, accidents (spills of hazardous chemicals / fuels) and road safety.

Exhaust fumes: The existing high air quality in the project area, as well as the relatively low expected volume of traffic on the road section, indicate that car emissions will not pose a serious problem in the foreseeable future.

After the completion of the main construction works, the Contractor will be given a period / stage to eliminate defects on the site, during which maintenance of the road will be very important. During this period, the representative of the engineering consultant on site and the person responsible from the CEP will be responsible for the implementation of ESMP. The head office of CEP will continue to advise on critical issues, as necessary, during the period to eliminate defects. It is assumed that during close coordination and research during the construction period, the Client's representative acquired the experience and knowledge necessary to monitor the implementation of EMP at a later stage.

It is anticipated that routine maintenance may include the following activities:

- Maintenance of road surfaces, road signs, painted lines and other road equipment;
- Cleaning of roads and bridges and canals from debris and other solid waste;
- Preservation of pits and embankments, including restoration excavation;
- Preservation of planted vegetation and other work to protect the slopes;
- Solid waste generation (solid waste resulting from any type of activity must be disposed of properly).

4.1.3.1 Road safety

Road safety on bridges and roads built under the project will be improved. Conflicts between different modes of transport will be reduced by expanding curbs and improving signposts at intersections and bridges.

Improving access through the construction of new roads and bridges can affect the health of rural residents as well as visitors to the area due to traffic accidents and the spread of infectious diseases. Traffic accidents, such as fuel or toxic chemicals leaking, can have serious consequences for local villages, as well as villages located downstream of the project area.

Traffic accident victims: Although livestock are more visible and more likely to avoid traffic accidents during the daytime, stray animals will be difficult to see at night. On unlit roads, livestock poses an additional hazard to road users. It is also a significant economic asset for its owners and communities. The related consequences can also lead to accidents for drivers / passengers of vehicles.

Mitigation measures: Injuries or loss of life have serious social and economic consequences for affected families and communities. Therefore, it is necessary to take all practicable measures to minimize the cases of death and damage from traffic accidents.

Proposed measures include:

- Speed control and reduction in traffic intensity, for example, the presence of speed bumps in cities and villages;
- Improving road elements during design and construction:
- Speed control and signposts, fences, etc. on dangerous sections of roads, for example, bends, bridges, etc.;
- Safety barriers and widening of curbs on some sections of roads;
- Measures are needed to minimize the consequences of road traffic crashes, including livestock (and local animal species);
- Suggested speed limits in areas where animals graze;
- Warning signs for crossing livestock;
- Driver training and practical exercises on the localization and elimination of fuel spills.

Aspects of road safety will be included in the technical design of roads. They include speed control and a decrease in traffic intensity, for example, the presence of speed bumps in villages; speed control and signposts, fences, etc. on dangerous sections of roads, for example, bends, bridges, etc.

Safety barriers and widening of curbs on some sections of roads. Given the assumed low traffic density on the road, the above road safety measures are appropriate. In the event of serious accidents on the road that entail physical damage to any part of the road safety network, repairs must be carried out immediately.

4.2 Adverse Social Impacts and Risks

In general, project areas are essentially different regions and are exposed to common risks of instability and conflict, which will affect the final results of the project. Thus, the project areas are characterized by: (i) geographical risks - inter-regional and inter-district risks; (ii) economic risks - high unemployment, especially among young people, and a significant dependence of household incomes on remittances, which is subject to external economic conditions and fluctuations; (iii) social exclusion; and (iv) institutional risks - insufficient client potential in applying SES. Social exclusion and institutional risks are specific to a "project". As a result, the following issues become relevant in the context of the project:

Access restrictions. At the implementation stage there will be some social consequences caused by construction. Construction work within the framework of some local infrastructure projects may result in a not significant restriction of access to houses, land, or other private or public property. Construction and / or reconstruction may also cause certain inconvenience to the population. The ESMP for individual buildings prepared as part of the project should include, if necessary, measures to mitigate potential adverse impacts and risks, and the construction of public buildings should be carried out at each construction site before the start of construction of civil facilities.

Land Acquisition. The project by design will avoid activities that may involve physical/ economic displacement and/ or damage to built structures. Nevertheless. there could be some isolated instances wherein lands need to be acquired for the project purpose . Since the feasibility study has not been completed, and the technical designs are not finalized yet, the MOT PIG has prepared a Resettlement Policy Framework, and disclosed the same. RPF describes the next steps on preparing and implementing resettlement action plans (RAP). The framework clarifies resettlement principles, organizational arrangements, and design criteria to be applied to subprojects or project components to be prepared during project implementation. Once the subproject or individual project components are defined and the necessary information becomes available, such a framework will be expanded into a specific resettlement action. Project activities that will cause physical and/or economic displacement will not commence until site specific Resettlement Action Plans (RAP) or abbreviated RAPs (ARAPs) have been finalized and approved by the Bank.

Expectations of neighboring communities regarding benefit sharing. The project will cover 5 districts where unemployment and poverty is high.. *Therefore* high expectations of local neighboring communities and / villages located in the same area regarding benefit sharing can be a challenge.. Such expectations can lead to some social discontent and the project will address this through the exchange of information and awareness-raising activities that will clearly inform stakeholders about the national roads rehabilitation to improve regional connectivity within the project areas, as well as the use of the project complaints mechanism (GRM) if residents express concerns after awareness-raising activities. In addition, development at the district level will include a wide range of stakeholder representatives to discuss community priorities, this will be a participatory consultation process that will allow community representatives to voice their concerns.

Insufficient capacity to apply ESSs at national and local levels (participatory planning, project management and supervision). Considering that the implementing agency and line ministries do not have sufficient potential for applying ESSs, and local authorities and local construction organizations do not have experience in implementing ESSs, training seminars will be held on environment and social procedures related to the project (reduction of environmental risks, environmental and social screening and environmental and social management plans).

Labor risks, including the influx of labor and related gender-based violence, as well as child labor, are considered low, and compliance with the PIG under the MOT national labor code, which also prohibits child and forced labor (Article 8, Labor Code). The labor camps will be small in size and largely from villages/communities in the subproject locations. Also being a linear project, residential labor camps are envisaged, it is expected majority workers hired locally and external workers unlikely to be deployed except few skilled/technical jobs. Therefore, risk related to labor influx is expected to be limited which may not have more than 100 workers at any given point of time. Risk related to labor influx is expected to be limited.

Experience of on-going CARs-2 project was assessed during the preparation and fed into preparing a labor management plan (LMP).

Labor risks associated with community workers (as defined by ESS2) are considered low. Existing practices available at the community level in Tajikistan show that subprojects can be implemented with the contribution of local communities in kind (hashars). The community usually contributes by digging ditches and performing small, unskilled jobs. However, given the vulnerability of the target areas and the low-income status of communities in the target areas, as well as the specifics of the construction work under the projects, in-kind contributions from the workforce (i.e. community workers) and related funds will not be used during the project.

Labor risks associated with contracted workers at the project level. Projects will be implemented by local contractors, and most contracted employees will be hired locally. All contractors will have to conclude a written contract with their employees, which is mainly consistent with the objectives of ESS 2, in particular with regard to child and forced labor.

The risks associated with *occupational health and safety* are low or moderate and will depend on the type of design work being performed. These risks are considered low or moderate, because local contracted workers are likely to be unskilled. All contractors will need to develop and implement written human resources management procedures, including procedures for creating and maintaining a safe working environment in accordance with the requirements of SES 2.

Project capacity-building activities will include guidance on identifying such impacts and preparing the ESIA and the ESMF. In addition, the selection, development, conclusion of contracts, monitoring and evaluation of projects will comply with the recommendations set out in the annexes.

Grievance Mechanism. Given the many sectoral nature of the events, as well as the fact that a number of government agencies and agencies will be involved in various functions, the social assessment recognizes the need for a special platform for stakeholders to express their claims. Consequently, the project developed an appropriate GRM for this purpose (described in the next section).

In order to eliminate the identified impacts, the implementing agency and its affiliates, beneficiaries and project contractors should take a number of mitigation measures, which are presented below, and which should be clearly defined in the ESMP for the specific construction site to be prepared.

5. ESMF IMPLEMENTATION

5.1 ESMF Process Flow at the Project Level

Overall, activities for the CARs-4 Project will be predicated on the principles of transparency, inclusiveness and responsive citizen engagement throughout the Process cycle. Citizen engagement values the right of citizens to have an informed say in the decisions that affect their lives. It is based on a two-way interaction and dialogue with government and emphasizes the sharing of power, information, and a mutual respect between government and citizens.

With regards to ESMF implementation, MOT/PIG will: (i) supply target jamoats and districts with information about the project activities and timelines; (ii) conduct environmental and social screening and evaluation of risks and impacts on road sections; (iii) communicate and coordinate with ESA competent authorities (Committee on Environmental Protection); (iv) ensure proper implementation of the ESMP and ESMP Checklist requirements as well as social due diligence tasks during the road sections rehabilitation; (v) address complaints and feedback from project stakeholders and the public, including grievances regarding environmental/social impacts of subprojects; (v) supervise (independently or jointly with the State Ecological Inspectorate) environmental protection and mitigation measures stipulated in the ESMPs; (vi) monitor environmental and social impacts as part of overall monitoring of the subproject implementation; and (vii) reporting on environmental and social impacts originated during implementation of sub-projects and analyzing the efficiency of mitigation measures applied to minimize negative consequences. MOT/PIG is responsible for the implementation of above environment and social activities.

To implement the ESMF the project team will follow the below described Process Cycle by Components.

Table 9. Process Cycle

PROCESS CYCLE				
	Activity	**Primary**	**Secondary**	**Associates**
1.	Informing local governments on the scope of works and timelines	MOT/PIG		
2.	Community outreach and orientation at the jamoat, and district levels	Focal points at jamoat and district levels	MOT/PIG	
3.	Establishing GRM at the jamoat, district and project levels	MOT/PIG	Jamoat and District Focal points	
4.	Social Impact Monitoring Committees (SIMCs), in localities in which the road improvements/ rehabilitation works are conducted	Focal points at jamoat and district levels	MOT/PIG	
5.	Training for SIMCs on social impacts screening, filing and reporting	MOT/PIG		
6.	Subproject/road sections screening for environmental and social risks and screening report with recommendations on the ESF instrument	MOT/PIG		
7.	Subprojects screening report review and approval	WB ES Specialists	WB local consultants	

8.	Development of ESS instruments (ESIA/ESMP, RAP if needed)	MOT/PIG	External experts/firm	
9.	Review and approval of ESS instruments	WB ES Specialists	WB local consultants	
10.	Implementation of site-specific ESMPs/RAPs	Contractors	MOT/PIG	WB
11.	Monitoring of ESMP/RAPs implementation	MOT/PIG	WB	
12.	GRM Monitoring and Reporting	MOT/PIG		

5.2 ESMF Process Flow at the Subproject Level

Figure 7. The ESMF Process Cycle at the Subproject Level

5.2.1 Road Section Screening Procedures

MOT/PIG E&S staff in the fields, working with communities will carry out a rapid assessment of the likely environmental impact and the potential for involuntary resettlement, that will be based on the requirements of national legislation and WB ESSs, completing the screening form presented in the *Annex 1*. Subproject activities will be also checked against WB criteria for High Risk Projects. The Screening Checklist on Social Issues should be also filled out for this purpose, see *Annex 2*.

This will make it possible to identify the type and scale of potential environment impacts and determine to which risk category the subproject should be attributed. Generally, the significance of impacts and risks, contribute to resulting ESA categorization will depend on the *type* and *scale* of the subproject, its *location*, *sensitivity* of environmental issues, and the *nature* and *magnitude* of potential risks and impacts.

Type and scale of projects. Subprojects that are considered to have "significant" risks and impacts and would be classified as "High Risk Subprojects" would entail the following impacts (a) significantly impact on human populations, including settlements and local communities (b) alteration of environmentally important areas, including wetlands, native forests, grasslands, and other "critical" natural habitats and ecosystem services; (c) direct pollutant discharges that are large enough to cause degradation of air, water or soil, endangered species and "critical" habitats; (d) largescale physical disturbances of the site and/or surroundings; (e) extraction, consumption or conversion of substantial amounts of forest and other important natural habitats, including above and below ground and water-based ecosystems; (f) measurable modification of hydrologic cycle; (g) hazardous materials in more than incidental quantities; and (h) involuntary displacement of people and other significant social disturbances.

Location. There are a number of locations which should be considered while deciding to qualify the project as category "**High Risk**": (a) in or near sensitive and valuable ecosystems and "critical" habitats — juniper forests, wetlands, wild lands, vulnerable soils, and particular habitats of endangered rare and endemic species; (b) in or near areas with archaeological and/or historical sites or existing cultural and social institutions; (c) in

densely populated areas, where resettlement may be required or potential pollution impact and other disturbances may significantly affect communities; (d) in regions subject to heavy development activities or where there are conflicts regarding the allocation of natural resources; along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, prime agricultural soils). Subprojects located in the proximity of such areas will be classified as High Risk projects and are not considered for support by the CARs-4 Project.

Sensitivity. Sensitive issues may include (but are not limited to): conversion of wetlands, potential adverse effects on endangered species and habitats as well as protected areas or sites, involuntary resettlement, impacts on international waterways and other transboundary issues, and toxic waste disposal.

Magnitude. There are a number of ways in which magnitude can be measured, such as the absolute amount of a resource or ecosystem affected, the amount affected relative to the existing stock of the resource or ecosystem, the intensity of the impact and its timing and duration. In addition, the probability of occurrence for a specific impact and the cumulative impact of the proposed action and other planned or ongoing actions may need to be considered. Taking into account the scale of the proposed subprojects, it is expected that the magnitude of their environmental impacts will be low. Therefore, they will be classified as **Substantial Risk** Category projects that could be considered for CARs-4 Project support.

Results of the screening will be reflected in the screening form and would include the following:
(a) High Risk projects and those included in National categories I will be excluded from financing;
(b) Substantial Risk subprojects will need an ESIA;
(c) Moderate Risk subprojects will need ESMP;
(d) Low Risk subprojects will need ESMP Checklist.

5.2.3 Development of ESF Instruments

For Substantial Risk projects an Environmental and Social Impact Assessment (ESIA) (see *Annex 3*) will be required to identify, evaluate and to prevent potential environmental and social risks and impacts. The mitigation measures for the identified impacts and risks will be incorporated into the project design of the ESMP (see *Annex 4* with the format of the ESMP) or ESMP checklist (see *Annex 5* with the ESMP Checklist for small scale construction and rehabilitation activities).

The purpose of the ESMP is to predict potential effects and improve the environmental aspects of projects by minimizing, mitigating or compensating for negative effects. Simple Environmental and Social Management Plan Checklists will be used for Substantial Risk subprojects that are likely to have minor environmental impacts, and that are typical for small scale construction and rehabilitation investments.

To address potential environmental and social impacts in the case of rehabilitation of social infrastructure facilities it is proposed to use an ESMP Checklist, which was designed for a project in Tajikistan and which is fully applicable for the similar works in Tajikistan (see *Annex 5*). The ESMP Checklist has three sections: (a) *Part 1* constitutes a descriptive part ("site passport") that describes the project specifics in terms of physical location, the project description and list of permitting or notification procedures with reference to relevant regulations. Attachments for additional information can be supplemented if needed; (b) *Part 2* includes the environmental and social screening in a simple Yes/No EMS format as well as specifies mitigation measures; and (c) *Part 3* is a monitoring plan for activities carried out during the rehabilitation activities.

For Substantial Risk subprojects it is necessary to disclose the EA document and conduct public consultations with the project affected people and interested parties. For all projects that would require an ESIA and ESMP should be organized face to face consultations. For that purpose, it is necessary to disclose in advance the EA document (about two weeks) in on the MOT/PIG website as well as providing hard copies to local public

administrations and key interested parties (environmental authorities). During the consultations, the subproject applicants will register all comments and suggestions on improving the ESIA documents and will prepare relevant reports to be included in the final version of the EA documents. For subprojects related to the rehabilitation of electrical substations, as the proposed activities will be implemented on existing, well fenced areas, which usually are located outside of the settlements or which have clear designed sanitary zone of 100 meters, although there is no need for a special public hearing regarding the ESMP, the project beneficiary should provide information to all interested parties about the civil works and electrical stations renovation activities by installing a notice plate placed at the rehabilitation. Furthermore, other specific information related to the project activities and EA should be also publicly available on-line on the MOT/PIG website. Based on that the public consultation can be done virtually receiving relevant questions/proposals on-line and taking them into consideration while finalizing the substations ESMPs. Similarly, in the case of ESMP Checklist for rehabilitation of existing facilities, the public consultation can be done virtually, as in the case of rehabilitating electrical stations.

As described above, only in some cases, as per national legislation and when it is necessary to conduct an ESIA and prepare an ESMP, the subproject beneficiary has to submit all EA documents for approval to the oblast level State Ecological Expertise, which will issue a decision, to be used for approving and/or rejecting subproject proposals.

The final approval of infrastructure subprojects is provided by MOT/PIG, once all EA documents have been prepared, accepted, and, if needed, preliminary approval is provided by the State Ecological Expertise. The MOT/PIG and local authorities will then sign relevant papers to comply with all EA documents. Table 10 indicates the process flow for the ESF instruments development:

Table 10. E&S Instruments Development

Step 1	a) MOT/PIG specialists complete *Section 1* of the Environmental Screening Checklist; c) Based on the Environmental and Social Checklists, the environmental category and the type of ESA to be conducted is determined– either a partial ESIA or an ESMP; d) The results of the screening, including potential negative impacts and possible measures to mitigate impacts, are presented to Social Impact Monitoring Committees
Step 2	a) For *Substantial and Moderate Risk subprojects,* MOT/PIG E&S specialists note potential E&S risks and indicates how they will be prevented/mitigated in the Environmental and Social Screening Tables. If the subproject requires a complete ESIA and ESMP it should be cleared with WB E&S ream regrading the proper instrument selection
Step 3	MOT/PIG E&S specialists prepare the ESIA and ESMP or ESMP Checklist and/or RAP and submit for clearance to the WB E&S team
Step 4	MOT/PIG assisted by Jamoats and District focal points will organize the disclosure of the ESF instruments and organizes a public consultation, involving NGOs, community representatives, affected groups, etc. Formal minutes will be prepared to record inputs provided by the participants.
Step 5	MOT/PIG can proceed to implementation once the ESIA, ESMP or ESMP Checklist, is completed and updated based on community consultations.
Step 6	a) MOT/PIG will include these ESF instruments into the bidding documents; b) The contactors will submit the full set of environmental documents as part of their proposal; c) MOT/PIG will proceed with signing of the financing agreement with selected contractors; d) Contractors will develop and implement the site-specific ESMPs
Step 7	SIMCs will conduct social impact monitoring during civil works;

	The MOT/PIG will monitor the implementation of the ESF instruments (ESMF, ESIAs/ESMPs, LMP, SEP, RPF, if applicable RAPs) and submit quarterly reports to the Bank

5.2.4 ESIA/ESMP Review Process

As explained above, a site-specific evaluation will be conducted in accordance with the WB ESSs, and site-specific ESIAs/ESMPs will be prepared as a result of such evaluation. These will be the responsibility of MOT/PIG primarily. This document must form an annex of bidding documents for construction works. Implementation of ESMP on the ground will be the part of the construction contractor's task, however in case of any non-compliance; MOT/PIG will still be expected to take corrective action as the primary responsible party. Distribution of the responsibilities of all parties involved in the project is given in Table 11.

