

MINISTRY OF TRANSPORT OF THE REPUBLIC OF TAJIKISTAN

Project: Central Asia Regional Links Program (CARs-4)

**INITIAL ENVIRONMENTAL AND SOCIAL IMPACT
ASSESSMENT (ESIA)
FOR SUGHD REGION ROAD SECTIONS**

June 3, 2020

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Abbreviations

ACP	Asphalt Concrete Plan
CARs-4	The Central Asia Regional Links Program, Phase 4
CEP	Committee for Environmental Protection
CC	Contractors Company
CFPP	Chance Find Procedure Plan
ESS	Environmental and Social Standards
EA	Environmental Assessment
EFR	Environmental Framework Report
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EPNR	Especially Protected Natural Reserve
FS	Feasibility Study
FGs	Focus Groups
GBAO	Gorno-Badakhshan Autonomous Oblast
GDP	Gross Domestic Product
IEE	Initial Environmental Examination
IUCN	International Union for the Conservation of Wildlife
LGV	Light Goods Vehicle
MGV	Medium Goods Vehicle
MoT	Ministry of Transport
NAEP	National Environment Action Plan
NGO	Non-Government Organization
NSC	National Statistical Committee
NMT	Non-Motorized Transport
NRRP	National Road Rehabilitation Project
PCR	Physical Cultural Resources
PIG	Project Implementation Group
PSC	Project Supervision Consultant
RoW	Right of Way
RAP	Resettlement Action Plan
RMU	Road Maintenance Unit
RPF	Resettlement Policy Framework
SNiP	FSU Construction Norms and Standards
SEE	State Environmental Expertise
ToR	Terms of Reference
RoT	Republic of Tajikistan
USD	US Dollar
WB	World Bank
WWF	World Wildlife Fund for Nature

EXECUTIVE SUMMARY

The Project Development Objectives (PDO) of the Fourth Phase of the Central Asia Regional Links Program are to enhance the efficiency of cross-border trade (for participants of the regional economy) and to improve the resilience and safety of regional connectivity infrastructure in Sughd Oblast and Gorno-Badakhshan Autonomous Region. The project contributes to the CARs program's higher-level development objectives (PrDO) to increase cross-border connectivity and enhance integrated regional development to revitalize historically active economic exchanges in Central Asia and beyond along the Silk Route.

Expected Beneficiaries. The direct beneficiaries of the project include the residents of the project areas in Sughd, 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) 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.

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

Component 1: Improve regional connections in Sughd Oblast and GBAO Region will finance: (i) rehabilitation of a 50.5 km long, Category II and III roads in Sughd Oblast in four sections (estimated at US\$37.0 million, covered by this document); (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 (estimated US\$46.7 million); (iii) provision of construction supervision services for road construction and rehabilitation works (estimated US\$4.3 million); and (iv) preparation of feasibility studies, to be partially financed by Program for Asia Connectivity and Trade (PACT) Trust Fund, for improvement of regional road connectivity for Khatlon and GBAO Oblasts as basis for potential lending operation (tentatively titled CARs-5) (estimated US\$2.0 million). The four road sections under activity (i) above include, from west to east, Bek Abad (Uzbek Border) – Kurkat (12.3 km), Dehmoi – Gafurov (21.9 km), Gafurov – Kistevarez (6.3 km), and Kuchkak – Kanibodom (10.0 km). The Feasibility Study is ongoing, expected to be completed in June 2020.

Component 2. Improve road asset preservation and road safety. It will aim to strengthen the road asset management system and to create the institutional foundation to systematically address road traffic safety issues, and comprises two sub-components, described below.

Sub-Component 2a Improve road asset preservation (US\$8 million equivalent) will finance (i) supply and installation of weigh-in-motion (WIM) systems to preserve road assets, (ii) installation and commission of software packages for recording, storage and analysis of road network condition data, development of prioritized maintenance planning, optimized to allow for budget constraints, and annual maintenance plans, and (iii) training on the installed systems. Activities under this component have been carefully coordinated with other development partners.

Sub-Component 2b. Improve Road Safety will finance three activities: (i) Support the Traffic Police to enforce use of 4-wheel vehicle safety belts, through a legal review and regulatory reforms, publicity campaign to warn of start of enforcement, and design of, and implement support for, an enforcement campaign; (ii) Retrofit or construct safety barriers along selected road sections in severe mountainous terrains as a demonstration pilot; (iii) Support the Department of State Automobile

Inspection under the Ministry of Interior, the lead agency for road safety, to develop a Road Safety Strategy and to establish a Road Safety Observatory.