The preparation and implementation of ESMPs is expected to cost only a small fraction of design and construction cost, as most mitigation measures will be very generic, off-the-shelf, and implementable without specialized skills, experience or equipment. Moreover, it is assumed that the cost is covered in the bid proposals. MOT/PIG will submit site specific ESMPs to WB for prior review. When the WB is confident that MOT/PIG has demonstrated that the process is accurate, WB will transfer this prior review to post review.

Table 11: Roles and Responsibilities

Responsible Party	**Responsibilities**
World Bank	• Review, approve and disclose ESMF, SEP and RAP on WB's official website. • Review the site-specific ESMPs and RAPs and provide no objections to MOT/PIG. • Conduct implementation support and supervision missions in order to ensure that the Project is in compliance with WB ESSs.
MOT/PIG	• Prepare and implement the ESMF and RPF and submit for Bank approval • Disclose the ESMF and RPF on MOT/PIG website • Prepare ESIA/ESMPs and RAPs according to ESMF and RPF • Submit ESIA/ESMPs and RAPs to the WB for prior review. • Perform the quality control and review of ESMPs and RAPs. • Disclose ESMPs and RAPs on the official website of MOT/PIG and incorporate ESMPs and RAPs into bidding documents. • Assign field specialists for the environmental and social monitoring. • Perform inspections of the implementation of ESMP by the construction contractor, make recommendations and decide whether additional measures are needed or not. •Implement RAPs on site and provide regular reporting on implementation to WB • In case of non-compliance, ensure that the contractor eliminates the noncompliance and inform the WB about the noncompliance. • Prepare, update and implement a Stakeholder Engagement Plan (SEP) that considers vulnerable groups in addition to paying attention to the gender aspect of the Project, • Hold consultation meetings, and prepare and distribute leaflets or other informative documents to inform communities, recruit a community liaison officer on project, and its impacts and construction schedule as well as rights and entitlements of PAPs • Set up a multi-level GRM, monitor and address grievances related to the project under specified timelines.

	• Disclose the Labour Management procedures (LMP) and supervise compliance • Provide guidance to the construction contractor and engineering supervision firm. • Summarize the environmental and social issues related to project implementation to WB in regular progress reports. • Be open to comments from affected groups and local environmental authorities regarding environmental aspects of project implementation. Meet with these groups during site visits, as necessary. • Coordinate and liaise with WB supervision missions regarding environmental and social aspects of project implementation. • Conduct regular monitoring activities for the implementation of site specific ESMPs and RAPs • Prepare/design training and tools for MOT/PIG's local staff and community representatives
Contractor	• Develop site-specific Contractor' ESMPs; • Implement site-specific Contractor' ESMPs on site, if required can revise the ESMP together with MOT/PIG. • Manage the grievance mechanism at the contractor, communicate grievances to MOT/PIG regularly through ESMP monitoring reports. • Manage and report on labour issues in accordance with the LMP; • Monitor site activities on a regular basis (daily, weekly monthly etc.) • Prepare the ESMP progress reports for the review of MOT/PIG. • Compensate or fix all damages occurred during construction (i.e. damages to crops, infrastructure) as set out by the ESMP or RAP/RPF.
Environmental and Social Specialists based in regions (MOT/PIG E&S staff)	• Ensure that ESMP is implemented correctly and in a timely manner by the contractor. • Ensure timely and successful implementation of RAPs • Perform environmental and social monitoring as defined in ESMF and RPF and sub-project specific ESMPs and RAPs. • Collect information on environmental and social issues for progress reports submitted to the WB and make sure that these are all compliant with the Bank's requirements.

5.3 ESA Monitoring and Reporting

Component 4 will support Monitoring and Evaluation (M&E) activities to track, document, and communicate the progress and results of the project. An M&E Specialist within MOT/PIG will be responsible for overall compilation of progress and results. This Component will finance MOT/PIG to prepare project reporting—semi-annual reports and quarterly unaudited IFRs—that will be submitted to the World Bank. This Component will also finance an MIS, which MOT/PIG will establish and utilize for project monitoring, automatic generation of project reports, project transparency (sub-project information will be publicized on maps), and citizen feedback.

The MOT/PIG M&E Specialist will consult with the SIMCs to get their feedback on the project activities. Feedback and grievances received through the Beneficiary Feedback Mechanism will also be included in the semi-annual reporting. MOT/PIG's M&E Specialist will collate and analyze these semi-annual assessments of outcomes and perception-based results and enter them into the MIS and include them in semi-annual reports.

5.3.1 Monitoring Plans

The environmental and social issues included within the mitigation measures are monitored and supervised by the local specialists appointed by the MOT/PIG. Although the environmental and social impacts are expected to be low, the potential negative environmental and social impacts are planned to be prevented or mitigated during the construction and operation stages.

Environmental and social monitoring system starts from the implementation phase of the project through the operation phase in order to prevent negative impacts of the project and observe the effectiveness of mitigation measures. This system helps the WB and the Client to evaluate the success of mitigation as part of project supervision and allows taking an action when needed. The monitoring system provides technical assistance and supervision when needed, early detection of conditions related to mitigation measures, follows up on mitigation results, and provides information of the project progress.

Environmental and social monitoring to be implemented by the MOT/PIG has to provide information about key environmental and social aspects of the subprojects, particularly the project environmental and social impacts and the effectiveness of taken mitigation measures. Such information enables to evaluate the success of mitigation as part of project supervision, and allows corrective action(s) to be implemented, when needed. In this regard the Monitoring Plan identifies monitoring objectives and specifies the type of monitoring, and their link to impacts and mitigation measures. Specifically, the monitoring section of the ESMP provides: (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements; and, (b) monitoring and reporting procedures to: (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation. A Monitoring Plan Format is presented in the Part C of the ESMP Checklist enclosed in this document in Annex 5.

5.3.2 Monitoring and Reporting Responsibilities

Through E&S Specialists in the regions, the MOT/PIG will monitor all sub-projects that it finances to ensure conformity to ESF requirements during construction, operation and maintenance. They will ensure full compliance with the contract conditions and the ESMP. Final payment to the contractor should be contingent on the final inspection, with particular attention to the requirement to restore the site to its original condition upon completion of rehabilitation activities.

The environmental monitoring of the rehabilitation sites will include regular observations of soil and water and vegetation within and around the rehabilitation sites; the involvement of the environmental inspectors in monitoring and evaluation will help in developing systematic environmental monitoring on rehabilitated sites.

MOT/PIG E&S Specialists located in the regions will visit the sites on regular basis. Based on environment and social performance of different sub-projects, the PIG's E&S Specialists will advise on the subsequent disbursements that should be done for the contractors awarded a contract to implement sub-projects under the CARs-4 Project. If it is found that there is no ESMF and/or ESF compliance, further disbursements will be stopped until environment and social compliance is ensured.

In addition, in the project areas the PIG will be responsible for the environmental and social monitoring activities identified above as part of the preventive actions and mitigation measures proposed to address potential adverse impacts. This monitoring will be incorporated into the overall project monitoring plan required by the World Bank as part of project performance.

As part of its environmental and social monitoring activities, the MOT/PIG leadership will conduct random inspections of project sites to determine the effectiveness of measures taken and the impacts of sub project activities on the surrounding environment. The MOT/PIG Coordinator are also responsible for processing, addressing and monitoring complaints and other feedback, including that on environmental and social issues.

The MOT/PIG will be responsible for ESMP reporting and will:

Record and maintain the results of project supervision and monitoring throughout the life of the project. It will present summary progress reports on ESMF/ESMP implementation and the environment and social aspects of subprojects on a semi-annual basis to the World Bank, and as part of this reporting, provide updates on any CARS-4 PROJECT related as grievances/feedback that was received, that has been addressed and that may be pending.
Prepare quarterly or biannual reports on the progress of implementation of measures proposed by the ESMP for selected sub-projects;
Prepare semi-annual reports on the environmental impacts originated during implementation of sub-projects and analyze the efficiency of mitigation measures applied to minimize negative consequences;
Prepare outlines and requirements for Contractors' reports on environmental protection and mitigation measures, and review Contractor's monitoring plan and reports
Present the impact of mitigation and environmental and social protection measures for general public via specific publications or/and by annual public seminars.

5.4 Institutional Capacity for ESMF Implementation

In order to ensure that the proposed aim of project is achieved, diversified nature, strict coordination will be required between various stakeholders, including between the Ministry of Transport and the Customs Service. During the previous mission, an agreement was reached to create a Steering / Coordinating Committee at the highest government level, which will ensure coordination of stakeholders and supervision of implementation. Such a committee has yet to be created. The overall responsibility for the implementation of Component-1 of the project will be assigned to the Ministry of Transport, and for the implementation of Component-2 of the project to the Customs Service. The existing PIG under Customs Service (CS/PIG) will provide technical assistance for implementation of Component 2 only.
The Ministry of Transport will be the implementation agency. It will be a key player that can bring together all interested ministries and departments to achieve the results of the project. There is a Project Implementation Group (PIG) within the Ministry of Transport (MOT) in place with capacity and a successful track record in managing WB-funded projects.

The following entities play an important role in the ESMF implementation: (a) MOT/PIG and (b) Local Structures. Other relevant stakeholders include: Government's Committee for Environmental Protection (CEP), companies contracted by the MOT/PIG and CSOs to provide goods, works, and services.

5.4.1 MOT/PIG

The MOT PIG will be responsible for the overall implementation, coordination, environmental and social risks management, monitoring of results and communication with the WB for the implementation of all activities related to the project. The Minister of Transport will appoint the First Deputy Minister as the project supervisor, who will lead the implementation and monitoring of the project. The PIG will hire a group of consultants who will provide technical and operational assistance for the implementation of the project. The project coordinator will be also hired by the Ministry of Transport to work closely with consultants, TA positions, representing two specialized bodies, the Ministry of Transport and the Customs Service, to work closely with the management and all relevant departments to: (i) ensure the consistency of planning, budgeting and implementation and monitoring; (ii) preparing a technical proposal and providing technical supervision of project activities with a view to institutionalization and sustainability; (iii) implement selected project activities and oversee other activities. In addition, the will also include other international and local consultants and experts in various technical areas necessary for the implementation of the project, including procurement, FM and environmental and social expertise, and a M&E consultant. At the regional level,

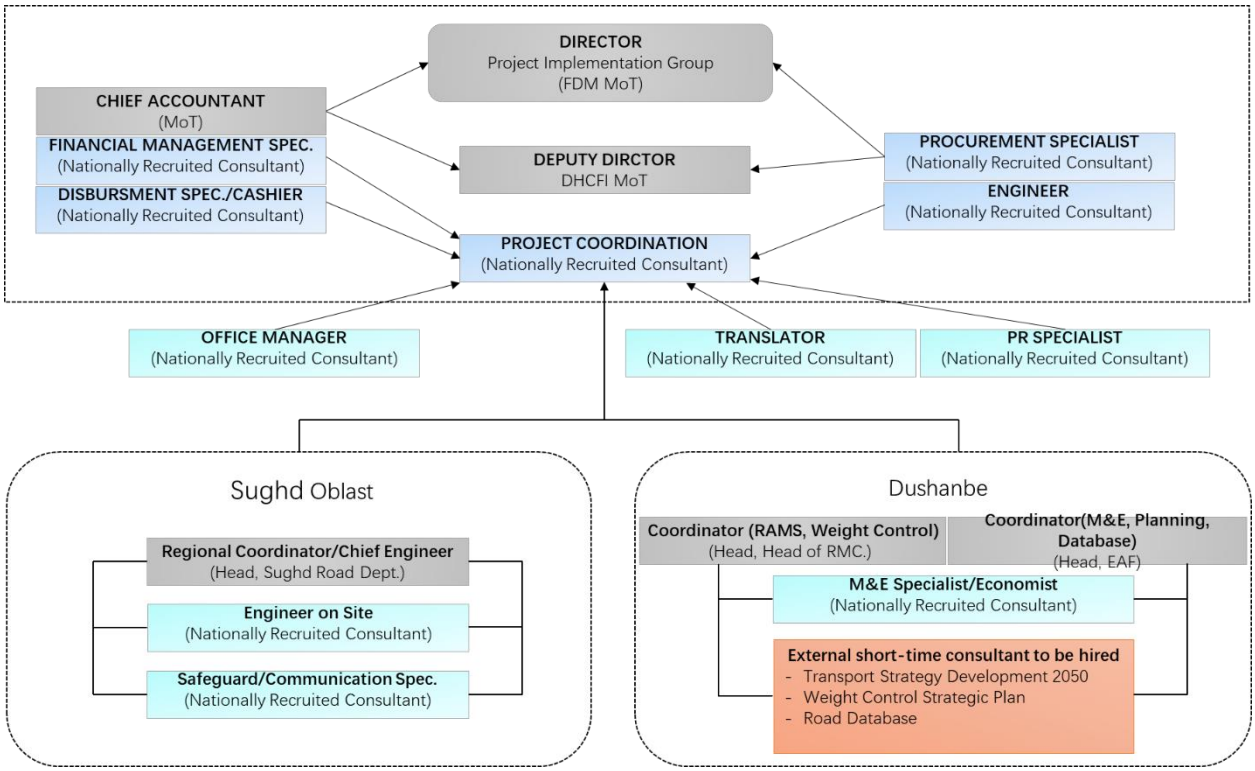
regional E&S specialists will be located in each target region to provide technical and operational support and ensure uninterrupted coordination, implementation and control at the district and jamoat level.

During project implementation, the MOT/PIG E&S staff will be responsible for:

(a) environmental screening and evaluation of subproject eligibility from the environmental point of view;
(b) communication and coordination with EA competent authorities (Committee on Environmental Protection);
(c) ensuring proper implementation of the ESMP and ESMP Checklist requirements during the subprojects' realization;
(d) addressing complaints and feedback from Project stakeholders and the public, including grievances regarding environmental/social impacts of subprojects;
(e) supervision (independently or jointly with the State Ecological Inspectorate) of environmental protection and mitigation measures stipulated in the ESMPs;
(f) monitoring of environmental impacts as part of overall monitoring of the subproject implementation; and
(g) reporting on environmental impacts originated during implementation of sub-projects and analyze the efficiency of mitigation measures applied to minimize negative consequences.

The MOT/PIG will conduct regular supervision of environment and social screening, documentation, and mitigation measures for infrastructure project activities, and include the summaries of these supervision activities in its regular reports. It will be described in the Project Operational Manual.

The below institutional structure of MOT/PIG outlines the key positions and lines of communication between diverse range of consultants and civil servants. The organigram includes only Sughd Region, the same range of staff will be hired in GBAO Region as well.



5.4.2 Local Structures

The self-governing **Jamoats** at the subdistrict level will play a key role in the project working with the communities, MOT/PIG, and district authorities. Jamoats will establish Social Impact Monitoring Committees (SIMCs) to monitor the subprojects located in the territory administered by the Jamoat. Each SIMC will consist of 5-9 voluntary members representing the target villages in the Jamoat. Strict membership criteria will apply to ensure the engagement of SIMC representatives, an equal number of men and women, and youth, as well as the necessary financial and technical specialists, and NGO representatives. The Jamoat, through its Chairperson, will be required to delegate to the SIMC the following responsibilities: (i) to support and represent the target communities in the subproject implementation process as defined in the POM; (ii) to inform target communities about the subproject details; and (iii) to monitor civil works and report on potential social impacts. SIMCs will also serve as the Tier 1 of the project specific GRM.

Khukumats, districts administration, will facilitate the regulatory compliance at the district level. They will also serve as the Tier 2 of the project specific GRM. The public relations officers at the local governments instructed by the Social Development Specialist will explain the possibilities and ways to file a complaint with the local communities or the head of the PIG and MOT during meetings organized in each affected area during the disclosure.

5.4.3 Other Revelant Government Agencies

The GoT's *Committee for Environmental Protection* (CEP) is responsible for State Ecological Expertise for all investment projects and has a comprehensive mandate that includes policy formulation and inspection duties. The CEP has divisions at oblast (region), city and rayon (district) level, in the form of Departments of Environmental Protection (DEPs), within the Khukumat (local administration) at each city or rayon. A small unit in the Committee is entrusted with guiding and managing the preparation of ESIAs and SEEs.

5.4.4 Other Relevant Stakeholders

Contracted companies will be responsible for the design and construction/ rehabilitation works in accordance with Tajik environmental norms, regulations and requirements. They will also be responsible for Contrator's ESMPs/ESMP Checklists.

5.5 Capacity Building

As this is the first project with MOT/PIG prepared under the Bank's new Environment and Social Framework (ESF), the client's capacity to deliver an ESF based project is limited; therefore, capacity building for the client including districts, jamoats and contractors will be included in the ESMF as well in other environmental and social instruments to be prepared during preparation and implementation.

To improve institutional capacities with regard to ESMF implementation the WB Environmental and Social Specialists will provide special training for the MOT/PIG and local structures staff focused on: (i) Procedural aspects of ESA (stages, key actors, main responsibilities etc.); (ii) Assessment of environmental and social impacts potentially related to the subproject supported within the project; (iii) Consulting and approval of the ESA and monitoring plans; and (iii) preparing ESMPs; (iv) Conducting field supervision and preparing progress reports.

Some capacity building programs would be essential in the field of labor management procedures and management of broad social risks beyond land acquisition and resettlement. Also, some capacity development may also be necessary on Occupational and Community Health and Safety issues. For the on-going CARs-2 project, a Resettlement Policy Frameworks (RPF) and RAPs for selected subprojects were prepared and have been successfully implemented. Environment and social ratings in the latest ISR for the project was satisfactory. The Bank team is planning to conduct Borrower Capacity assessment pilots in the country which are expected to include this project. This pilot exercise will also lay out specific capacity building opportunities

and training for the social and environment staff of national and subnational agencies. The Bank team is planning a series of borrower capacity building measures and training on the ESF application, including Gender Based Violence (GBV) and Environmental Social Incident Reporting Tool (ESIRT) during the project preparation stage.

5.6 ESMF Implementation Budget

At the project design stage, the MOT PIG will be responsible for funding to prepare Environmental and Social Impact Assessments, obtain necessary permits and other relevant activities depending on the nature of the project proposal, its complexity, scale, and so on. Funds for these activities are allocated under Component 4 of the Project.

During construction and operation, MOT PIG will be responsible for providing funding for installation and other activities to minimize any hazardous environmental impacts to be included in the subproject costs. The amount of required funding will depend on the technique/technologies used for implementing mitigation measures and their scale, number, variety and other factors.

In order to ensure successful ESMF implementation, funding is also required to finance capacity building activities. Since it is difficult to prepare budget estimates for capacity building at this stage, this information will be included in the procurement plan

6. PUBLIC CONSULTATIONS AND DISCLOSURE OF INFORMATION

6.1 Information Disclosure

The draft ESMF was posted on the MOT PIG website on April 1, 2020 (www.mintrans.tj). The final version of the ESMF will be officially submitted to the World Bank for disclosure in English on the WB external webpage by May 7, 2020. The English and Russian versions will be also posted on the web page of the MOT PIG. The final version of this document will be used by respective government agencies and other Project stakeholders during the project implementation.