Component 3. Facilitate cross-border movement of goods. Two groups of activities will be financed under this component. (i) Upgrading of the Customs information and communication technology (ICT) platform, including equipment and facilities (computers, networking equipment, data center, end-use terminals), customs automation software, development and testing of the provided system, and implementation support up to 2025. (ii) Strengthening of institutional capacity and human resources in Customs Service, comprising integration of the newly upgraded Customs ICT platform with the National Single Window and other related systems, technical assistance on customs modernization, implementation of time release studies, assessment of implementation of measures under the WTO Trade Facilitation Agreement, establishment of a Gender Unit within the Customs Service composed of internal and external stakeholders, and training of staff on code of ethics and gender-sensitivity.

Component 4. Support project implementation, coordination and management. This component will support project implementation, coordination and management including provision of goods, consultants' services and training, operating costs and financial audit.

Component 5: Contingent Emergency Response. This is zero-dollar component 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. A Contingent Emergency Response Component (CERC) annex will be included in the Project Operations Manual (POM), specifying the implementation arrangements for the component, including its activation process, roles and responsibilities of implementing agencies, positive list of activities that may be financed, environmental and social aspects, and fiduciary arrangements.

Location. This ESIA covers 3 districts in Sughd Province (Spitamen, Kanibadam and Gafurov) of Tajikistan.

Project Risk Ratings. The environment and social risks are both rated as substantial. 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. All Environment and Social Standards (ESSes) except ESS 7 and 9 are relevant to CARS-4 Project.

Purpose of Environmental and Social Impact Assessment. The main goal of the initial ESIA is to identify the potential negative environmental and social impacts and risks caused by implementation of the project. This ESIA is part of the process of compliance with the WB's ESS1. This is an initial ESIA providing a road map to the environmental and social measures needed to prevent and/or mitigate negative environmental and social affects, associated with the development project in specific sites in Sughd Region, where the preliminary designs were prepared. This document will be finalized when the final designs are ready.

Environment and Social Impact Assessment (ESIA) 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 in Sughd Region which will be supported by the Project:

- Chapter 1 includes a brief description of the project context, rational for the project, its development goals and components.
- Chapter 2 describes the national legal framework and the WB requirements that will apply to the project.
- Chapter 3 outlines the methodology by which potential impacts are evaluated.

- Chapter 4 summarizes baseline data on the environmental resources and social conditions in the target areas.
- Chapter 5 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 6 provides analysis of alternative to go “with the project” or “without the project”.
- Chapter 7 summarizes how the ESIA will be disclosed to the public and underlines the public consultation procedures and the project specific grievance redress mechanism.
- Chapter 8 includes the Environmental and Social Management Plan.

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

ESIA findings and recommendations: The overall risks and potential adverse environmental impacts of civil works supported by the project are predictable and site-specific, limited in duration (construction phase) and can be mitigated with the application of proper assessment, planning, and modern construction practices. The physical works to be undertaken are of medium scale and take place on or around existing roads. These risks may include risks of increased pollution due to improper care, handling and storage of construction material and waste; generation of excessive noise and dust levels from trucks and other construction machinery; soil disturbance during earth works; tree-cutting and loss of vegetation along roadsides; health and safety impacts caused by construction impediments on traffic safety situation (both for vehicles and pedestrians) due to narrowing of the roads and pavements; temporary impact on cross drainage; and, possibly, water/soils quality impacts in case of construction pollution.

Potential social risks relate chiefly to resettlement and labor management. Since detailed technical designs are yet to be completed for majority of investments, currently, details about the requirement of lands are not known. As a result, it is not possible to identify the persons likely to be affected and the impacts thereof. Risks related to labor management – labor influx, camps, security, ESHS, relationship with local communities, GBV/ SEA- are also identified.

The main findings of this ESIA are that there are no significant adverse environmental and social effects resulting from the proposed road sections provided that full compliance with the recommendations set out below and the provisions of the ESMP are achieved.

The following recommendations result from this initial ESIA:

- Apart from the realignments, the design of the rehabilitated road should not deviate significantly from the existing road alignment.
- Designs should make full provision for the incorporation of the various mitigation measures previously described.

This document will be finalized when the final designs for road sections in Sughd Region are prepared.

Alternatives Analysis. The do nothing alternative would have significantly larger adverse impacts on the environment and social conditions within the existing communities along the existing road. Danger to local road users and pedestrians would increase, particular from the do nothing alternative. The “without project” scenario assumes that routine maintenance, pothole patching and reconstruction, when the road sections reach very poor condition.

The project alternatives for the sections in Sughd region consists of widening the roads to a “category III” lane highway standard, where possible and maintaining the road with proper routine and periodic maintenance. The selected widening alternative which involves proposed rehabilitation passing along the existing alignment and brings the impacts on local communities to the minimum. There are no impacts on natural habitats. Overall it is considered that the selected alignment offers the best environmental and social approach to solving the problems with the present alignment of existing

road sections, with stimulation of economic development and with improvement of regional connectivity, as well as connectivity between the districts.

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. 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.

Environmental and Social Management Plan enclosed in this initial ESIA summarizes how environmental and social performance of the project will be managed and monitored.

ESIA disclosure and consultation. MOT/PIG conducted public consultations on the results of social assessment survey and environmental assessment in the target areas in June 2019 and February 2020. The draft ESIA was disclosed on the MOT website on April 1, 2020 (<http://mintrans.tj>). MOT/PIG officially will also submit the ESIA to the World Bank for disclosure in English on the WB external webpage by June 4, 2020. The final version of this document will be used by respective government agencies and other project stakeholders during the project implementation. The project-specific three-tier Grievance Redress Mechanism will be put in place to file complaints and grievances during project planning and civil works.

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 Project Description

The Government of the Republic of Tajikistan and the World Bank team agreed that the proposed CARs-4 Project will be aimed at improving regional transport links in the Sughd Region and the Gorno-Badakhshan Autonomous Region and increasing opportunities for trading and transportation, and regional transport infrastructure. The CARs-4 Project will focus on the rehabilitation of the following sites in the Sughd Region and Gorno-Badakhshan Autonomous Region:

GBAO region: The construction of a new bridge in Khorog city (length about 300 meters) and the construction of a tunnel / avalanche galleries and a bridge in the Barsem village of the Shughnan district

Sughd region: The rehabilitation of a 12.2 km of road between Spitamen/Bekabad and Dehmoi, restoration of a 26.9 km section of the road between Dehmoi and B. Gafurov district, and restoration of 9.0 km section of the road between Kuchkak/R Hamroboev and Kanibadam town. Total of about 50 km will be rehabilitated. This ESIA covers only the planned road rehabilitation in Sughd.

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

Component 1. *Improve regional connections in Sughd Oblast and GBAO Region.* 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 50 kms of road sections in Sughd, construction of Khorog bridge towards Murgab and Ishkashim as well as tunnels/ galleries and bridges around Barsem in 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.

Component 2. *Improve road assets preservation and transport resilience.* To enhance preservation of road assets and its sustainability, the ongoing CARs2 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, and development of software for RAMS. While MOT has created a foundation for a RAMS in Tajikistan through these activities, there are remaining gaps to achieve full functionality and sustainable operation of the RAMS. This component will support scaling of WIM systems to preserve road assets and streamline transport operations in line with international practice, and other small goods or consultants’ services to build MOT’s capacity to fully operationalize RAMS. This component will also finance climate change vulnerability assessment and hazard mapping (with GIS references) along the Dushanbe-Kalaikhum-Khorog-Murghab corridor focused on GBAO region.

Component 3. *Facilitate cross-border movement of goods and people.* This component has the objective to facilitate the process of cross-border movement of goods and people, including support towards the implementation of policy and institutional reforms, financing of equipment and facilities (e.g. terminals) as well as capacity building. This will build on and complement support by development partners to align Tajikistan’s standards with international practice and modernize procedures of cross-border movement of goods and people. The component will include the development of a diagnostic and comprehensive reform program and implementation plan on addressing regulatory and procedural trade barriers. Subject to priorities identified under the reform program this component would support upgrading of the existing customs IT system to increase automation and may include goods, small-scale works or consultants’ services, including Technical Assistance to support institutional reform.

Component 4. *Support project implementation, coordination and management.* This component includes support towards project implementation, coordination and management including provision of goods, consultants' services and training, operating costs and financial audit.

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. A Contingent Emergency Response Component (CERC) annex will be included in the Project Operations Manual (POM), specifying the implementation arrangements for the component, including its activation process, roles and responsibilities of implementing agencies, positive list of activities that may be financed, environmental and social aspects, and fiduciary arrangements.