6.2 Public consultations

The MoT PIG conducted public consultations on the ground on this draft of the ESMF and invited all interested organizations in 4 target districts, including representatives of local authorities, such as local Environmental Protection departments, local Hukumats and local NGOs from target sites in Khorog city, in Shugnan district from 26th August to 4th September 2019 and in the areas of Spitamen, Gafurov and Kayrokum districts from 14th June to 20th June 2019. During consultations with the PIG, MoT provided a summary of the draft ESMF and RPF. In particular, the audience was informed about screening procedures, impacts which may by generated as well as measures to be taken to prevent/mitigate potential impacts. Note that these consultations included resettlement aspects and as such this section only focuses on relevant environmental and social questions that were asked during the consultations.

The consultations facilitated active discussions among the participants. Annex 9 presents details of public consultations lists of participants. Based on the feedback obtained, the ESMF was updated.

Consultation on sub-project environmental and social impact assessments. The disclosure of environmental documents for Substantial Risk projects is mandatory, and these are to be made accessible to project-affected groups and local CSOs. There will be at least one round of consultations after preparation of the ESMP (for ESMP checklists the public disclosure can be done virtually by posting on the MOT PIG the document and by presenting their hard copies to the local Councils). This might be at the jamoat/mahalla office, local authority offices and/or the central State Ecological Inspectorate or its district sub-divisions.

6.3 Grievance Redress Mechanism (GRM)

Project stakeholders and citizens can file their complaints and voice their concerns through the project-specific Grievance Redress Mechanism (GRM) and the World Bank Grievance Redress Service (GRS). Separate grievance mechanism for project workers will be established under labor management procedures (LMP).

6.3.1 The Project-Specific GRM

The GRM in CARs-4 Project is incorporated into a broader beneficiary feedback mechanism to be established by MOT PIG at the central and local levels. The project-based GRM is intended to serve as a mechanism to:

- Allow for the identification and impartial, timely and effective resolution of issues affecting the project;
- Strengthen accountability to beneficiaries, including project affected people, and provide channels for project stakeholders and citizens at all levels to provide feedback and raise concerns.

Having an effective GRM in place will also serve the objectives of: reducing conflicts and risks such as external interference, corruption, social exclusion or mismanagement; improving the quality of project activities and results; and serving as an important feedback and learning mechanism for project management regarding the strengths and weaknesses of project procedures and implementation processes.

GRM overview.

The GRM will be accessible to a broad range of Project stakeholders who are likely to be affected directly or indirectly by the project. These will include beneficiaries, community members, project implementers/contractors, civil society, media—all of who will be encouraged to refer their grievances and feedback to the GRM.

The GRM can be used to submit complaints, feedback, queries, suggestions or compliments related to the overall project management and implementation, as well as issues pertaining to sub projects that are being financed and supported by the project, including:

- Violation of Project policies, guidelines, or procedures, including those related to procurement, labor procedures, child labor, health and safety of community/contract workers and gender violence;
- Disputes relating to resource use restrictions that may arise between or among targeted districts and communities;
- Grievances that may arise from members of communities who are dissatisfied with the project planning measures, or actual implementation of project investments;
- Issues with land donations, asset acquisition or resettlement specifically for project related activities.

GRM structure. PIG MOT will implement an effective GRM, with the objective of helping third parties to avoid resorting to the judicial system as far as possible. PIG MOT's GRM includes three successive tiers of extra-judicial grievance review and resolution:

(i) the first tier is at local level of Jamoat and/or PIG Social Development Consultant based in the region;
(ii) if for the first tier the local Jamoat cannot solve on the second tier PAP complaint will be sent to the local government/khukumat at the district level,
(iii) finally, as the third tier, complainants can seek redress from the MOT/PIG at any time.

The project-based GRM will be comprised of different channels. Consideration of applications received from beneficiaries begins with the contact of representatives of local government bodies (jamoat / mahalla) and/or a Social development consultant of the Project. Social development consultant places the complaint in the register of complaints and suggestions. If the problem cannot be resolved to the satisfaction of the complainant within 5 days, then it is transferred to the next level. In the register of complaints and suggestions, a record is made about the status of resolving the problem or the decision to transfer it to the next level.

Further, the beneficiary addresses his written complaint to the PIG. A statement of complaint is signed and dated by the injured party. The responsible person (Social development consultant) of the PIG will act as a contact person, which is a direct channel of communication with the beneficiary. If the beneficiary is not able to file a written complaint, the social development consultant writes a complaint on behalf of the injured party, as well as documents informal complaints and suggestions. The injured party puts a sign and thumbprint on the statement.

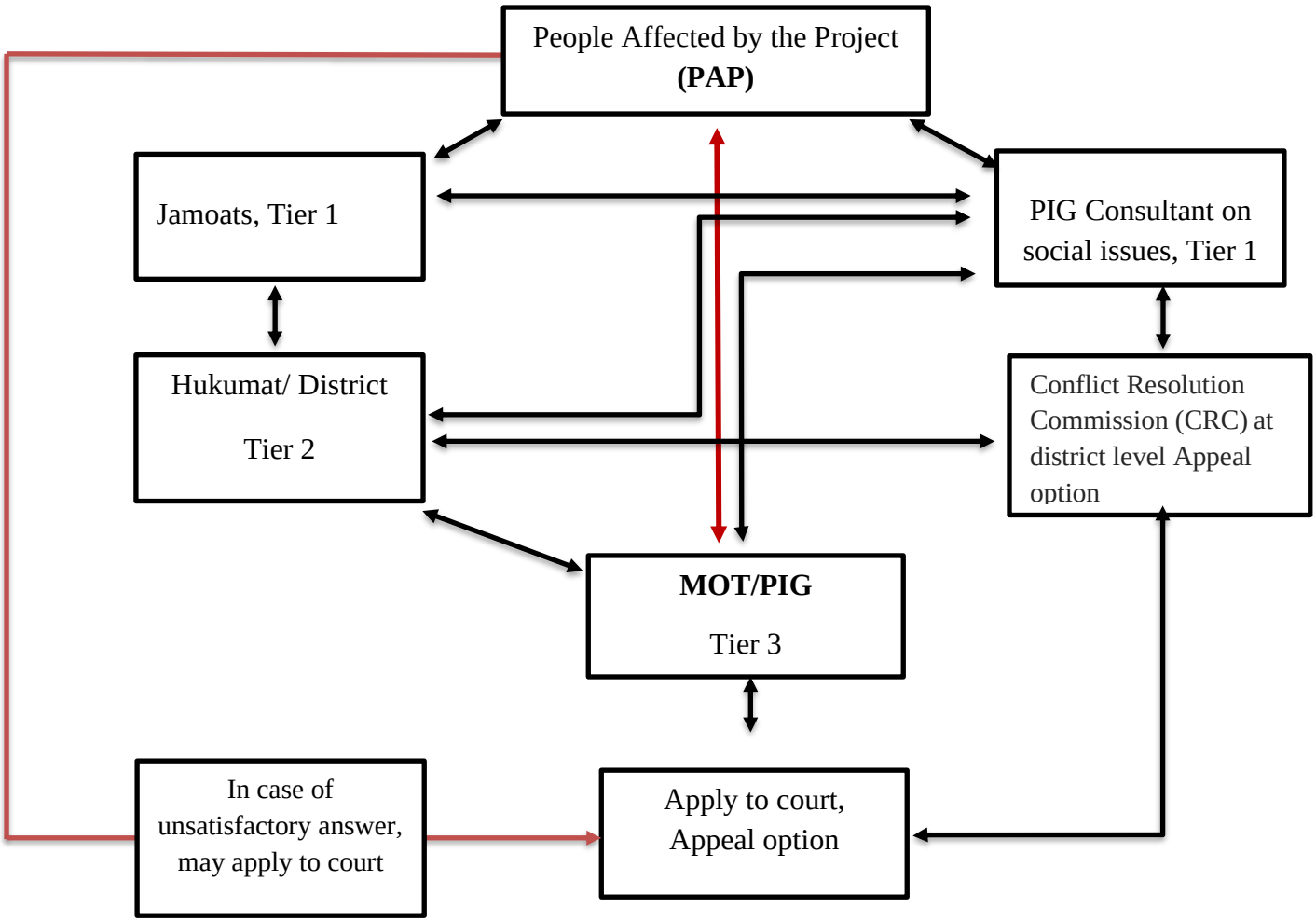
A social development consultant deals with fragmentation to determine the legitimacy of complaints and suggestions. If complaints or proposals fall within the competence of the Project, the PIG will inform the submitters of this and they will be assisted. The answer is given within 14 days, during this period, meetings and discussions with the responsible parties are held with the injured party. If the complaint is related to the assessment of the property, then a second or even third assessment is carried out in order to satisfy both parties. A social development consultant provides assistance to the affected party at all stages to help resolve her complaints and provide the best possible way to resolve problems.

If, after receiving a response from the PIG, the complaint is not satisfied, the Project will use the Conflict Resolution Commission (CRC). CRC consists of at least 5 members, 2 of whom are members of the PIG. The other 3 members should be: generally recognized NGOs working in Tajikistan; respected persons with an appropriate reputation (for example, a respected lawyer or professor), if available; representatives of the participating city. The Conflict Resolution Commission is created at the request of the beneficiary, by the PIG

or by the local Hukumats (in the Project implementation area). Decisions made by the commission and agreed between all parties are legalized in the form of an order of participating Hukumats.

If the beneficiary has any objections to the decision of the Conflict Resolution Commission (CRC), the case may be referred by the affected party to the court.

Structure of the Project-based GRM



Grievance Filing and Resolution Process

Receipt of Grievances

Anyone from the affected communities or anyone believing they are adversely affected by the Project can submit a grievance:

• By completing a written grievance registration form that will be available - (i) in the local municipalities and in the affected villages. An example of grievance registration form is provided below.

• By contacting the PIG and MOT specialists either by phone, or in person. Grievances received verbally will be written down by the Social Development Specialist on the grievance registration form and logged into the Grievance Register. A copy of the logged grievance will be forwarded to the complainant, giving them the opportunity to alert PIG and MOT if the grievance has not been noted down correctly.

All grievances related correspondence will be documented, and the grievance resolution process will be systematically tracked.
The public relations officers at the local governments and jamoats instructed by the Social Development Specialist will explain the possibilities and ways to file a complaint with the local communities or the head of the PIG and MOT during meetings organized in each affected area during the disclosure.
GRM procedures will be disclosed on the Project website and will also be displayed on billboards / posters in each community and project site. Information on GRM will also be available at information desks in each targeted municipality.

To ensure that all complaints are solved, the PIG and MOT manager will contact the municipal authorities, Committee for Environmental Protection and Land Management Committee to explain how complaints are handled. If these authorities receive complaints regarding the project, the complainants should be directed through the GRM of the project. Information about how to register a complaint on the spot, at the office of the Ministry of Transport in Dushanbe or through the project website, will be explained to these authorities, and the PIG and MOT manager will call them regularly to make sure that the complaints are not missed.

All grievances will be registered, reported and tracked by PIG and MOT in the Grievance Register by Grievance Focal Point who is responsible for receiving, logging, referring and following up on grievances. Once a grievance is logged, the related event(s) that caused the grievance will be tracked to prevent similar grievances. The status number and trends of grievances will be discussed between PIG and MOT, the Contractor and the Implementation Consultant during weekly E&S meetings during the construction phase.

Screening for 'Standing'

Once a grievance is received, PIG and MOT will determine whether the complaint has 'standing,' i.e., warrants further consideration as an acceptable grievance.
The resolution of grievances of all types will follow the same steps, but the stakeholders involved will depend on the nature of the grievance. All grievances will be handled through the system described hereafter, involving respectively the PIG and MOT, the Grievance Focal Point, the Contractor's grievance resolution representative, and the Implementation Consultant as representatives of the Project. Complaints related to resettlement (land take and its consequences) will also involve Resettlement Action Plan (RAP) consultant in the resolution of grievances related to land acquisition and resettlement.

All the grievances will be recorded in the grievance log by PIG MOT's Grievance Management Unit. The following information will be recorded: (i) Name and contact details, (ii) Details of the grievance and how and when it was submitted, acknowledged, responded to and closed out. Anonymous grievances will be also accepted. All grievances will be acknowledged within 7 days; and responded to no later than 30 days. Once a grievance is logged, the related event(s) that caused the grievance will be tracked to ensure proper close-out of the grievance and prevent similar grievances from recurring in the future.

Although anonymous complaints are accepted, such complaints will be checked to ensure reliability and the factual verifications. If the grievance is deemed as ineligible, the PIG and MOT will record the reason and document that the complainant has been informed of this decision and the basis for this is explained. Ineligible cases will generally be those that PIG and MOT are confident have not occurred as a result of the actions of PIG MOT, its Contractor/Sub-Contractors or as a direct result of the project in any way. If the complainant is not satisfied with this outcome, they can pursue further action by submitting their case to PIG's Grievance Redress Commission or the appropriate court of law (district court).

PIG and MOT will determine whether the resolution of the grievance is the responsibility of the Contractor (or their sub-contractors), PIG MOT, the Implementation Consultant, or whoever else. If the grievance is the responsibility of the Contractor or the Implementation Consultant, PIG and MOT shall review, comment and approve any corrective actions.

After logging the grievance, the PIG MOT and/or the Grievance Focal Point will inform the complainant in writing within 30 days, including those complaints that are not found to have standing.

GRM Monitoring and Reporting

MOT/PIU Social Development Specialist will be responsible for:
 Collecting and analyzing the qualitative data from GFPs on the number, substance and status of complaints and uploading them into the single project database;
 Monitoring outstanding issues and proposing measures to resolve them; and
 Preparing quarterly reports on GRM mechanisms to be shared with the World Bank.

Quarterly reports to be submitted to the World Bank shall include Section related to GRM which provides updated information on the following:
 Status of GRM implementation (procedures, training, public awareness campaigns, budgeting etc.);
 Qualitative data on number of received grievances \ (applications, suggestions, complaints, requests, positive feedback), highlighting those grievances related to the involuntary resettlement and number of resolved grievances, if any;
 Quantitative data on the type of grievances and responses, issues provided and grievances that remain unresolved;
 Level of satisfaction by the measures (response) taken;
 Any correction measures taken.

GRM MOT/PIG Point of Contact

The point of contact regarding grievance management and the local stakeholder engagement activities is the PIG Coordinator:

Description	Contact details
Organization:	Project Implementation Group
To:	PIG Coordinator
Address:	AYNI street 14, Dushanbe 734042, Tajikistan
E-mail:	gtl@mintrans.tj
Website:	www.mintrans
Telephone:	+992 93 727 8979

Information on the Project GRM will available on the Project's webpage at the MOT website site and will be posted on information boards in affected villages in the Project sites. Information can also be obtained from the target Jamoats, khukumats and regional PIG Social Development Specialist.

Grievance Registration Form Template

Sample application (complaints, requests and suggestions) of the Project beneficiary

Position_____
(Director of department)

Name_____
(Name)

From_____
(Resident district)

Living _____
(Address applicant)

Appeal

I'm_____
(The name and surname of appealer)

_____

_____

Purpose of the appeal

_____
(Information on the existing problem and its causes)

_____

_____

Ways to fix the problem

_____

_____
(I ask ... about this or that action / inaction, I complain ..., I suggest)

Applicant's signature _____ Name _____

Phone_____ Email (if any) _____

Location: Dushanbe city, 14 Aini Street, 734042
Project Implementation Group: "Fourth Phase of Central Asia Regional Link Program -4" under the Ministry of Transport of the Republic of Tajikistan
Contact Number (992 37) 222 22 21
Fax: (992 37) 222 22 21

Address of the project representatives in the regions: _____

Date _____

6.3.2 World Bank Grievance Redress System

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the

WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

ANNEX 1. ENVIRONMENTAL SCREENING CHECKLIST

Part 1 (to be completed by the MOT PIG based on the findings of the environmental screening and scoping process)

1. **Sub-Project Name and Code:**
2. **Brief Description of Sub-project** to include: nature of the project, project cost, physical size, site area, location, property ownership, existence of on-going operations, plans for expansion or new construction (the description can be copied from the subproject proposal and attached).
3. **Will the project have impacts on the environmental parameters** listed below in during the construction or operational phases? Indicate, with a check, during which phase impacts will occur and whether mitigation measures are required.

ENVIRONMENTAL SCREENING			
Will the site activity include/involve any of the following?	Activity/Issue	Status	Mitigation Actions
	Road rehabilitation	[ ] Yes [ ] No	See Section A of Part C of the ESMP Checklist
	New road construction	[ ] Yes [ ] No	See Section A of Part C of the ESMP Checklist
	Historic building(s) and districts	[ ] Yes [ ] No	See Section B of Part C of the ESMP Checklist
	Acquisition of land[12]	[ ] Yes [ ] No	See Section C of Part C of the ESMP Checklist
	Hazardous or toxic materials	[ ] Yes [ ] No	See Section D of Part C of the ESMP Checklist
	Impacts on forests and/or protected areas	[ ] Yes [ ] No	See Section F of Part C of the ESMP Checklist
	Remoteness of the project sites and its terrain	[ ] Yes [ ] No	See Section G of Part C of the ESMP Checklist
	Traffic and Pedestrian Safety	[ ] Yes [ ] No	See Section H of Part C of the ESMP Checklist

ACTIVITY	PARAMETER	Construction Phase	Operation Phase	Mitigation Measure are required or not [yes-no]
A. General Conditions	Notification and Worker Safety			
B. General Rehabilitation and /or Construction Activities	Air Quality			
	Noise			
	Water Quality			
	Waste management			
C. Individual wastewater treatment system	Water Quality			
D. Historic building(s)	Cultural Heritage			

[12] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

E. Acquisition of land	Land Acquisition Plan/Framework			
F. Toxic Materials	Asbestos management			
	Toxic / hazardous waste management			
G. Affects forests and/or protected areas	Protection			

Part 2 (to be completed by the MOT PIG based on the findings of the environmental screening and scoping process)

Subproject Environmental Risk Category by WB classification (Low, Moderate, or Substantial) _____

Subproject Environmental Risk Category by the country classification (Local Impact, Moderate or Significant)_____

What type of instrument to be prepared for the subproject (ESIA or ESMP or ESMP checklist)? _____

Note: Substantial risk subprojects require ESIA; Moderate risk subprojects require ESMP and low risk subprojects require standard ESMP checklist. High risk subprojects are not financed under CARs-4 Project.

What are the specific issues to be addressed in the ESIA/ESMP?