1.2 Project Sites in Sughd Region

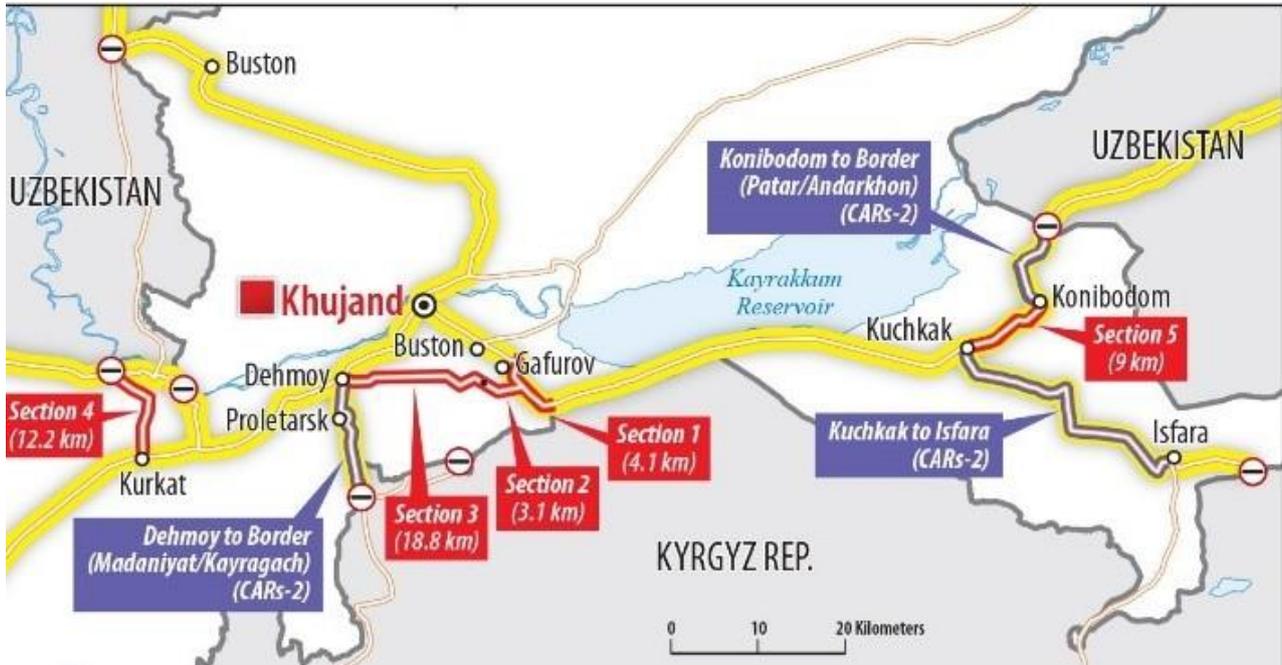
This ESIA covers the proposed CARs-4 Project activities on rehabilitation of separate road sections in Sughd region to improve the regional connectivity. The roads run along the Fergana valley, basically crossing the territory of Sughd region. This road is a continuation of Dushanbe-Khujand road; it connects the Northern region of the Republic with the neighboring states of Uzbekistan and Kyrgyzstan. This transport corridor is also a continuation of rehabilitation of sections of Bekabad – Dehmoi – Gafurov-Kanibadam road and connects to the rehabilitated sections of Isfara-Batkent-Osh and Kanibadam-Kokand-Fergana road. Table below presents the project roads basic characteristics.

Table 1. Road sections selected for detailed design in Sughd Region

Section	Location	Road category	Length (km)
1	Bek Abad – Kurkat	III	12.3
2	Dehmoi – Gafurov	III	21.9

Section	Location	Road category	Length (km)
3	Gafurov – Kistevarz	II	6.3
4	Kanibodom – Kuchkak	II	10
	Total length		50,5

Figure 1: the sections of CARs-4 project in Sughd region



2. LEGAL, POLICY AND ADMINISTRATIVE FRAMEWORK

This section presents an overview of the policy/legislative framework as well as the environmental and social guidelines of the Republic of Tajikistan that apply to the proposed project. The section also identifies relevant World Bank Environmental and Social Standards that will be applied in CARs-4 Project.

2.1. Land Management National Legislation

The Constitution of the Republic of Tajikistan establishes exclusive state property on land whereas the state ensures its effective use in the best interests of the people. The amendments to the Land Code, that took place in August 2012 allow alienating land use rights, and land use rights became subject to buying/selling, gift, exchange, pledge and other transactions. Amendments to the Mortgage Law, allow the individual land user to pledge his/her user rights to the land plot to another individual, bank or institution at the current market price. The implementing mechanisms for these amendments are being developed, although this right provides greater scope and flexibility to the land user. Cost of realty, constructions and assets should be compensated to physical persons.

The Land Management Law (2008, last amendment of 2016) requires the authorities to map and monitor land quality, including soil pollution, erosion and deforestation.

The Law on Pastures (2013) defines the basic principles for the use of pastures, including the protection of pastures and the environment.

Laws and Regulations on Land Management in Tajikistan

- The Constitution of the Republic of Tajikistan establishes land as the exclusive property of the state;
- Land Code, Civil Code, land allocation rules for individuals and legal entities;
- Land Code of the Republic of Tajikistan is a systematic set of rules governing the complex of relations arising in the process of land ownership and use;
- Law of the Republic of Tajikistan “On Land Valuation” establishes the legal basis for normative land valuation;
- Law of the Republic of Tajikistan “On Local Government Agencies” establishes regulatory grounds for the allocation and redistribution of land;
- Law of the Republic of Tajikistan “On Land Management” regulates relations related to the legal grounds for activities in the field of land management;
- State Land Cadaster is a system of information and documentation on the natural, economic and legal status of lands, their categories, quality characteristics and economic value;
- Regulation on the procedure for compensation of losses to land users and harm to agricultural production, approved by the Decree of the Government of the Republic of Tajikistan N 641, dated. December 30, 2011, establishes the procedure for compensation for losses to land users;
- Civil Procedural Code of the Republic of Tajikistan establishes the procedure, rules and conditions of judicial protection in case of legal proceedings on issues related to involuntary resettlement; and
- Economic Procedural Code of the Republic of Tajikistan also establishes the procedure, rules and conditions of judicial protection in case of legal proceedings on issues related to involuntary resettlement

2.2. Social National Legislation

The Law on Freedom of Informationis supported by Article 25 of the Constitution, which states that state institutions, public associations and officials are obliged to provide everyone with the opportunity to receive and familiarize themselves with documents that affect her or his rights and interests, except in cases provided by Law.

According to *the Law on Public Associations*, a public association can be created in one of the following legal forms: public organization, social movement or public initiative body. Section 4 of this law establishes the right of citizens to form associations to protect common interests and achieve common goals. It describes the voluntary nature of associations and defines the rights of citizens not to join organizations and not to leave them. Amendments to this law in August 2015 require NGOs to notify the Ministry of Justice of all funds received from international sources before using these funds.

The Law on Assemblies, Rallies, Demonstrations and Street Processions in 2014 (Section 10) prohibits persons who have committed administrative offenses (i.e., not criminal offenses) in accordance with Articles 106, 460, 479 and 480 of the Code of Administrative Offenses¹, to organize meetings. Section 12 of the Law stipulates that meeting organizers must obtain permission from the local administration fifteen days before the organization of the mass meeting.

The Law on Local Government (2004) gives the chairman of a district or city authority to control the management of natural resources, the construction and reconstruction of nature protection territories, and the supervision of local structures in the field of sanitary and epidemiological surveillance, waste management, healthcare and social protection of the population in within the administrative territory. A public meeting is not held without official notification of the local government authority (district Hukumat).

The Law on Self-Government Bodies of Settlements and Villages (1994), is endowed with a wide range of opportunities and a mandate to support community efforts to meet local socio-economic needs. The 2009 amendment aims to ensure that local governments and accountability are focused on delegating authority with respect to the authority of members of the jamoat council. The amendment in 2017 allows the Soviet of jamoats to withhold non-tax revenues, as well as pay for the provision of administrative services, as well as part of the local property taxes. The amendment in 2017 implies a serious attitude on the part of the national government to a policy decision that gives the Jamoat Council the authority and resources necessary to support local development and solve problems.

The Law on self-governing bodies, social institutions (2008) regulates the functioning of Mahalla, which are considered as the smallest self-government bodies at the local level. A Mahalla can be registered with local authorities as a social institution with the right to maintain its own bank account, print, and to issue simple documents such as certificates of place of permanent or temporary residence. According to the new law, to solve social problems, they can cooperate with governmental and non-governmental bodies, as well as with international organizations operating in Tajikistan.

The Law on Protection and use of objects of historical and cultural heritage (2006) regulates public relations in the field of protection, use, preservation and promotion of objects of historical and cultural heritage.