Environmental Screener: Date:

ANNEX 2. SOCIAL SCREENING CHECKLIST

	Activities	**Yes**	**No**	**Notes**
1	Purchase of land, buildings (residential and business)			If "Yes", and answers other questions "No", provide relevant documents, available for the final sales transaction
2	Acquisitions or expansion of the business, which will be implemented by the demolition/ relocation homeowners, renters, formal and informal user assets			If yes, provide more details
3	Acquisition of assets, which will cause the loss of access of people or a particular community/groups, especially ethnic minorities to: · Natural resources · The traditional habitat · The traditional activities · Communal utilities			If yes, provide more details
4	Acquisitions/or expansion of a business that can promote/increase the risk of: 1. Violation of the labor code and laws including the use of child labor 2. Harassment of ethnic minority groups in the areas of project (related to their identity, dignity and livelihoods of the system of subsistence, cultural identity) 3. Human trafficking and forced labor			If yes, provide more details
5	Will there be land acquisition using eminent domain law?			If yes, provide more details
6	Will there be permanent or temporary loss of shelter and residential land due to land acquisition?			If yes, provide more details
7	Will there be permanent or temporary loss of agricultural and other productive assets due to land acquisition?			If yes, provide more details
8	Will there be losses of crops, trees, and fixed assets due to land acquisition?			If yes, provide more details
9	Will there be permanent or temporary loss of businesses or enterprises due to land acquisition?			If yes, provide more details
10	Will there be permanent or temporary loss of income sources and means of livelihoods due to land acquisition?			If yes, provide more details

11	If land or private property is purchased through negotiated settlement or willing buyer-willing seller, will it result in the permanent or temporary removal or displacement of renters, or leaseholders?			If yes, provide more details
12	If land or private property is purchased through negotiated settlement or willing buyer-willing seller, will it result in the permanent or temporary removal or displacement of informal land-users (people without legal rights on the land) or squatters?			If yes, provide more details
13	Will the project involve any permanent or temporary restrictions in land use or access to legally designated parks or protected areas and cause people or any community to lose access to natural resources, traditional habitats, communal land, or communal facilities?			If yes, provide more details
14	Will the project use government land or any public land or property, which will require the permanent or temporary removal of informal occupants or users (residential or economic)?			If yes, provide more details

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

☐ Has Involuntary Resettlement (IR) impact, a Resettlement Action Plan is required

☐ Will not have IR impact

Completed by (full name and contacts): _____

Signature: _____ Date:_____

ANNEX 3. ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT

An Environmental and Social Impact Assessment for Substantial Risk projects focuses on the significant environmental issues raised by a Sub-project. Its primary purpose is to identify environmental impacts and those measures that, if incorporated into the design and implementation of a project can assure that the negative environmental effects will be minimized. The scope and level of detail required in the analysis depend on the magnitude and severity of potential impacts. The draft ESIA Terms of Reference is below.

Ministry of Transport of the Republic of Tajikistan
The Fourth Phase of the Central Asia Road Links Program
TERMS OF REFERENCE
for
Local Consultant to Prepare Environmental and Social Impact Assessment

I. Background

The Central Asia Regional Links Program (CARs) consists of a series of projects (SOP), of which Phase 1 and Phase 2 are under implementation. They have evolved from having a single focus on cross-border transport connectivity towards comprehensive integrated regional development, improving regional connectivity and creating market opportunities. The objectives of Phase 1 (CARs-1 Project in Kyrgyzstan) and Phase 2 (CARs-2 Project in Tajikistan) are to increase transport connectivity between Tajikistan and Kyrgyz Republic along priority cross-border road links in the populated Fergana Valley, and to support harmonization and improvements in road operations and asset management practices in the countries. Phases 1 and 2 are scheduled for completion in the next two years. The new generation of this series of projects (SOP), namely Phase 3 (CARs-3) in Kyrgyzstan and the proposed Phase 4 in Tajikistan, strive to address regional integration in a more comprehensive approach encompassing both physical and economic connectivity among neighboring countries, while also unlocking economic opportunities by promoting local integrated development in a spatially identified area.
The development objective of the proposed Fourth Phase of the Central Asia Regional Links Program (CARs-4 Project) is to increase regional connectivity in Sughd Oblast, Khatlon Oblast and Gorno-Badakhshan Autonomous Region (GBAO) and improve opportunities for trade and travel.

The Central Asia Road Links Project will improve regional connections in Sughd Region and GBAO Region under Component 1. This component's objective is to increase connectivity along regional priority trade and travel routes and provide access to markets and opportunities. Activities to be financed in the CARs-4 Project include: (i) rehabilitation of Spitamen/ Bekobad - Dehmoi-Gafurov road section (Sughd), construction of Khorog bridge towards Murgab and Ishkashim as well as tunnels/ galleries and bridges around Barsem (GBAO); (ii) construction supervision services; and (iii) the feasibility studies and other preparation documentation covering improvements to regional connections in Khatlon and GBAO Oblasts, a potential future operation.

The proposed civil works areas are as follows:

Region	**Road Section**	**Alternative**	**Length (km)**
Sughd	Bek Abad – Kurkat	Widening to Category III	12.3
Sughd	Dehmoi – Gafurov	Widening to Category III	21.9
Sughd	Gafurov – Kistevarz	Widening to Category II	6.3
Sughd	Kanibodom – Kuchkak	Widening to Category II	10
GBAO	Khorog Bypass	Bridge with flyover access	1.1
GBAO	Barsem km 638-643	Tunnel Construction	3.2

The Ministry of Transport of the Republic of Tajikistan (hereinafter refer to as "MOT") intends to hire local consultant (hereinafter "Consultant") to assist the Project Implementation Group (hereinafter refer to as "PIG") to conduct the site-specific Environmental and Social Impact Assessment for civil works in GBAO Region.

II. Main objective

The Consultant shall be responsible for carrying out the environmental and social impact assessment of the project in GBAO and propose mitigating actions to be carried out in order to minimize any negative impacts that the road construction will have on the people.

III. Scope of work and responsibilities

The Consultant shall prepare the Environmental and Social Impact Assessment (ESIA) for project roads and other planned infrastructure, taking into account local laws and regulations, as well as the World Bank's Environmental and Social Framework (ESF), through Environmental and Social Impact Screening (template to be shared), which includes but is not limited to:

- Project description, in order to provide a complete description of the project at the time of social assessment, including the location, size, timing and planned sequence of activities, resources, expected implementation mechanisms.
- Identification of the main environmental features of the project site, namely (a) whether it is likely that critical natural habitats, forests or rare and endangered species, major waterways and underground water sources will be affected; (b) this also applies to the types of extraction of natural resources and their use for project purposes that will result in the release of waste and pollutants that may occur during construction and operation; (c) identify the institutional arrangements needed to mitigate any potential negative impacts.
- Identification of key social issues, including (a) identification of stakeholder groups; (b) discussion with local authorities and community leaders on the possible socio-economic impact of the project on the local population; (c) identification of institutional mechanisms needed to mitigate any potential negative impacts; (d) review of the land cadaster and other necessary official documents; (e) verification/conduct of the population and land use census; (e) identification of expected social development outcomes and measures proposed to achieve results.
- Definition of vulnerable populations (e.g. particularly poor families; single-headed households, women, ethnic minorities, families with a disabled family member).

- Description of socio-cultural, religious, historical or archaeological sites that may be affected by the project in order to identify potential impacts and mitigation measures.
- Assessment of existing channels of communication between the authorities and the local population, as well as the development of effective ways and mechanisms of communication.
- Assessment of job losses and job creation during and after construction, including indirect economic activities (e.g. transport, tourism, etc.);
- Assessment of the availability and value of alternative land to be provided to the resettled population, locally or otherwise, as well as an assessment of utilities and other important services provided on such alternative land.
- Assessment of road safety measures to be developed and implemented with the participation of stakeholders through consultations.
- Database maintenance, analysis and solution of current needs, social and environmental consultations.
- Collection, analysis and documentation of information necessary for the implementation of social impact assessment objectives.
- Collection of all necessary documents confirming ownership of the affected property at the time of assessment
- Preparation of necessary reports in Russian and English.

The environmental and social impact screening report shall include a full census to register and document the status of the potentially affected population along the project sections, their assets, and sources of livelihood. The census shall register all household members and individuals within the potential ROW/impacted project sections. Absence of legal title does not disqualify people from support; thus, people occupying privately owned land as well as those currently occupying parts of the ROW for shelter, business purposes, or other sources of livelihood should be covered in the census (i.e. private and owners, tenants, squatter and encroachers with in the ROW will be covered in the census). The following guidelines shall be followed:

- Where it is likely that dislocation of people will be required, suitable resettlement sites in relocation to the current locations of the affected persons should be recorded.
- All encroachments within the ROW, as well as private holding of land and other assets in area along the corridor to be improved shall be documented.
- Assets both within and outside of the ROW such as structures, land holdings, trees etc. shall be documented and recorded on strip maps.
- This information will be compared with available records of land ownership to verify the boundaries of the legal Right of way, as well as boundaries with in and in the likely area of project impact.
- The date of the census survey will be considered as the cut-off date for entitlements under the project, to determine who may be entitled to support. People mobbing into the project area after this cut-off date will not be entitled to support.

Based on ESIA findings the Consultant should prepare the ESIA Report, including the Environmental and Social Management Plan (ESMP). The ESIA Report outline is enclosed.

Initially the Consultant shall prepare the draft Environmental and Social Impact Assessment (ESIA) in accordance with the local requirements as well as requirements of the World Bank. The Consultants shall prepare, based on the draft ESIA a preliminary Environmental and Social Management Plan (ESMP), by providing details on what, where, how and by whom approach, setting out good practices and measures to be taken during the implementation and operation of the Project to mitigate, eliminate or otherwise offset adverse environmental impacts under the Project. The ESMP will look, in particular, at how the project might affect the natural habitat of rare or endangered species and provide analysis of ecosystem sustainability. In addition, the World Bank Group's Environmental Health and Safety Guidelines, the Bank's new operation guidelines on Gender Based Violence (GBV) and Children Abuse Exploitation (CAE) as well as labor influx and commitment to STD/HIV awareness and prevention specifically for the road sector, shall be taken into account.

IV. Methodology

The Consultant is expected to collect and analyze quantitative and qualitative data. Quantitative data will be collected and analyzed on the basis of analytical review of available sources of information on the topic. To collect qualitative data, the following tools will be used to obtain the views of potential stakeholders:

- Interviews with key informants, including representatives of local Hukumats, Committee on Environmental Protection, local self-government bodies (Jamoats) and communities.
- The focus group discussions in communities in areas of the project including women and men.

Prior to field surveys, the Consultant should develop appropriate questionnaires.

V. Reporting and Commitment

The Consultant will report to Director, Deputy Director and PIG Coordinator.

VI. Qualifications and personal skills:

- Higher education in engineering, environmental management, sociology or related fields and at least 5 years of experience in environmental social assessment and monitoring in projects funded by the World Bank or other development partners, preferably in the transport sector;
- Knowledge and understanding of Environmental and Social Assessment Framework and monitoring procedures;
- Good knowledge of the regulatory framework in the field of environmental and social legislation of the Republic of Tajikistan, as well as the World Bank policy on environmental measures;
- Good communication and organizational skills, goodwill and interest in people, fairness;
- Fluency in Russian and Tajik languages, knowledge of English will be advantage;
- Good computer skills, knowledge of Word, Excel.

VII. Assignment duration: The deadline for the assignment is planned until the completion of the project, that is, until XXX 31, 2020.

VIII. Location: The main location of consulting services is the office in Dushanbe with frequent visits to the project area.

ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT REPORT OUTLINE

The environmental and social impact assessment report should include the following elements:

Executive Summary. This summarizes the significant findings and recommended actions.
Policy, legal and administrative framework. This section summarizes the legal and regulatory framework that applies to environmental management in the jurisdiction where the study is done.
Project Description. Describes the nature and scope of the project and the geographic, ecological, temporal and socioeconomic context in which the project will be carried out. The description should identify social groups that will be affected, include a map of the project site, identify impacts on land or assets, and identify any off-site or support facilities that will be required for the project.
Baseline data. Describe relevant physical, biological and social condition including any significant changes anticipated before the project begins. Data should be relevant to project design, location, operation or mitigation measures.
Environmental and Social Impacts. Describe the likely or expected positive and negative impacts in quantitative terms to the extent possible. Identify mitigation measures and estimate residual impacts after mitigation. Describe the limits of available data and uncertainties related to the estimation of impacts and the results of proposed mitigation.
Analysis of Alternatives. Systematically compare feasible alternatives to the proposed project location, design and operation including the "without project" alternative in terms of their relative impacts, costs and suitability to local conditions. For each of the alternatives quantify and compare the environmental impacts and costs relative to the proposed plan.
Environmental and Social Management Plan (ESMP). If significant impacts requiring mitigation are identified, the ESMP defines the mitigation that will be done, identifies key monitoring indicators and any needs for institutional strengthening for effective mitigation and monitoring to be carried out.
Appendices.

This section should include: (i) The list of ESA preparers; (ii) References used in study preparation; (iii) A chronological record of interagency meetings and consultations with NGOs and effected constituents; (iv) Tables reporting relevant data discussed in the main text, and;
(v) A list of associated reports such as voluntary land donations list or social assessments that were prepared for the project.

ANNEX 4. ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN

General Overview. Environmental and Social Management Plan (ESMP) should outline the mitigation, monitoring and administrative measures to be taken during project implementation to avoid or eliminate negative environmental impacts. For projects of intermediate environmental risk (Substantial risk projects), ESMP may also be an effective way of summarizing the activities needed to achieve effective mitigation of negative environmental impacts (description of Environmental and Social Management Plan is provided in Attachment 1 below).

The Management Plan format provided in Attachment 2 below. It represents a model for development of an ESMP. The model divides the project cycle into three phases: construction, operation and decommissioning. For each phase, the preparation team identifies any significant environmental impacts that are anticipated based on the analysis done in the context of preparing an environmental assessment. For each impact, mitigation measures are to be identified and listed. Estimates are made of the cost of mitigation actions broken down by estimates for installation (investment cost) and operation (recurrent cost). The ESMP format also provides for the identification of institutional responsibilities for "installation" and operation of mitigation devices and methods.

To keep track of the requirements, responsibilities and costs for monitoring the implementation of environmental mitigation, a monitoring plan may be useful. A Monitoring Plan format is provided in Attachment 3 below. Like the ESMP the project cycle is broken down into three phases (construction, operation and decommissioning). The format also includes a row for baseline information that is critical to achieving reliable and credible monitoring. The key elements of the matrix are:

- What is being monitored?
- Where is monitoring done?
- How is the parameter to be monitored to ensure meaningful comparisons?
- When or how frequently is monitoring necessary or most effective?
- Why is the parameter being monitored (what does it tell us about environmental impact)?

In addition to these questions, it is useful to identify the costs associated with monitoring (both investment and recurrent) and the institutional responsibilities.

When a monitoring plan is developed and put in place in the context of project implementation, the PIG will request reports at appropriate intervals and include the findings in its periodic reporting to the World Bank and make the findings available to Bank staff during supervision missions.

Attachment 1
Description of the of the Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) identifies feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESMP (a) identifies and summarizes all anticipated significant adverse environmental impacts (including those involving indigenous people or involuntary resettlement); (b) describes--with technical details--each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; (c) estimates any potential environmental impacts of these measures; and (d) provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, or cultural property) required for the project.

Monitoring

Environmental monitoring during project implementation provides information about key environmental aspects of the project, particularly the environmental impacts of the project and the effectiveness of mitigation measures. Such information enables the borrower and the Bank to evaluate the success of mitigation as part of project supervision, and allows corrective action to be taken when needed. Therefore, the ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed in the ESA report and the mitigation measures described in the ESMP. Specifically, the monitoring section of the ESMP provides(a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

Capacity Development and Training

To support timely and effective implementation of environmental project components and mitigation measures, the ESMP draws on the EA's assessment of the existence, role, and capability of environmental units on site or at the agency and ministry level.[3] If necessary, the ESMP recommends the establishment or expansion of such units, and the training of staff, to allow implementation of EA recommendations. Specifically, the ESMP provides a specific description of institutional arrangements-who is responsible for carrying out the mitigatory and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental management capability in the agencies responsible for implementation, most ESMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.

Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the ESMP provides (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Integration of ESMP with Project

The borrower's decision to proceed with a project, and the Bank's decision to support it, are predicated in part on the expectation that the ESMP will be executed effectively. Consequently, the Bank expects the plan to be specific in its description of the individual mitigation and monitoring measures and its assignment of institutional responsibilities, and it must be integrated into the project's overall planning, design, budget, and implementation. Such integration is achieved by establishing the ESMP within the project so that the plan will receive funding and supervision along with the other components.

Attachment 2. Environmental and Social Management Plan Format

Phase	**Environmental and Social Impact**	**Mitigating Measure(s)**	**Cost**		**Institutional Responsibility**		**Remarks**
			Install	**Operate**	**Install**	**Operate**	
Construction							
Operation							
Decommissioning							

Attachment 3. Environmental and Social Monitoring Plan Format

Phase	**What parameter is to be monitored?**	**Where will the parameter be monitored?**	**How will the parameter be monitored?**	**When will the parameter be monitored?**	**Why is the parameter being monitored?**	**Cost**		**Institutional Responsibility**	
						Install	**Operate**	**Install**	**Operate**
Baseline									
Construction									
Operation									
De-commission-ing (quarries, burrow pits, plants, camps)									

ANNEX 5. ENVIRONMENTAL & SOCIAL MANAGEMENT CHECKLIST FOR SMALL CONSTRUCTION AND REHABILITATION ACTIVITIES

General Guidelines for use of ESMP checklist

For low-risk topologies, such as roads, construction new bridge and tunnel the ECA environment and social team developed an alternative to the current ESMP format to provide an opportunity for a more streamlined approach to preparing ESMPs for minor rehabilitation or works in construction of the roads in Sughd region and, construction of a new bridge and tunnel in GBAO. The checklist-type format has been developed to provide "example good practices" and designed to be user friendly and compatible with environmental and social requirements.

The ESMP checklist-type format attempts to cover typical core mitigation approaches to civil works contracts with small, localized impacts. It is accepted that this format provides the key elements of an Environmental and Social Management Plan (ESMP) or Environmental and Social Management Framework (ESMF) to meet World Bank Environmental and Social Assessment requirements under ESS1. The intention of this checklist is that it would be applicable as guidelines for the small works contractors and constitute an integral part of bidding documents for contractors carrying out small civil works under Bank-financed projects.

The checklist has four sections:

Part 1 includes a descriptive part that characterizes the project and specifies in terms the institutional and legislative aspects, the technical project content, the potential need for capacity building program and description of the public consultation process. This section could be up to two pages long. Attachments for additional information can be supplemented when needed.

Part 2 includes an environmental and social screening checklist, where activities and potential environmental issues can be checked in a simple Yes/No format. If any given activity/issue is triggered by checking "yes", a reference is made to the appropriate section in the following table, which contains clearly formulated management and mitigation measures.

Part 3 represents the monitoring plan for activities during project construction and implementation. It retains the same format required for ESMPs proposed under normal Bank requirements for Substantial risk projects. It is the intent of this checklist that Part 2 and Part 3 be included into the bidding documents for contractors, priced during the bidding process and diligent implementation supervised during works execution.

Part 4 includes a descriptive part on voluntary land donations. Any land acquired through Voluntary Land Donation must first meet the following criteria:
· Land to be donated must be identified by the community through a participatory approach
· Impacts of proposed activities on donated land must be fully explained to the donor
· The potential donor is aware that refusal is an option, and that right of refusal is specified in the donation document the donor will sign
· The act of donation is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities

· The donor may request monetary or non-monetary benefits or incentives as a condition for donation
· The proportion of land that may be donated cannot exceed the area required to maintain the donor's livelihood or that of his/her household
· Land donation cannot result in a lower standard of living or income generation, on the donor or the donor's household
· Donation of land cannot occur if it requires any household relocation
· For community or collective land, donation can only occur with the consent of individuals using or occupying the land
· Verification must be obtained from each person donating land (either through proper documentation or through confirmation by at least two witnesses)
· The implementing agency establishes that the land to be donated is free of encumbrances or encroachment and registers the donated land in an official land registry
· Any donated land that is not used for its agreed purpose is returned to the donor
· The donor will not be required to pay any transaction fees for transfer of land

Contents of the ESMP Checklist

A. General Project and Site Information
B. Environment and Social Information
C. Mitigation Measures
D. Monitoring Plan

PART A: GENERAL PROJECT AND SITE INFORMATION

SITE DESCRIPTION		
Name of site		
Describe site location		Attachment 1: Site Map [ ]Y [ ] N
Who owns the land?		
Description of geographic, physical, biological, geological, hydrographic and socio-economic context		
Locations and distance for material sourcing, especially aggregates, water, stones?		
LEGISLATION		
Identify national & local legislation & permits that apply to project activity		
PUBLIC CONSULTATION		

Identify when / where the public consultation process took place	
INSTITUTIONAL CAPACITY BUILDING	
Will there be any capacity building?	[ ] N or [ ]Y if Yes, Attachment 2 includes the capacity building program

PART B: ENVIORNMENT AND SOCIAL INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following?	Activity/Issue	Status	Triggered Actions
	Rehabilitation	[ ] Yes [ ] No	See Section A below
	New construction	[ ] Yes [ ] No	See Section A below
	Historic building(s) and districts	[ ] Yes [ ] No	See Section B below
	Acquisition of land	[ ] Yes [ ] No	See Section C below
	Hazardous or toxic materials	[ ] Yes [ ] No	See Section D below
	Impacts on forests and/or protected areas	[ ] Yes [ ] No	See Section E below
	Handling / management of construction waste	[ ] Yes [ ] No	See Section F below
	Traffic and Pedestrian Safety	[ ] Yes [ ] No	See Section G below

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	The local construction and environment inspectorates and communities have been notified of upcoming activities The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) All legally required permits have been acquired for construction and/or rehabilitation The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	The surrounding environment (side-walks, roads) shall be kept free of debris to minimize dust There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites • Maintain construction equipment to good standard; improper functioning machinery that causes excessive pollution will be banned from the construction sites. Speed limit for offsite traffic. • Mixing equipment should be well sealed; vibrating equipment should be equipped with dust-remove device. Keep at least 300 m distance from residences windward wind direction to reinforced concrete production plants. • Spray all unpaved roads and significant areas of uncovered soil with water every four hours on working days, during dry and windy weather; • Provide a wheel-washing facility and ensure that it is used by all vehicles before leaving all sites. Cover all loose material with tarpaulins when transported off-site on trucks; Cover all material stockpiled on site with securely-held tarpaulins at all times;
	Noise	Construction noise will be limited to restricted times agreed to in the permit During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.

	Waste management	Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. Construction waste will be collected and disposed properly by licensed collectors The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
B. Historic building(s)	Cultural Heritage	In this project, cultural resources are very far from the project area. If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.
ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
C. Acquisition of land	Land Use Criteria	No land will be involuntarily acquired Land can be purchased, or leased, on a willing buyer-willing seller basis Works will utilize vacant government land, occur within existing footprint, or follow right-of-way or easements
D. Toxic Materials	Asbestos management	No asbestos is located on the project area If asbestos would be located on the project site, it shall be marked clearly as hazardous material When possible, the asbestos will be appropriately contained and sealed to minimize exposure The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust Asbestos will be handled and disposed by skilled & experienced professionals If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. The removed asbestos will not be reused
	Toxic / hazardous waste management	Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. Paints with toxic ingredients or solvents or lead-based paints will not be used

F. Disposal of construction waste	Infrastructure for construction waste management	In compliance with national regulations the contractor will insure sufficient construction waste handling and disposal; this includes and not limited to: Special facilities for segregated construction waste from other waste disposal; and Appropriate vehicles to transfer construction waste to specific landfill facilities are in place.
G. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(a) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART D: MONITORING PLAN

EXAMPLE OF AN ENVIRONMENTAL MONITORING PLAN FOR SMALL SCALE CONSTRUCTION/REHABILITATION SUB-PROJECTS

PHASE	WHAT is the parameter to be monitored?	WHERE is the parameter to be monitored?	HOW is the parameter to be monitored??	WHEN is the parameter to be monitored? (frequency)?	WHY is the parameter being monitored?	COST	RESPONSIBILITY
Designing	Implementation of ESMP guidelines (RECOMMENDATIONS)	Design project for construction, reconstruction and adaptation.	Review of elaborates and adaptation designs.	Prior approval for construction as part of project monitoring program.	Recommended due to national legislation requiring a construction permit.	Should be part of the Project	CEP Designer, Contractor

PHASE	WHAT is the parameter to be monitored?	WHERE is the parameter to be monitored?	HOW is the parameter to be monitored??	WHEN is the parameter to be monitored? (frequency)?	WHY is the parameter being monitored?	COST	RESPONSIBILITY
Construction	Parameters given in construction permit - all special conditions of construction issued by different bodies	Main Project documentation	A part of regular inspection by the Committee for Environmental Protection (CEP) and the Construction Inspection	During construction and prior to issuance of the Operation permit	Regular review stipulated in the Law, and if any public complaint is sent to the CEP, or the Construction Inspection.	Included in the construction phase, costs of Contractors	PIG Environment and Social Specialist, inspectorate of the CEP and Construction Inspection
	Construction waste management (including hazardous)	Supporting documents for waste, which is submitted to the competent communal enterprise	A part of regular inspection by the CEP and Construction Inspection	After reporting on waste management	Needed in accordance with the waste-related regulations	Expenditure of the CEP and the Construction Inspection and low costs for the Contractor	PIG Environment and Social Specialists, inspectorate of the CEP and Construction Inspection
Operation	Waste management	Based on the supporting documents for waste, which is submitted to the CEP	Reports to the CEP	After reporting to the CEP on waste management.	Should be monitored in line with the regulations on waste management.	Costs of the project beneficiary and the CEP	Project beneficiary, competent communal company and the CEP

PART 2: ENVIRONMENTAL /SOCIAL SCREENING		
ACTIVITY	ENVIRONMENTAL ISSUE/ PARAMETER	MITIGATION MEASURES CHECKLIST
A. Contractor mobilization (General Conditions)	Notification and Worker Safety	The local construction and environment inspectorates and communities have been notified of upcoming activities The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) All legally required permits have been acquired for construction and/or rehabilitation All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
B. Rehabilitation and /or Construction Activities (civil works)	Air Quality	Keep demolition debris in controlled area and spray with water mist to reduce debris dust Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site Keep surrounding environment (side-walks, roads) free of debris to minimize dust There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites
	Noise	Construction noise will be limited to restricted times agreed to in the permit During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible
	Waste management	Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. Construction waste will be collected and disposed properly by licensed collectors The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)

C. Wastewater	Water Quality	The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers. The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment Monitoring of new wastewater systems (before/after) will be carried out; Actions of contractors must be accomplished in a way to prevent accidental spilling of waste water from entering to the reservoirs or into groundwater during processing and mixing of concrete. They must not fall into the water courses/canals without special settling in dams (pools), and without passing through special gravel filters and other processing.
D. Toxic Materials/Substances	Asbestos management	If asbestos is located on the project site, mark clearly as hazardous material When possible the asbestos will be appropriately contained and sealed to minimize exposure The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust Asbestos will be handled and disposed by skilled & experienced professionals If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately The removed asbestos will not be reused and should be buried
	Toxic / hazardous waste management	Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching The wastes are transported by specially licensed carriers and disposed in a licensed facility. Paints with toxic ingredients or solvents or lead-based paints will not be used
	Oil substances/wastes	Car washes and places of mechanisms and machines service must be equipped with sumps and oil and petrol catchers; Used oil and technical liquids should pour off into containers and then should send to the recovery; Exclude leakage of petroleum products during transportation; All the oil wastes of operational materials of maintenance should be collected and stored in specially designated areas with following cleaning in established order.

	Polychlorinated Biphenils (PCBs)	In order to prevent the skin from coming into contact with PCBs, use one-way protective gloves. Protect eyes against possible oil splashes by wearing goggles; The sample should be taken by using the drain tap, located at the bottom of the transformer; As there is a risk that highly toxic dioxins are unintentionally formed and released during the Clhorine identification by using applying the Beilstein Method, testing should only be performed in a laboratory by experienced chemists. In the case the Chlorine testing show the transformers contain PCBs it is necessary to follow the rules prescribed in the Guidebook on Environmental Sound PCB Management in Electrical Equipment, labelling the polluted equipment, keeping used oil and contaminated transformers in the tanks in a guarded facility, until when the proper utilization/disposal measures will be in place.
Dismantling/installing old/new equipment and conducting earthworks	Crane/excavators/bulldozers operations	It is strictly imperative to obey the existing national regulations on conducting these activities; While approaching to the air electrical lines under tension the works should be carried out under the supervision of electricians; The cranes should be installed and fixed in a stable position to prevent their tipping or spontaneous displacement under the action of its own weight, and the engine. For mechanized management of earthworks it is necessary to check the serviceability of machineries, availability of their fencing and safety devices. Working on defective machines is not permitted; To exclude injuries members of mechanized brigades operating cranes and bulldozers should know and strictly follow all safety engineering rules during operations of relevant machines; Workers serving machines should be provided with instructions, comprising following: (a) Machine controlling instruction and caring about the workplace; (b) Safety engineering requirements; (c) Guidance of signals system; (d) The maximum loads and speeds of machines; (e) The measures have to be taken by the worker in the case of accident or malfunction of the machines. To control the machines are allowed people specially trained and have certificate of competence of controlling machines. The basic requirements of cranes and bulldozers operations are as follows: (a) All rotating parts of machines - gears, chain and temporary transfer, fans, flywheels, etc. must be fenced by casing. Turning on the mechanisms without fences is prohibited; (b) Examination, adjustment, tightening bolts, lubrication and preventive maintenance of the equipment during their work is banned; and (c) In areas where these machines work implementation of any other works and existence of people are not allowed. If in exploit soil will be found large stones, stumps or other objects the machine must be stopped and the objects which can cause an accident should be removed.

	Welding activities	Strictly imperative to obey the existing national regulations on conducting these activities; The personal should have protective equipment, rubber gloves, special boots, as well as special helmets. Prior to starting welding operations, all workers have to pass labor safety training course. Use the protective gear which as minimum includes: (a) Respirator/Welders Mask; (b) Protective clothing: All skin areas need to be protected to protect against molten metal and sparks. This includes: Long sleeve shirts; Pants that cover the tops of shoes; Gloves; Shoes or boots; (c) Eye protection devices against injuries from debris and from the effects of the ultraviolet light; (d) Helmets. Fire protection: prepare and use extinguishers as well as sand and water.
	Dismantling/installing electrical equipment	Strictly obey the existing national regulations on conducting these activities; Carry out the routine inspection of the machinery and equipment for the purpose of trouble shooting and observance of the time of repair; Organize training and instruction of the workers engaged in maintenance of the machinery, tools and equipment on safe methods and techniques of work; It is prohibited: to distribute faulty or unchecked tools for work performance as well as to leave off-hand mechanical tools connected to the electrical supply network or compressed air pipelines; to pull up and bend the cables and air hose pipes; to lay cables and hose pipes with their intersection by wire ropes, electric cables, to handle the rotating elements of power driven hand tools.

PART 3: MONITORING PLAN							
Phase/project activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During project implementation							
Civil works (construction/ rehabilitation)	Parameters given in construction permit - all special conditions of construction issued by different bodies	Project documentation, Construction permits	A part of regular inspection by MOT PIG	During construction and prior to issuance of the Operation permit	Regular review stipulated in the construction permits to ensure compliance with the specified by national legislation and EMP environmental requirements	Included in the costs of Contractors	Supervision MOT PIG Engineer and Social Specialist
	Air quality and noise	At the construction site	Visually	During construction phase	To avoid environmental pollution and workers health impacts	PMC expenditures as part of the project implementation costs	MOT PIG Environmental Specialist
	Waste water	At the construction site	Visually	During construction phase	To avoid environmental pollution and workers health impacts	PMC expenditures as part of the project implementation costs	MOT PIG Environmental Department and IP Environment Specialist

	Construction waste management, hazardous materials and asbestos	At the construction sites and	Visual observations and analyzing supporting documents for waste collection and transportation, which is submitted to the competent communal enterprise; Reporting documents from landfills	During the construction phase and after reporting on waste management	Avoiding environmental pollution and health impacts and needed in accordance with the waste-related national regulations	Expenditure of the MOT PIG and operating costs for the Contractor	IP Environmental Specialist
Dismantling/installing new electrical equipment/welding operations	Labor safety	At the construction site (for dismantling or installing of equipment)	Visual observation and analysis of presented report on conducted works, accidents, if any, reports on conducted training	Before and during construction and per national requirements in terms of ensuring labour safety	Avoiding accidents and health impacts	Contractors expenditure on training and ensuring labour safety, including costs for protective gear; Supervision costs of Environmental Specialist	Contractor's Environmental Specialist

ANNEX 6. COVID-19 CONSIDERATIONS IN CONSTRUCTION/CIVIL WORKS

This note was issued by the World Bank on April 7, 2020 and includes links to the latest guidance as of this date (e.g. from WHO). Given the COVID-19 situation is rapidly evolving, when using this note it is important to check whether any updates to these external resources have been issued.

This note emphasizes the importance of careful scenario planning, clear procedures and protocols, management systems, effective communication and coordination, and the need for high levels of responsiveness in a changing environment. It recommends assessing the current situation of the project, putting in place mitigation measures to avoid or minimize the chance of infection, and planning what to do if either project workers become infected or the work force includes workers from proximate communities affected by COVID-19. In many projects, measures to avoid or minimize will need to be implemented at the same time as dealing with sick workers and relations with the community, some of whom may also be ill or concerned about infection. Borrowers should understand the obligations that contractors have under their existing contracts (see Section 2), require contractors to put in place appropriate organizational structures (see Section 3) and develop procedures to address different aspects of COVID-19 (see Section 4).

CHALLENGES WITH CONSTRUCTION/CIVIL WORKS

Projects involving construction/civil works frequently involve a large work force, together with suppliers and supporting functions and services. The work force may comprise workers from international, national, regional, and local labor markets. They may need to live in on-site accommodation, lodge within communities close to work sites or return to their homes after work. There may be different contractors permanently present on site, carrying out different activities, each with their own dedicated workers. Supply chains may involve international, regional and national suppliers facilitating the regular flow of goods and services to the project (including supplies essential to the project such as fuel, food, and water). As such there will also be regular flow of parties entering and exiting the site; support services, such as catering, cleaning services, equipment, material and supply deliveries, and specialist sub-contractors, brought in to deliver specific elements of the works.

Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is extremely serious, as are the implications of such a spread. Projects may experience large numbers of the work force becoming ill, which will strain the project's health facilities, have implications for local emergency and health services and may jeopardize the progress of the construction work and the schedule of the project. Such impacts will be exacerbated where a work force is large and/or the project is in remote or under-serviced areas. In such circumstances, relationships with the community can be strained or difficult and conflict can arise, particularly if people feel they are being exposed to disease by the project or are having to compete for scarce resources. The project must also exercise appropriate precautions against introducing the infection to local communities.

DOES THE CONSTRUCTION CONTRACT COVER THIS SITUATION?

Given the unprecedented nature of the COVID-19 pandemic, it is unlikely that the existing construction/civil works contracts will cover all the things that a prudent contractor will need to do. Nevertheless, the first place for a Borrower to start is with the contract, determining what a contractor's

existing obligations are, and how these relate to the current situation.

The obligations on health and safety will depend on what kind of contract exists (between the Borrower and the main contractor; between the main contractors and the sub-contractors). It will differ if the Borrower used the World Bank's standard procurement documents (SPDs) or used national bidding documents. If a FIDIC document has been used, there will be general provisions relating to health and safety. For example, the standard FIDIC, Conditions of Contract for Construction (Second Edition 2017), which contains no 'ESF enhancements', states (in the General Conditions, clause 6.7) that the Contractor will be required:

- to take all necessary precautions to maintain the health and safety of the Contractor's Personnel
- to appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site and to take protective measures to prevent accidents
- to ensure, in collaboration with local health authorities, that medical staff, first aid facilities, sick bay, ambulance services and any other medical services specified are available at all times at the site and at any accommodation
- to ensure suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics

These requirements have been enhanced through the introduction of the ESF into the SPDs (edition dated July 2019). The general FIDIC clause referred to above has been strengthened to reflect the requirements of the ESF. Beyond FIDIC's general requirements discussed above, the Bank's Particular Conditions include a number of relevant requirements on the Contractor, including:

- to provide health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities)
- to put in place workplace processes for Contractor's Personnel to report work situations that are not safe or healthy
- gives Contractor's Personnel the right to report work situations which they believe are not safe or healthy, and to remove themselves from a work situation which they have a reasonable justification to believe presents an imminent and serious danger to their life or health (with no reprisal for reporting or removing themselves)
- requires measures to be in place to avoid or minimize the spread of diseases including measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent contract-related labor
- to provide an easily accessible grievance mechanism to raise workplace concerns

Where the contract form used is FIDIC, the Borrower (as the Employer) will be represented by the Engineer (also referred to in this note as the Supervising Engineer). The Engineer will be authorized to exercise authority specified in or necessarily implied from the construction contract. In such cases, the Engineer (through its staff on site) will be the interface between the PIU and the Contractor. It is important therefore to understand the scope of the Engineer's responsibilities. It is also important to recognize that in the case of infectious diseases such as COVID-19, project management – through the Contractor/subcontractor hierarchy – is only as effective as the weakest link. A thorough review of management procedures/plans as they will be implemented through the entire contractor hierarchy is important. Existing contracts provide the outline of this structure; they form the basis for the Borrower to understand how proposed mitigation measures will be designed and how adaptive management will be implemented, and to start a conversation with the Contractor on measures to address COVID-19 in the project.

WHAT PLANNING SHOULD THE PIU DOING?

(PIUs should confirm that projects (i) are taking adequate precautions to prevent or minimize an outbreak of COVID-19, and (ii) have identified what to do in the event of an outbreak. Suggestions on how to do this are set out below:

- The PIU, either directly or through the Supervising Engineer, should request details in writing from the main Contractor of the measures being taken to address the risks. As stated in Section 3, the construction contract should include health and safety requirements, and these can be used as the basis for identification of, and requirements to implement, COVID-19 specific measures. The measures may be presented as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures. The measures may be reflected in revisions to the project's health and safety manual. This request should be made in writing (following any relevant procedure set out in the contract between the Borrower and the contractor).
- In making the request, it may be helpful for the PIU to specify the areas that should be covered. This should include the items set out in Section 5 below and take into account current and relevant guidance provided by national authorities, WHO and other organizations. See the list of references in the Annex to this note.
- The PIU should require the Contractor to convene regular meetings with the project health and safety specialists and medical staff (and where appropriate the local health authorities), and to take their advice in designing and implementing the agreed measures.
- Where possible, a senior person should be identified as a focal point to deal with COVID-19 issues. This can be a work supervisor or a health and safety specialist. This person can be responsible for coordinating preparation of the site and making sure that the measures taken are communicated to the workers, those entering the site and the local community. It is also advisable to designate at least one back-up person, in case the focal point becomes ill; that person should be aware of the arrangements that are in place.
- On sites where there are a number of contractors and therefore (in effect) different work forces, the request should emphasize the importance of coordination and communication between the different parties. Where necessary, the PIU should request the main contractor to put in place a protocol for regular meetings of the different contractors, requiring each to appoint a designated staff member (with back up) to attend such meetings. If meetings cannot be held in person, they should be conducted using whatever IT is available. The effectiveness of mitigation measures will depend on the weakest implementation, and therefore it is important that all contractors and sub-contractors understand the risks and the procedure to be followed.
- The PIU, either directly or through the Supervising Engineer, may provide support to projects in identifying appropriate mitigation measures, particularly where these will involve interface with local services, in particular health and emergency services. In many cases, the PIU can play a valuable role in connecting project representatives with local Government agencies, and helping coordinate a strategic response, which takes into account the availability of resources. To be most effective, projects should consult and coordinate with relevant Government agencies and other projects in the vicinity.
- Workers should be encouraged to use the existing project grievance mechanism to report concerns relating to COVID-19, preparations being made by the project to address COVID-19 related issues, how procedures are being implemented, and concerns about the health of their co-workers and other staff.

WHAT SHOULD THE CONTRACTOR COVER?

The Contractor should identify measures to address the COVID-19 situation. What will be possible will depend on the context of the project: the location, existing project resources, availability of supplies, capacity of local emergency/health services, the extent to which the virus already exist in the area. A systematic approach to planning, recognizing the challenges associated with rapidly changing circumstances, will help the project put in place the best measures possible to address the situation. As discussed above, measures to address COVID-19 may be presented in different ways (as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures). PIUs and contractors should refer to guidance issued by relevant authorities, both national and international (e.g. WHO), which is regularly updated (see sample References and links provided in the Annex).

Addressing COVID-19 at a project site goes beyond occupational health and safety, and is a broader project issue which will require the involvement of different members of a project management team. In many cases, the most effective approach will be to establish procedures to address the issues, and then to ensure that these procedures are implemented systematically. Where appropriate given the project context, a designated team should be established to address COVID-19 issues, including PIU representatives, the Supervising Engineer, management (e.g. the project manager) of the contractor and sub-contractors, security, and medical and OHS professionals. Procedures should be clear and straightforward, improved as necessary, and supervised and monitored by the COVID-19 focal point(s). Procedures should be documented, distributed to all contractors, and discussed at regular meetings to facilitate adaptive management. The issues set out below include a number that represent expected good workplace management but are especially pertinent in preparing the project response to COVID-19.

(a) ASSESSING WORKFORCE CHARACTERISTICS

Many construction sites will have a mix of workers e.g. workers from the local communities; workers from a different part of the country; workers from another country. Workers will be employed under different terms and conditions and be accommodated in different ways. Assessing these different aspects of the workforce will help in identifying appropriate mitigation measures:

- The Contractor should prepare a detailed profile of the project work force, key work activities, schedule for carrying out such activities, different durations of contract and rotations (e.g. 4 weeks on, 4 weeks off).
- This should include a breakdown of workers who reside at home (i.e. workers from the community), workers who lodge within the local community and workers in on-site accommodation. Where possible, it should also identify workers that may be more at risk from COVID-19, those with underlying health issues or who may be otherwise at risk.
- Consideration should be given to ways in which to minimize movement in and out of site. This could include lengthening the term of existing contracts, to avoid workers returning home to affected areas, or returning to site from affected areas.
- Workers accommodated on site should be required to minimize contact with people near the site, and in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided.
- Consideration should be given to requiring workers lodging in the local community to move to site accommodation (subject to availability) where they would be subject to the same restrictions.
- Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work.

(b) ENTRY/EXIT TO THE WORK SITE AND CHECKS ON COMMENCEMENT OF WORK

Entry/exit to the work site should be controlled and documented for both workers and other parties, including support staff and suppliers. Possible measures may include:

- Establishing a system for controlling entry/exit to the site, securing the boundaries of the site, and establishing designating entry/exit points (if they do not already exist). Entry/exit to the site should be documented.
- Training security staff on the (enhanced) system that has been put in place for securing the site and controlling entry and exit, the behaviors required of them in enforcing such system and any COVID - 19 specific considerations.
- Training staff who will be monitoring entry to the site, providing them with the resources they need to document entry of workers, conducting temperature checks and recording details of any worker that is denied entry.
- Confirming that workers are fit for work before they enter the site or start work. While procedures should already be in place for this, special attention should be paid to workers with underlying health issues or who may be otherwise at risk. Consideration should be given to demobilization of staff with underlying health issues.
- Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site.
- Providing daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures, using demonstrations and participatory methods.
- During the daily briefings, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell.
- Preventing a worker from an affected area or who has been in contact with an infected person from returning to the site for 14 days or (if that is not possible) isolating such worker for 14 days.
- Preventing a sick worker from entering the site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days.

(c) GENERAL HYGIENE

Requirements on general hygiene should be communicated and monitored, to include:

- Training workers and staff on site on the signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular handwashing and social distancing) and what to do if they or other people have symptoms (for further information see WHO COVID-19 advice for the public).
- Placing posters and signs around the site, with images and text in local languages.
- Ensuring handwashing facilities supplied with soap, disposable paper towels and closed waste bins exist at key places throughout site, including at entrances/exits to work areas; where there is a toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces. Where handwashing facilities do not exist or are not adequate, arrangements should be made to set them up. Alcohol based sanitizer (if available, 60-95% alcohol) can also be used.
- Review worker accommodations, and assess them in light of the requirements set out in IFC/EBRD guidance on Workers' Accommodation: processes and standards, which provides valuable guidance

as to good practice for accommodation.

- Setting aside part of worker accommodation for precautionary self-quarantine as well as more formal isolation of staff who may be infected (see paragraph (f)).

(d) CLEANING AND WASTE DISPOSAL

Conduct regular and thorough cleaning of all site facilities, including offices, accommodation, canteens, common spaces. Review cleaning protocols for key construction equipment (particularly if it is being operated by different workers). This should include:

- Providing cleaning staff with adequate cleaning equipment, materials and disinfectant.
- Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.
- Where it is anticipated that cleaners will be required to clean areas that have been or are suspected to have been contaminated with COVID-19, providing them with appropriate PPE: gowns or aprons, gloves, eye protection (masks, goggles or face screens) and boots or closed work shoes. If appropriate PPE is not available, cleaners should be provided with best available alternatives.
- Training cleaners in proper hygiene (including handwashing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).
- Any medical waste produced during the care of ill workers should be collected safely in designated containers or bags and treated and disposed of following relevant requirements (e.g., national, WHO). If open burning and incineration of medical wastes is necessary, this should be for as limited a duration as possible. Waste should be reduced and segregated, so that only the smallest amount of waste is incinerated (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19).

(e) ADJUSTING WORK PRACTICES

Consider changes to work processes and timings to reduce or minimize contact between workers, recognizing that this is likely to impact the project schedule. Such measures could include:

- Decreasing the size of work teams.
- Limiting the number of workers on site at any one time.
- Changing to a 24-hour work rotation.
- Adapting or redesigning work processes for specific work activities and tasks to enable social distancing, and training workers on these processes.
- Continuing with the usual safety trainings, adding COVID-19 specific considerations. Training should include proper use of normal PPE. While as of the date of this note, general advice is that construction workers do not require COVID-19 specific PPE, this should be kept under review (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- Reviewing work methods to reduce use of construction PPE, in case supplies become scarce or the PPE is needed for medical workers or cleaners. This could include, e.g. trying to reduce the need for dust masks by checking that water sprinkling systems are in good working order and are maintained or reducing the speed limit for haul trucks.
- Arranging (where possible) for work breaks to be taken in outdoor areas within the site.
- Consider changing canteen layouts and phasing meal times to allow for social distancing and phasing access to and/or temporarily restricting access to leisure facilities that may exist on site, including gyms.

- At some point, it may be necessary to review the overall project schedule, to assess the extent to which it needs to be adjusted (or work stopped completely) to reflect prudent work practices, potential exposure of both workers and the community and availability of supplies, taking into account Government advice and instructions.

(f) PROJECT MEDICAL SERVICES

Consider whether existing project medical services are adequate, taking into account existing infrastructure (size of clinic/medical post, number of beds, isolation facilities), medical staff, equipment and supplies, procedures and training. Where these are not adequate, consider upgrading services where possible, including:

- Expanding medical infrastructure and preparing areas where patients can be isolated. Guidance on setting up isolation facilities is set out in WHO interim guidance on considerations for quarantine of individuals in the context of containment for COVID-19). Isolation facilities should be located away from worker accommodation and ongoing work activities. Where possible, workers should be provided with a single well-ventilated room (open windows and door). Where this is not possible, isolation facilities should allow at least 1 meter between workers in the same room, separating workers with curtains, if possible. Sick workers should limit their movements, avoiding common areas and facilities and not be allowed visitors until they have been clear of symptoms for 14 days. If they need to use common areas and facilities (e.g. kitchens or canteens), they should only do so when unaffected workers are not present and the area/facilities should be cleaned prior to and after such use.
- Training medical staff, which should include current WHO advice on COVID-19 and recommendations on the specifics of COVID-19. Where COVID-19 infection is suspected, medical providers on site should follow WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected.
- Training medical staff in testing, if testing is available.
- Assessing the current stock of equipment, supplies and medicines on site, and obtaining additional stock, where required and possible. This could include medical PPE, such as gowns, aprons, medical masks, gloves, and eye protection. Refer to WHO guidance as to what is advised (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- If PPE items are unavailable due to world-wide shortages, medical staff on the project should agree on alternatives and try to procure them. Alternatives that may commonly be found on constructions sites include dust masks, construction gloves and eye goggles. While these items are not recommended, they should be used as a last resort if no medical PPE is available.
- Ventilators will not normally be available on work sites, and in any event, intubation should only be conducted by experienced medical staff. If a worker is extremely ill and unable to breathe properly on his or her own, they should be referred immediately to the local hospital (see (g) below).
- Review existing methods for dealing with medical waste, including systems for storage and disposal (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19, and WHO guidance on safe management of wastes from health-care activities).

(g) LOCAL MEDICAL AND OTHER SERVICES

Given the limited scope of project medical services, the project may need to refer sick workers to local medical services. Preparation for this includes:

- Obtaining information as to the resources and capacity of local medical services (e.g. number of beds,

availability of trained staff and essential supplies).

- Conducting preliminary discussions with specific medical facilities, to agree what should be done in the event of ill workers needing to be referred.
- Considering ways in which the project may be able to support local medical services in preparing for members of the community becoming ill, recognizing that the elderly or those with pre-existing medical conditions require additional support to access appropriate treatment if they become ill.
- Clarifying the way in which an ill worker will be transported to the medical facility, and checking availability of such transportation.
- Establishing an agreed protocol for communications with local emergency/medical services.
- Agreeing with the local medical services/specific medical facilities the scope of services to be provided, the procedure for in-take of patients and (where relevant) any costs or payments that may be involved.
- A procedure should also be prepared so that project management knows what to do in the unfortunate event that a worker ill with COVID-19 dies. While normal project procedures will continue to apply, COVID-19 may raise other issues because of the infectious nature of the disease. The project should liaise with the relevant local authorities to coordinate what should be done, including any reporting or other requirements under national law.

(h) INSTANCES OR SPREAD OF THE VIRUS

WHO provides detailed advice on what should be done to treat a person who becomes sick or displays symptoms that could be associated with the COVID-19 virus (for further information see WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected). The project should set out risk-based procedures to be followed, with differentiated approaches based on case severity (mild, moderate, severe, critical) and risk factors (such as age, hypertension, diabetes) (for further information see WHO interim guidance on operational considerations for case management of COVID-19 in health facility and community). These may include the following:

- If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on site.
- If testing is available on site, the worker should be tested on site. If a test is not available at site, the worker should be transported to the local health facilities to be tested (if testing is available).
- If the test is positive for COVID-19 or no testing is available, the worker should continue to be isolated. This will either be at the work site or at home. If at home, the worker should be transported to their home in transportation provided by the project.
- Extensive cleaning procedures with high-alcohol content disinfectant should be undertaken in the area where the worker was present, prior to any further work being undertaken in that area. Tools used by the worker should be cleaned using disinfectant and PPE disposed of.
- Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and be required to quarantine themselves for 14 days, even if they have no symptoms.
- Family and other close contacts of the worker should be required to quarantine themselves for 14 days, even if they have no symptoms.
- If a case of COVID-19 is confirmed in a worker on the site, visitors should be restricted from entering the site and worker groups should be isolated from each other as much as possible.
- If workers live at home and has a family member who has a confirmed or suspected case of COVID-19, the worker should quarantine themselves and not be allowed on the project site for 14 days, even if they have no symptoms.
- Workers should continue to be paid throughout periods of illness, isolation or quarantine, or if they are required to stop work, in accordance with national law.

- Medical care (whether on site or in a local hospital or clinic) required by a worker should be paid for by the employer.

(i) CONTINUITY OF SUPPLIES AND PROJECT ACTIVITIES

Where COVID-19 occurs, either in the project site or the community, access to the project site may be restricted, and movement of supplies may be affected.

- Identify back-up individuals, in case key people within the project management team (PIU, Supervising Engineer, Contractor, sub-contractors) become ill, and communicate who these are so that people are aware of the arrangements that have been put in place.
- Document procedures, so that people know what they are, and are not reliant on one person's knowledge.
- Understand the supply chain for necessary supplies of energy, water, food, medical supplies and cleaning equipment, consider how it could be impacted, and what alternatives are available. Early pro-active review of international, regional and national supply chains, especially for those supplies that are critical for the project, is important (e.g. fuel, food, medical, cleaning and other essential supplies). Planning for a 1-2 month interruption of critical goods may be appropriate for projects in more remote areas.
- Place orders for/procure critical supplies. If not available, consider alternatives (where feasible).
- Consider existing security arrangements, and whether these will be adequate in the event of interruption to normal project operations.
- Consider at what point it may become necessary for the project to significantly reduce activities or to stop work completely, and what should be done to prepare for this, and to re-start work when it becomes possible or feasible.

(j) TRAINING AND COMMUNICATION WITH WORKERS

Workers need to be provided with regular opportunities to understand their situation, and how they can best protect themselves, their families and the community. They should be made aware of the procedures that have been put in place by the project, and their own responsibilities in implementing them.

- It is important to be aware that in communities close to the site and amongst workers without access to project management, social media is likely to be a major source of information. This raises the importance of regular information and engagement with workers (e.g. through training, town halls, tool boxes) that emphasizes what management is doing to deal with the risks of COVID-19. Allaying fear is an important aspect of work force peace of mind and business continuity. Workers should be given an opportunity to ask questions, express their concerns, and make suggestions.
- Training of workers should be conducted regularly, as discussed in the sections above, providing workers with a clear understanding of how they are expected to behave and carry out their work duties.
- Training should address issues of discrimination or prejudice if a worker becomes ill and provide an understanding of the trajectory of the virus, where workers return to work.
- Training should cover all issues that would normally be required on the work site, including use of safety procedures, use of construction PPE, occupational health and safety issues, and code of conduct, taking into account that work practices may have been adjusted.
- Communications should be clear, based on fact and designed to be easily understood by workers, for example by displaying posters on hand washing and social distancing, and what to do if a worker displays symptoms.

(k) COMMUNICATION AND CONTACT WITH THE COMMUNITY

Relations with the community should be carefully managed, with a focus on measures that are being implemented to safeguard both workers and the community. The community may be concerned about the presence of non-local workers, or the risks posed to the community by local workers presence on the project site. The project should set out risk-based procedures to be followed , which may reflect WHO guidance (for further information see WHO Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response). The following good practice should be considered:

- Communications should be clear, regular, based on fact and designed to be easily understood by community members.
- Communications should utilize available means. In most cases, face-to-face meetings with the community or community representatives will not be possible. Other forms of communication should be used; posters, pamphlets, radio, text message, electronic meetings. The means used should take into account the ability of different members of the community to access them, to make sure that communication reaches these groups.
- The community should be made aware of procedures put in place at site to address issues related to COVID-19. This should include all measures being implemented to limit or prohibit contact between workers and the community. These need to be communicated clearly, as some measures will have financial implications for the community (e.g. if workers are paying for lodging or using local facilities). The community should be made aware of the procedure for entry/exit to the site, the training being given to workers and the procedure that will be followed by the project if a worker becomes sick.
- If project representatives, contractors or workers are interacting with the community, they should practice social distancing and follow other COVID-19 guidance issued by relevant authorities, both national and international (e.g. WHO).

Infection and Prevention Control Protocol

(adapted from the CDC Interim Infection Prevention and Control Recommendations for patients with confirmed COVID-19 or persons under investigation for COVID-19 in Healthcare Settings)

CONSTRUCTION SETTINGS IN AREAS OF CONFIRMED CASES OF COVID-19

1. Minimize Chance of Exposure

- Any worker showing symptoms of respiratory illness (fever + cold or cough) and has potentially been exposed to COVID-19 should be immediately removed from the site and tested for the virus at the nearest local hospital
- Close co-workers and those sharing accommodations with such a worker should also be removed from the site and tested
- Project management must identify the closest hospital that has testing facilities in place, refer workers, and pay for the test if it is not free
- Persons under investigation for COVID-19 should not return to work at the project site until cleared by test results. During this time, they should continue to be paid daily wages
- If a worker is found to have COVID-19, wages should continue to be paid during the worker's convalescence (whether at home or in a hospital)

- If project workers live at home, any worker with a family member who has a confirmed or suspected case of COVID-19 should be quarantined from the project site for 14 days, and continued to be paid daily wages, even if they have no symptoms.

2. Training of Staff and Precautions

- Train all staff in the signs and symptoms of COVID-19, how it is spread, how to protect themselves and the need to be tested if they have symptoms. Allow Q&A and dispel any myths.
- Use existing grievance procedures to encourage reporting of co-workers if they show outward symptoms, such as ongoing and severe coughing with fever, and do not voluntarily submit to testing
- Supply face masks and other relevant PPE to all project workers at the entrance to the project site. Any persons with signs of respiratory illness that is not accompanied by fever should be mandated to wear a face mask
- Provide handwash facilities, hand soap, alcohol-based hand sanitizer and mandate their use on entry and exit of the project site and during breaks, via the use of simple signs with images in local languages
- Train all workers in respiratory hygiene, cough etiquette and hand hygiene using demonstrations and participatory methods
- Train cleaning staff in effective cleaning procedures and disposal of rubbish

3. Managing Access and Spread

- Should a case of COVID-19 be confirmed in a worker on the project site, visitors should be restricted from the site and worker groups should be isolated from each other as much as possible;
- Extensive cleaning procedures with high-alcohol content cleaners should be undertaken in the area of the site where the worker was present, prior to any further work being undertaken in that area.

ANNEX 7. TEMPLATE FOR GRIEVANCE REDRESS LOG

#	Priority	Date Feedback Received	Feedback Channel	Category of feedback	Summary Description	Anonymous (Yes/No)	Person assigned to address feedback	Status (resolved, pending, escalated)	Date of resolution of feedback	Communication about resolution
1										
2										
3										
4										
5										
6										

ANNEX 8. COMMUNITY HEALTH AND SAFETY PLAN (CHSP)

Content

1.0 Introduction

Community health and safety (ESS 4) recognizes that project activities, equipment, and infrastructure often bring benefits to communities including employment, services, and opportunities for economic development. However, projects can also increase the potential for community exposure to risks and impacts arising from equipment accidents, structural failures, and releases of hazardous materials.

Communities may also be affected by impacts on their natural resources, exposure to diseases, and the use of security personnel. While acknowledging the public authorities' role in promoting the health, safety and security of the public, this Performance Standard addresses the client's.

Responsibility to avoid or minimize the risks and impacts to community health, safety and security that may arise from project activities. The level of risks and impacts described in this Performance Standard may be greater in projects located in conflict and post-conflict areas.

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities.

ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

2.0 Objectives

To avoid or minimize risks to and impacts on the health and safety of the local community during the project life cycle from both routine and non-routine circumstances. To ensure that the safeguarding of personnel and property is carried out in a legitimate manner that avoids or minimizes risks to the community's safety and security.

- To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life -cycle from both routine and non-routine circumstances.
- To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams.
- To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials.
- To have in place effective measures to address emergency events.
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

3.0 Scope of application

The applicability of this Environmental and Social Standards (ESSs) is established during the Social and Environmental Assessment process, while implementation of the actions necessary to meet the requirements of this Performance Standard is managed through the client's Environmental and Social Management System. The assessment and management system requirements are outlined in Performance Standard. This Environmental and Social Standards (ESSs) addresses potential risks and impacts to the affected community from project activities.

4.1 General Requirements

The client will evaluate the risks and impacts to the health and safety of the affected community during the design, construction, operation, and decommissioning of the project and will establish preventive measures to address them in a manner commensurate with the identified risks and impacts. These measures will favor the prevention or avoidance of risks and impacts over minimization and reduction. Where the project poses risks to or adverse impacts on the health and safety of affected communities, the client will disclose the Action Plan and any other relevant project-related information to enable the affected communities and relevant government agencies to understand these risks and impacts, and will engage the affected communities and agencies on an ongoing basis consistent with the requirements of Environmental and Social Standards (ESSs).

The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life -cycle, including those who, because of their particular circumstances, may be vulnerable. The Borrower will identify risks and impacts and propose mitigation measures in accordance with the mitigation hierarchy. Some groups within a community may be particularly vulnerable to health and safety risks from a project because of, for example, their age, health, level of education, occupation, socioeconomic conditions, status, gender, and/or disability. Identifying individual groups considered to be vulnerable is an important part of the environmental and social assessment, and enables inclusive measures to be incorporated into projects to avoid harm to vulnerable groups and improve project performance. Attention should be given to the health and safety risks posed by the influx of workers or people providing support services into an area as a result of the project. Risks related to labor influx are known to be potentially highest for large infrastructure projects in remote areas.

Where an assessment identifies risks, for example Gender-Based Violence (GBV) or Sexual Exploitation and Abuse (SEA) of children, or communicable diseases, which may arise from the interaction of project workers with local communities, the environmental and social documents for the project describe such risks and measures to address them. Such measures can include, more generally, the use of skilled trainers to raise awareness among project workers of the risks, expected behaviors, and consequences of violations, communicated through training, and publicized codes of conduct. It may also be important to raise awareness of the risks among community members and local health authorities and inform them about available grievance mechanisms. Where appropriate, the risks and mitigation measures relating to project workers should also be reflected in the labor management procedures for the project as discussed in GN9.4 of ESS2.

4.2 Infrastructure and Equipment Design and Safety

The Borrower will design, construct, operate, and decommission the structural elements of the project in accordance with national legal requirements, the EHSGs and other GIIP, taking into consideration safety risks to third parties and affected communities. Structural elements of a project will be designed and constructed by competent professionals, and certified or approved by competent authorities or professionals.1 Structural design will take into account climate change considerations, as appropriate. “Structural elements” are the physical parts of the project. They may include existing or new buildings, earthworks, bridges, retaining walls, drainage ditches, roadways, penstocks, water and irrigation channels, pylons, air conditioning units, power stations, electrical utility lighting, transmission and distribution poles (and their potential need for relocation), underground utilities, and dams. They would include other critical structures, for example, structures that are at risk for flooding.

The client will design, construct, and operate and decommission the structural elements or components of the project in accordance with good international industry practice, and will give particular consideration to potential exposure to natural hazards, especially where the structural elements are accessible to members of the affected community or where their failure could result in injury to the community. Structural elements will be designed and constructed by qualified and experienced professionals, and certified or approved by competent authorities or professionals.

The certification or approval process by competent authorities or professionals reflects the risk of adverse consequences posed by the nature and use of the structural elements, and the natural conditions of the area (for example, potential for hurricanes, earthquakes, flooding, extreme temperatures). The process also takes into account the relevant engineering safety considerations, such as geotechnical, structural, electrical, and mechanical specifications. In situations where the

governmental regulatory capacity to provide "competent authority certification" may be limited, external professionals who are competent to certify or approve structural elements of the project should maintain independence from the project implementer, as they are undertaking inherently governmental functions. Similar considerations apply in determining whether third-party life and fire safety audits are required. The certification and approval of some structural elements will, in some cases, go beyond local regulatory requirements.

The types of measures that can be incorporated to reflect climate change considerations and other risk conditions such as flooding are discussed in more detail in the Environmental, Health and Safety Guidelines (EHSGs) and Good International Industry Practice (GIIP).

Where national laws or regulations have mandatory requirements on accessibility, these are incorporated into the design of the project, together with any additional measures needed to meet the universal accessibility requirements of footnote 2.

When applying the concept of universal access in the design and construction of new roads, where technically and financially feasible, the project should, among other things:

(a) Consider universal access as part of the project design;

(b) Seek input from stakeholders, such as potential users of the buildings and structures and organizations representing disabled people;

(c) Explicitly incorporate into procurement documents considerations relating to universal access; and

(d) Consider local accessibility standards, and codes on universal access and nondiscrimination.

Examples of measures to support universal access in buildings or structures include sidewalks with ramps and drop curbs, clear and visible signs, tactile strips, audible announcement of signs, appropriate placement and height of equipment, easily identified emergency exists, raised toilet seats and handrails, and wide doors.

4.3 Hazardous Materials Safety

The client will prevent or minimize the potential for community exposure to hazardous materials that may be released by the project. Where there is a potential for the community (including workers and their families) to be exposed to hazards, particularly those that may be life-threatening, the client will exercise special care to avoid or minimize their exposure by modifying, substituting or eliminating the condition or substance causing the hazards. Where hazardous materials are part of existing project infrastructure or components, the client will exercise special care when conducting decommissioning activities in order to prevent exposure to the community.

The Borrower will avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the project. Where there is a potential for the public (including workers and their families) to be exposed to hazards, particularly those that may be life-threatening, the Borrower will exercise special care to avoid or minimize their exposure by modifying, substituting, or eliminating the condition or material causing the potential hazards. Where hazardous materials are part of existing project infrastructure or components, the Borrower will exercise due care during construction and implementation of the project, including decommissioning, to avoid exposure to the community.

The Borrower will implement measures and actions to control the safety of deliveries of hazardous materials, and of storage, transportation and disposal of hazardous materials and wastes, and will implement measures to avoid or control community exposure to such hazardous material.

Hazardous materials and wastes are defined in the EHSGs as materials that present a risk to human health, property, and the environment due to their physical or chemical characteristics. These can include: explosives; compressed gases, including toxic or flammable gases; flammable

liquids; flammable solids; oxidizing substances; toxic materials; radioactive material; corrosive substances; chemical fertilizers; soil amendments; chemicals, oils and other hydrocarbons; paints; pesticides; herbicides; fungicides; asbestos; metal waste; hospital and pharmaceutical waste; used batteries; radioactive medical waste; fluorescent light bulbs and ballasts; byproducts of plastic incineration at low temperatures; and PCBs in electrical equipment. Further details on hazardous materials and wastes may be found in the Guidance Note for ESS3.

Where the risks and impacts of community exposure to hazardous materials and wastes are potentially significant, it may be appropriate to develop a Hazardous Waste Management Plan or a Hazardous Materials Management Plan. The Hazardous Materials Management Plans should set out, at a minimum, the organizational arrangements and responsibilities for hazardous material identification, storage, handling, use, and disposal, including the processes for monitoring and managing the risks and for implementing the necessary mitigation measures throughout the project life cycle.

4.4 Environmental and Natural Resource Issues/Ecosystem Serves

The client will avoid or minimize the exacerbation of impacts caused by natural hazards, such as landslides or floods that could arise from land use changes due to project activities. The client will also avoid or minimize adverse impacts due to project activities on soil, water, and other natural resources in use by the affected communities.

Community Exposure to Disease

The client will prevent or minimize the potential for community exposure to water-borne, water based, water-related, vector-borne disease, and other communicable diseases that could result from project activities. Where specific diseases are endemic in communities in the project area of influence, the client is encouraged to explore opportunities during the project life cycle to improve environmental conditions that could help reduce their incidence. The client will prevent or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent project labor.

The project's direct impacts on ecosystem services may result in adverse health and safety risks to and impacts on affected communities.4 With respect to this ESS, ecosystem services are limited to provisioning and regulating services as defined in ESS1. Where appropriate and feasible, the Borrower will identify the project's potential risks and impacts on ecosystem services that may be exacerbated by climate change. Adverse impacts will be avoided, and if they are unavoidable, the Borrower will implement appropriate mitigation measures.

As defined in Footnote 27 of ESS1, ecosystem services are the benefits that people derive from ecosystems. The provisioning services that ecosystems provide include the products people obtain from the ecosystems, such as food, freshwater, timbers, fibers, and medicinal plants. Regulating services of ecosystems are the benefits people obtain from the regulation of ecosystem processes, such as surface water purification, carbon storage and sequestration, climate regulation, and protection from natural hazards. Ecosystems and ecosystem services affected by the project need to be part of the environmental and social assessment as described in ESS1. Information on ecosystem services may also be found in the Guidance Note for ESS6.

4.5 Emergency Preparedness and Response

The client will assess the potential risks and impacts from project activities and inform affected communities of significant potential hazards in a culturally appropriate manner. The client will also assist and collaborate with the community and the local government agencies in their preparations to respond effectively to emergency situations, especially when their participation

and collaboration are necessary to respond to such emergency situations. If local government agencies have little or no capacity to respond effectively, the client will play an active role in preparing for and responding to emergencies associated with the project. The client will document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information in the Action Plan or other relevant document to affected communities and relevant government agencies.

5.0 Security Personnel Requirements/Security Personnel

When the client directly retains employees or contractors to provide security to safeguard its personnel and property, it will assess risks to those within and outside the project site posed by its security arrangements. In making such arrangements, the client will be guided by the principles of proportionality, good international practices in terms of hiring, rules of conduct, training, equipping and monitoring of such personnel, and applicable law. The client will make reasonable inquiries to satisfy itself that those providing security are not implicated in past abuses, will train them adequately in the use of force (and where applicable, firearms) and appropriate conduct toward workers and the local community, and require them to act within the applicable law. The client will not sanction any use of force except when used for preventive and defensive purposes in proportion to the nature and extent of the threat. A grievance mechanism should allow the affected community to express concerns about the security arrangements and acts of security personnel. If government security personnel are deployed to provide security services for the client, the client will assess risks arising from such use, communicate its intent that the security personnel act in a manner consistent, and encourage the relevant public authorities to disclose the security arrangements for the client's facilities to the public, subject to overriding security concerns. When the Borrower retains direct or contracted workers to provide security to safeguard its personnel and property, it will assess risks posed by these security arrangements to those within and outside the project site. In making such arrangements, the Borrower will be guided by the principles of proportionality and GIIP, and by applicable law, in relation to hiring, rules of conduct, training, equipping, and monitoring of such security workers. The Borrower will not sanction any use of force by direct or contracted workers in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

Decisions on the appropriate scope of the project's security arrangements are guided by an assessment of (a) potential risks to the project's personnel and property, which may require a security response; (b) appropriate responses to the identified security risks; (c) potential impacts of a security incident on the project, local communities, and other parties; and (d) potential mitigation measures. The security arrangements for a project may themselves pose risks to, and impacts on, project workers and local communities. It is important to take these risks and impacts into consideration and to determine measures to address them, and this should be part of the ongoing stakeholder engagement on the project, as described in ESS10. Project-level grievance mechanisms that are available to project workers, local communities, and other stakeholders allow them to provide feedback on the project's security arrangements and personnel.

Appropriate conduct is expected of any private security forces employed by the project. Contractual arrangements provide clear instructions on the limited circumstances in which force may be used to protect the project's personnel or property. Adequate protocols should also be in place and implemented for security services provided by government entities.

The Borrower will seek to ensure that government security personnel deployed to provide security services act in a manner consistent with paragraph 24 above, and encourage the relevant authorities to disclose the security arrangements for the Borrower's facilities to the public, subject to overriding security concerns. The Borrower will review all allegations of unlawful or abusive

acts of security personnel, take action (or urge appropriate parties to take action) to prevent recurrence and, where necessary, report unlawful and abusive acts to the relevant authorities.

It is important that the project-level grievance mechanism be able to accept concerns or complaints regarding the conduct of security personnel and that such concerns and complaints, as well as any associated evidence and facts, be promptly documented and assessed and action be taken to prevent recurrence. The responses implemented in response to complaints are monitored and the outcomes communicated to relevant parties, taking into account the need to protect the confidentiality of victims and complainants.

6.0 Community Health and Safety

This section complements the guidance provided in the preceding environmental and occupational health and safety sections, specifically addressing some aspects of project activities taking place outside of the traditional project boundaries, but nonetheless related to the project operations, as may be applicable on a project basis. These issues may arise at any stage of a project life cycle and can have an impact beyond the life of the project.

6.1 Water Quality and Availability

Groundwater and surface water represent essential sources of drinking and irrigation water in developing countries, particularly in rural areas where piped water supply may be limited or unavailable and where available resources are collected by the consumer with little or no treatment. Project activities involving wastewater discharges, water extraction, diversion or impoundment should prevent adverse impacts to the quality and availability of groundwater and surface water resources.

6.2 Water Quality

Drinking water sources, whether public or private, should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality. Air emissions, wastewater effluents, oil and hazardous materials, and wastes should be managed according to the guidance provided in the respective sections of the General EHS Guidelines with the objective of protecting soil and water resources. The Borrower will avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases, and communicable and non-communicable diseases that could result from project activities, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. Where specific diseases5 are endemic in communities in the project area, the Borrower is encouraged to explore opportunities during the project life -cycle to improve environmental conditions that could help minimize their incidence.

Waterborne diseases are conditions caused by pathogenic microorganisms within a water source. Consuming water contaminated by human, animal, or chemical wastes while bathing, washing, drinking, or by eating food exposed to infected water, is the primary source of such diseases. These diseases are especially prevalent in areas lacking access to adequate sanitation or treatment facilities, and include cholera, diarrhea, dysentery, and typhoid.

Water-based diseases are caused by organisms that have an aquatic development cycle and another cycle as fully grown parasites in other animal or human hosts. These diseases include guinea worm and schistosomiasis. Vector-borne diseases are caused by pathogens in human populations transmitted by vectors and are often region-specific in nature, such as mosquitoes, ticks, and so forth. These diseases include Chagas disease, human African trypanosomiasis, Japanese encephalitis, leishmaniosis, malaria, onchocerciasis, schistosomiasis, and yellow fever.

Communicable diseases are illnesses caused by an infectious agent or its toxins that occur through the direct or indirect transmission of the infectious agent or its products from an infected individual or via an animal, vector, or the inanimate environment to a susceptible animal or human host. Communicable diseases are transmissible from person to person through air, blood, or other bodily fluid and include hepatitis, HIV/AIDS, influenza, polio, syphilis, and tuberculosis.
No communicable diseases are illnesses that are not passed from person to person. They tend to be of long duration and generally slow progression and may include: cardiovascular diseases (for example, heart attacks and stroke); cancers; chronic respiratory diseases (for example, chronic obstructive pulmonary disease and asthma); mental and substance use disorders; digestive diseases; genitourinary diseases; skin diseases; and musculoskeletal diseases and diabetes. Air pollution is also a major contributor to non-communicable diseases.

The types of projects that may contribute to increased health risks and, therefore, call for particular consideration, include those that create permanent or temporary water bodies that may increase incidences of water-related diseases, such as dams, irrigation schemes, construction pits, or other depressions; projects in areas that lack adequate sanitary wastewater discharge and treatment infrastructure; projects that may result in exposure to air pollution, hazardous materials, chemicals, particulate matter, or radiation, or that contribute to a higher incidence of non-communicable diseases; projects that exacerbate existing health conditions, affect mental health, or reduce the quality of nutrition; and projects that lead to greater risk of exposure to disease or health issues, for example, as a result of changes to mobility or behavior.

Project-related health risks are assessed as part of the environmental and social assessment or, depending on the nature and significance of the project activities and the potential risks and impacts, through a stand-alone health impact assessment. Where appropriate, measures to avoid, minimize, or mitigate risks and impacts identified during the assessment are integrated into the project's design and implemented throughout the life-cycle of the project. In accordance with the requirements of ESS10, community health and safety assessments should be carried out in consultation with local communities, including representatives of local health authorities.
Health risks from project activities may differ within communities, depending on various factors that can contribute to vulnerability, including age, gender, status, physical or mental illness or disability, poverty or economic disadvantage, or dependence on unique natural resources. For example, households that rely on water directly from natural sources may be more at risk of water-borne and water-based diseases than those that receive water from a distribution network. Health risks may also place a disproportionate burden on women, who are often responsible for family health care.

6.3 Water Availability

The potential effect of groundwater or surface water abstraction for project activities should be properly assessed through a combination of field testing and modeling techniques, accounting for seasonal variability and projected changes in demand in the project area. Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day although lower levels may be used to meet basic health requirements.

7.0 Structural Safety of Project

7.1 Infrastructure

Hazards posed to the public while accessing project facilities may include:
Physical trauma associated with failure of building structures,
Burns and smoke inhalation from fires,
Injuries suffered as a consequence of falls or contact with heavy equipment,
Respiratory distress from dust, fumes, or noxious odors.

Exposure to hazardous materials Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project:

Inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure, as well as nuisance issues related to noise, odors, or other emissions

Incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire. To this end, all project structures should be designed in accordance with engineering and design criteria mandated by site-specific risks, including but not limited to seismic activity, slope stability, wind loading, and other dynamic loads.

Application of locally regulated or internationally recognized building codes to ensure structures are designed and constructed in accordance with sound architectural and engineering practice, including aspects of fire prevention and response

Engineers and architects responsible for designing and constructing facilities, building, plants and other structures should certify the applicability and appropriateness of the structural criteria employed. International codes, such as those compiled by the International Code Council (ICC), are intended to regulate the design, construction, and maintenance of a built environment and contain detailed guidance on all aspects of building safety, encompassing methodology, best practices, and documenting compliance.

8.0 Life and Fire Safety (L&FS)

8.1 Applicability and Approach

All new buildings accessible to the public should be designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements, and in accordance with an internationally accepted life and fire safety (L&FS) standard. The Life Safety Code, which provides extensive documentation on life and fire safety provisions, is one example of an internationally accepted standard and may be used to document compliance with the Life and Fire Safety objectives outlined in these guidelines. With regard to these objectives:

Life and fire safety systems and equipment should be designed and installed using appropriate prescriptive standards and/or performance based design, and sound engineering practices.

Life and fire safety design criteria for all existing buildings should incorporate all local building codes and fire department regulations. These guidelines apply to buildings that are accessible to the public.

9.0 Traffic and Road Safety

The Borrower will identify, evaluate and monitor the potential traffic3 and road safety risks to workers, affected communities and road users throughout the project life -cycle and, where appropriate, will develop measures and plans to address them. The Borrower will incorporate technically and financially feasible road safety measures into the project design to prevent and mitigate potential road safety risks to road users and affected communities.

Where appropriate, the Borrower will undertake a road safety assessment for each phase of the project, and will monitor incidents and accidents, and prepare regular reports of such monitoring. The Borrower will use the reports to identify negative safety issues, and establish and implement measures to resolve them.

Traffic accidents have become one of the most significant causes of injuries and fatalities among members of the public worldwide.

Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads. Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that are protective of project workers and of road users, including those who are most vulnerable to road traffic accidents. Road safety initiatives proportional to the scope and nature of project activities should include:

Adoption of best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public. Measures should include:

- Emphasizing safety aspects among drivers
- Improving driving skills and requiring licensing of drivers
- Adopting limits for trip duration and arranging driver rosters to avoid overtiredness
- Avoiding dangerous routes and times of day to reduce the risk of accidents
- Use of speed control devices (governors) on trucks, and remote monitoring of driver actions

Regular maintenance of vehicles and use of manufacturer approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure. Where the project may contribute to a significant increase in traffic along existing roads, or where road transport is a significant component of a project, recommended measures include:

Coordination with emergency responders to ensure that appropriate first aid is provided in the event of accidents Using locally sourced materials, whenever possible, to minimize transport distances. Locating associated facilities such as worker camps close to project sites and arranging worker bus transport to minimizing external traffic Employing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions.

Projects may involve construction of new roads or rehabilitation or structural changes/improvements to existing roads, which can create traffic and road safety risks. Indirect changes to traffic flow or volume on an existing road may also create risks, for example, when construction of a new bypass leads to increased traffic speeds on local roads due to reduced congestion. Communities affected by traffic and road safety issues include those alongside, or bisected or fragmented by a road associated with the project. Shops, stalls, and residential properties may all be affected, along with people present on the road itself, whether no motorized (Pedestrians and cyclists) or motorized (on motorcycles, or in cars, trucks, or buses) road users.

For projects that affect traffic flow or volume on existing roads, the environmental and social assessment considers the risks arising from the proposed changes, paying attention to vehicle mix, volume, speed, and condition (including vehicle weight, height, length, and any hazardous materials likely to be carried). Other aspects to be considered include lane widths, slopes, speed management, roadside uses, pedestrian usage and facilities, air pollution, and any risks that these may pose.

The identification of risks begins at project identification, so that measures to address potential risks can be incorporated into the project design. As part of the environmental and social assessment, aspects of the project design, such as junction layout, alignment, road signs and signals, provision of pedestrian footways and crossings, barriers (for pedestrians and vehicles), median layout, and access to public transport, are reviewed, taking into account risks that may materialize throughout the project-life cycle, as well as design features that can enhance project benefits.

A road safety assessment is conducted as part of the environmental and social assessment when the traffic and road safety issues are likely to be significant for the community or road users, for example, in projects that involve new roads, road improvements, traffic management,

increasing traffic speed, bus rapid transport, and other forms of urban transport that may change the traffic mix. The assessment considers risks to pedestrians and to important aspects of community cohesion, for example, from bisecting communities or pedestrian routes, creating transport nodes, or affecting access to or traffic on a road. Both construction-related and operational risks are considered. The requirements for vulnerable groups, such as adequate lighting in public areas, suitable ablution facilities near transport, and adequate road crossing structures should all be taken into consideration in the assessment.

As appropriate, details of the road safety measures are set out in the road safety assessment or incorporated in a plan relating to health and safety or traffic management. Such plans set out specific safety measures, for example, measures necessary to manage traffic speeds, or provide controls for single-lane two-way traffic to address noise and control dust and drainage issues.

Information on traffic incidents and accidents is used to help manage traffic risks and impacts, and make improvements to safety measures throughout the project life cycle. Monitoring and reporting covers details of fatalities, injuries, crash types, and locations. An emergency response plan may be appropriate to describe the contingencies in place for emergency assistance in the event of incidents and injuries (see paragraph 20 of ESS4). It is recommended to develop the emergency response plan in consultation with the local communities, local emergency responders, and local health authorities. For projects that operate construction and other equipment on public roads or where the use of project equipment could have an impact on public roads or other public infrastructure, the Borrower will take appropriate safety measures to avoid the occurrence of incidents and injuries to members of the public associated with the operation of such equipment.
Overall Project Traffic and Road Safety Risks (OPTRSR) is estimated based on the five main principles:

- Road infrastructure
- Operating speed (km/h)
- Road users
- Vehicle standards, and
- Post trauma care

The OPTRSR should be based on the expected risk of traffic and road safety assuming project design elements have been satisfactorily implemented with suitable adjustment for expected reliability.

The OPTRSR process will also provide guidance on focus areas for road safety mitigation measures. Beyond assessing the OPTRSR, the process provides insight into specific focus areas which are areas of opportunity in which there may be higher risk within a lower OPTRSR.
Based on data availability, three methods may be used for assessing the OPTRSR for Type A - Transport Projects. They should be used under the following mutually exclusive conditions (see Table 1).

Table 1 Methods for Estimating OPTRSR for Projects

Conditions	Risk Assessment Method to Employ

Reasonable crash data are available for the road, or can be estimated from data available from similar road(s) in the country, and the road will not be changed so much by the project that the current conditions are irrelevant; or, o the project involves major upgrades to the road such that current crash history is irrelevant and crash data from a similar road carriageway to the expected upgraded conditions can be obtained to inform the expected level of risk arising due to the project; or, o Reasonable crash data are available for the road or can be estimated from data available from similar road(s) in the country and the main changes to the road are improved road surface and anticipated increases in speed.	Use Method I: Crash data-based risk assessment
The conditions for Method I regarding crash data are not met; and results of iRAP analysis of the existing road are available; and the road will not be changed so much by the project that the iRAP results for the current conditions are irrelevant.	Use Method II: iRAP results and estimated risks for other factors
The conditions for Methods I and II are not available.	Use Method III: Estimated road infrastructure risk and estimated risks for other factors

Method I: Crash Data Based Risk Assessment

This is the most reliable method for estimating the OPTRSR. It effectively captures the first three criteria (infrastructure, users and speeds), and will also reflect the other two criteria (vehicle standards and post-crash trauma care). Crash data from previous 3 to 5 years should be used to provide insight on the level of risk. Unfortunately, in many LMICs official crash data greatly under-represent the real level of FSIs. As a guide to the extent of this under-estimation consider the *WHO 2018 Global Status Report on Road Safety*, and if appropriate for the road(s) under consideration adjust the official data by the extent of omission for the country. The crash data should be complemented by an assessment of the vehicle standards and post-crash trauma care to adapt the overall risk as appropriate. Examples of assessing risk as: • Numerous FSI crashes have been occurring, the OPTRSR should be regarded as High.

• Rare, but still existing FSI crashes may indicate Moderate or Substantial risk. Since crash numbers and severity will increase with increased speeds, risk will increase if speeds increase after the project, and thus risk should be adjusted higher as appropriate.

• If there are no serious crashes and speeds will not increase, and other risk factors are not increasing (such as significant increases in traffic or pedestrians) the risk may be considered Low.

Methods B and C: Estimating Risks without Crash Data

In the absence of crash data, Table 2 presents two options for estimating the OPTRSR. Both methods use the same approach for assessing the non-infrastructure risks; where they differ is on how to estimate the infrastructure risk. Method II uses data from surveys on the existing road for the road infrastructure risk, and an assessment of the other criteria. For each of the five risk factors in Table 2 determine the appropriate score, with a maximum of 4 for each factor: the higher the score, the lower the risk.

Table 2 Method II Using IRAP Data for Infrastructure Risk

Risk Factor	Low	Medium	Substantial	High
iRAP Star Rating of the existing condition for vehicle occupants	4/5	3	2	1-2
iRAP Star Rating of the existing condition for motorcyclists (if motorcycles are present on the road or likely to be present post-project)	4/5	3	2	1-2

iRAP Star Rating of the existing condition for bicyclists (if bicycles are present on the road or likely to be present post-project)	4/5	3	2	1-2
iRAP Star Rating of the existing condition for pedestrians (if pedestrians are present on the road or roadside or likely to be present post-project)	4/5	3	2	1-2

Method III subjective estimates the road infrastructure risk using the criterial in Table 3 based on the provision of infrastructure: 4 is the situation where there is a high level of safe infrastructure—leading to Low-risks; 1 is where there is a low level of safe infrastructure, leading to High-risks.

Table 3 Method III: Estimating Road Infrastructure Risk Without Crash or Data International Road

Risk Factor	Low	Medium	Substantial	High
Extent of separation of pedestrians from traffic with provision of safe walking spaces and crossing locations (if pedestrians are present on the road or roadside or likely to be present post-project)	4	3	2	1
Extent of roadside safety barriers (omit this factor from consideration if the operating speed is < 40km/h)	4	3	2	1
Extent of median separation (omit this factor from consideration if the operating speed is < 60km/h for a rural road and <40km/h for an urban road)	4	3	2	1
Extent of separate well-designed motorcycle lanes (if motorcycles are present on the road or roadside or likely to be present post-project)	4	3	2	1

For Methods II and III, the non-infrastructure risks are estimated using Table 4. As with Table 3 and 4, assign each of the elements a value from 1 – 4, weighting the considerations accordingly (e.g. if it is only an urban road in a pedestrian area and speeds are > 60 km/h this would be given a score of 1; if 30 or below 4).

Table 4 Risk Factor for Non-Infrastructure Risks

Risk Factor	Low	Medium	Substantial	High
Non-peak hour (non-congested) Operating Speeds (not speed limit) in km/h in:				
Pedestrian areas	~ 30	> 40	> 50	> 60
Urban areas with no pedestrians	50	> 60	> 60	> 70
Open road, not median separated	70	80	90	100+
Open road, median separated	90	100	100	>100
Road Users				
Seat belt use for front passengers	> 90%	70%-90%	50%-70%	< 50%
Child Restraint use, and rear seat passenger seat belt use, combined	> 80%	70%-80%	50%-70%	< 50%
Motorcycle Helmet Use (all occupants combined)	> 90%	70%-90%	50%-70%	< 50%
Vehicle Standards				
Standardized regulations (UNECE WP29) for vehicle and motorcycle safety standards	Adopted	Adopted	Not Adopted	Not Adopted
Post-Crash Trauma Care				
Response time for qualified emergency services to arrive at crash scene (hours, including: no qualified emergency service attends as 2hours)	< 0.5	0.5 - 1	> 1	> 1

For each of the five risk criteria (i.e. infrastructure, speeds, users, vehicles and trauma care), calculate the weighted average score based on the project. For example, if the project is constructing a new motorway then for the infrastructure risk the bicycle and pedestrian scores would be set to zero—if there are no public transport users—and the calculations only based on the vehicle occupants and motorcyclists. Potentially, since there are no pedestrians or bicyclists, and few motorcyclists you may weigh the values 95% occupants and 5% motorcyclists.

For both Methods II and III, the OPTRSR is estimated based on the weighted average risk score from each of the five risk criteria, having assigned values of 1 to 4 for each of the weights (see Table A2.4 for the scores). The Total Risk Score is calculated on a scale of 100 to 400: projects

that score less than 130 are considered 'Low' risk; 130 to 224 is 'Moderate' risk; projects that score 225 to 300 represent a 'Substantial' risk, and project that score over 300 are considered 'High' risk projects.

For example, if no data are available then Tables 3 is employed for infrastructure risk. In this hypothetical example, suppose the mean result for Table 3 was High (that is, there was generally little use of barrier and median separation, etc.) then the mean score for road infrastructure would be 4. Using Table4, operating speeds may also result in a high rating (score of 4); road user behavior is generating a Substantial-risk rating (seat belt use is between 50 and 70%, etc.) resulting in a score of 3 on this factor; and both post-crash care and vehicle standards also produce scores of 4. Applying the weightings of 30%/30%/30%/5%/5% would give a total score of 370 meaning the OPTRSR is HIGH.

Total Risk Score = 4 * 30 (for infrastructure) + 4 * 30 (for speeds) + 3 * 30 (for road users) + 4 * 5 (for vehicles) + 4 * 5 (for post-crash care) = 370.

Table 5 Example of Weightings by Risk Factors

Area	Weighting (%) a/	Low	Moderate	Substantial	High
Road Infrastructure	30	1	2	3	4
Operating Speeds (km/h)	30	1	2	3	4
Road Users	30	1	2	3	4
Vehicle Standards	5	1	2	3	4
Post-Crash Trauma Care	5	1	2	3	4

Notes: a/ This weighting will vary between projects based on specific project considerations
104. Table A2.5 shows other scenarios leading to diverse levels of OPTRSRs.

Table 6 Example of Different Scenarios

Different Scenarios with Risk Factors Scored from 1 – 4 and Resulting Overall Risk						
Road Infrastructure	1	1	1	1	1	2
Operating Speeds (km/h)	1	2	2	3	4	4
Road Users	1	3	4	4	4	4
Vehicle Standards	1	1	1	1	1	1
Post-Crash Trauma Care	1	1	1	1	1	1
Total Score	100	190	220	250	280	310
OPTRSR (as judged from the risk factors. This should be considered in combination with the baseline crash data if available and relevant, as described above.)	Low	Moderate	Moderate	Substantial	Substantial	High

All projects which have traffic and road safety risks during construction will need to include measures in bidding documents and traffic management plans for the construction period.

Environmental and Social Documents

The key traffic and road safety risks to be mitigated during construction and expected during post-project operations need to be identified from the project environmental and social documents, including the Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Framework (ESMF) and/or Environmental and Social Management Plan (ESMP), Resettlement Action Plan (RAP) 21, and/or Consent Conditions from regulatory authorities. To do this, ensure that the project's social assessment includes assessment of the underlying road safety risks and social situation and maintains safety and ethical considerations related to road safety data collection. The project ESMF/ESMP should detail the road safety monitoring and

reporting frequency, overall responsibility (see Chapter 5), and describe specific responsibility for remedial actions.

From the onset of the project, the Borrower needs to identify and evaluate the potential traffic and road safety risks arising from the project activities and/or their implementation. Identifying these early in the project cycle helps the Borrower to mobilize appropriate resources, to analyze the risks in detail, and identify and adopt mitigation measures.

These aspects should be included in the TOR for the ESIA and ESMP (e.g. requiring a planning RSA). As appropriate, the Borrower should include road safety mitigation measures in the: (i) project design; (ii) project operational manual; (iii) civil works design; (iv) occupational health and safety requirements; (v) bidding documents; and, (vi) the civil works contracts.

The key traffic and road safety risks to be mitigated during construction and expected during post-project operations need to be identified from the project environmental and social documents, including the Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Framework (ESMF) and/or Environmental and Social Management Plan (ESMP), Resettlement Action Plan (RAP) 21, and/or Consent Conditions from regulatory authorities. To do this, ensure that the project's social assessment includes assessment of the underlying road safety risks and social situation and maintains safety and ethical considerations related to road safety data collection. The project ESMF/ESMP should detail the road safety monitoring and reporting frequency, overall responsibility, and describe specific responsibility for remedial actions.

The assessments will need to be completed before the project is fully appraised to inform project structure, components, and the results framework. Substantial and High-risk projects should as a minimum include intermediate indicators related to traffic and road safety risk mitigation.

ANNEX 9. SUMMARY OF PUBLIC CONSULTATIONS

#	Date	Organization, places / location	Name / Position	Questions
1.	26 August – 4 September, 2019.	State institution for the maintenance of roads SIMR (DEU) of the Khorog city	1. The head of SIMR (DEU) of the GBAO - Ramazonov G 2. Chairman of the I.Somoni Jamoat -Jonmamadov A 3. Chairman of the Sh.Shotemur Jamoat Razhabbekov.R 4. Deputy of the Mayor of the Khorog city Buribekov.Z 5. Consultant on environmental issues of hydraulic fracturing - Avzalshoev B. In total 250 people were participated including the representatives of the Jamoats.	Familiarization with the project. Collaboration during the implementation of the project. Questions on the basic requirements of the WB on Environmental and Social guarantees of the project. Development of documents on social guarantees for the CARs-4 project.
2.	26 August – 4 September, 2019. Barsem village	State institution for the maintenance of roads SIMR (DEU) of Khorog city and of the Barsem village of the Suchon Jamoat.	1. The head of SIMR (DEU) of the GBAO - Ramazonov G 2. Chairman of the I. Somoni Jamoat -Jonmamadov A 3. Chairman of the Sh.Shotemur Jamoat Razhabbekov.R 5. Consultant on Environmental issues - Avzalshoev B. In total 114 people were participated	Familiarization with the project. Collaboration during the implementation of the project. Questions on the basic requirements of the WB on Environmental and Social guarantees of the project. Development of documents on social guarantees for the CARs-4 project.

3.	14-20 June , 2019. Kurush jamoat of theSpitamen district 10 October, 2019	Kurush Jamoat	1.the Chairman of the Kurush - Umarov M 2. Director of State institution for the maintenance of roads (SIMR)-Abdulloev Sh 3. Chief Engineer (SMIR)-Abdulloev I 4. The Chairman of Water Management -Nuraliev Sh 5. Environmental consultant – Akhmedov I 6. Chairman of the Land Committee - Sultoni M 7. Chairman Gorset - Ubaidulloev F 8. Chairman of the rural communities Kurush, Shirin, Hatiyak, Kurkat In total 43 people were participated, including the representatives of the Jamoats.	Familiarization with the project. Collaboration during the implementation of the project. Questions on the basic requirements of the WB on Environmental and Social guarantees of the project. Development of documents on social guarantees for the CARs-4 project
4.	14-20 June, 2019 15 Oktober	The administration of the Gafurov District	1. Chairman of the Gafurov district – Gaforzoda A; Yovar Jamoat – Sheraliev Kh; Isfisor Jamoat – Dustmuhammad A; Goziyon Jamoat – Shokirov Y. 2. Director of the (SMIR) Ashhurov Sh 3. The Chairman of Water Management – Lakimzoda A. 4. Environmental Consultant of PIG MoT – Akhmedov I 5. Chairman of the Land Committee – Azizzoda R. 6. Chairman Gorset –Unusov In total 76 people were participated including the representatives of Jamoats.	Familiarization with the project. Collaboration during the implementation of the project. Questions on the basic requirements of the WB on Environmental and Social guarantees of the project. Development of documents on social guarantees for the CARs-4 project
5.	15-20 July, 2019. 10 December	The administration of the Kulob city	1. Chairmans of the Jamoats and the town of Hulbuk of the Vose district. Jamoat of Guliston of the Vose district Mirzoev M, Jamoat of Abdu-Avaz of the Vose district, Kurbonova M, Jamoat of the Tugarak of the Vose r district -Halimov A, jamoat of the Khulbuk town of Vose district Gulmadova A 2. Director of (SMIR) DEU, Vosei district, Huseynov S,	Familiarization with the project. Collaboration during the implementation of the project. Questions on the basic requirements of the WB on Environmental and Social guarantees of the project. Development of documents on social guarantees for the CARs-4 project

			3. Chairman of the Water Management Department of Kulyab - Karimov A 4. Environmental consultant–Akhmedov 5. Chairman of the Land Committee of the Kulob city - Mirzohonzoda Sh 6. Head of the Regional Department of SMIR (DEU) of the Kulob city-Nurulloev B 7. Chairman of the Zardor Jamoat of the Kulob city-Makhmudov N 8. Chairman of the land committee Mirzohonzoda Sh Heads of rural communities: Guliston, Mehrobod, Sadulloi Sharif, Voise Rim, Voseobodi Kalon, Javrez, Sulkhobod, Tugarak, Navobod, Voseisky district and Guliston, Punch-Osiyeb, Zarbdor-Watansho Shamsov, Kulyab city. In total 112 people were participated including the representatives of the Jamoats.	