Environment Protection Law (2011) 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, as well as to participate in developing, adopting, and implementing decisions related to environmental impacts. The latter is assured by public discussion of drafts of environmentally important decisions and public Environmental reviews. Public representative bodies have an obligation to take into consideration citizens' comments and suggestions.

2.3. Environmental National Legislation

Environmental legislation of the Republic of Tajikistan includes laws on the protection of atmospheric air, on the impact of noise on the environment, on mineral resources, on land management, on forests, on health and safety, on waste disposal and chemicals.

Table 2 Environmental Laws of the Republic of Tajikistan

# s/n	Name of document	Document approved
<i>In the field of environmental protection</i>		
1.	The law of RT “On environmental protection”	August 2, 2011
2.	The law of RT “On environmental expertise”	April 16, 2012
3.	The law of RT “On protection of atmospheric air”	December 28, 2012
4.	The law of RT “On wastes of production and consumption”	May 10, 2002
5.	The law of RT “On environmental audit”	December 26, 2011
6.	The law of RT “On specially protected natural areas”	December 26, 2011
7.	The law of RT “On environmental monitoring”	March 25, 2011
8.	The law of RT “On radiation safety”	August 1, 2003
9.	The law of RT “On protection and use of flora”	May 17, 2004
10.	The law of RT “On biodiversity”	March 1, 2005
11.	The law of RT “On animal world”	January 5, 2008
12.	The law of RT “On soil protection”	October 16, 2009
13.	The law of RT “On hydrometeorological activities”	December 2, 2002
14.	The law of RT “On collection, conservation and rational use of genetic resources of cultivated plants”	August 1, 2012
<i>In the field of health, social protection and emergency situations</i>		
1.	The law of RT “On protection of population health”	May 15, 1997
2.	The law of RT “On ensuring sanitary and epidemiological safety of the population”	December 8, 2003
3.	The law of RT “On combating of HIV and acquired immunodeficiency syndrome”	December 28, 2005
4.	The law of RT “On protection of population and territories from emergency situations of natural and technogenic character”	July 15, 2004
5.	The law of RT “On fire safety”	December 29, 2010
<i>In the field of energy, industry and minerals</i>		
1.	The law of RT “On energy saving”	May 10, 2002
2.	The law of RT “On subsoil”	July 20, 1994
3.	The law of RT “On precious metals and precious stones”	May 12, 2001
4.	The law of RT “On industrial safety of hazardous production facilities”	February 28, 2004
<i>Water and land relations, agriculture</i>		
1.	The law of RT “On drinking water and drinking water supply”	December 29, 2010
2.	The law of RT “On land reform”	March 5, 1992
3.	The law of RT “On land valuation”	May 12, 2001
4.	The law of RT “On land management”	January 5, 2008
5.	The law of RT “On production and safe handling of pesticides and agrochemicals”	April 22, 2003
<i>Codes</i>		
1.	Land Code of RT	December 13, 1996
2.	Water Code of RT	October 20, 2000
3.	Forest Code of RT	August 2, 2011

Table 3. International Environmental Conventions

# s/n	Name of document	Document approved
1.	Vienna Convention for the protection of the ozone layer	November 4, 1995
2.	Convention on biological diversity	May 15, 1997
3.	UN framework Convention on climate change	December 13, 1997
4.	Convention to combat desertification	December 28, 1998
5.	Convention on Wetlands of International Importance especially as Waterfowl Habitat	October 24, 2000
6.	Convention on the Conservation of Migratory Species of Wild Animals	October 24, 2000
7.	Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters	June 9, 2001
8.	Convention on the Environmental Impact Assessment in a Transboundary Context	February 17, 2004
9.	Convention on persistent organic pollutants	December 6, 2006

Environmental Impact Assessment is subject to the —Law on Environment Protection (2011) and the —Law on Environmental Expertise (2011). An environmental licensing system exists in relation to handling hazardous waste and mineral extraction. An environmental permitting system regulates the use of natural resources.

In the Republic of Tajikistan, the organizations with most responsibility for environmental monitoring and management currently are the State Committee for Environmental Protection and Forestry (CEP) under the Government of the Republic of Tajikistan (GoT), the Sanitary Inspectorate of the Ministry of Health, the Inspectorate for Industrial Safety and the Mining Inspectorate.

Law on Environment Protection (2011) stipulates that the Tajik environmental policy should give priority to environmental actions based on scientifically proven principles to combine economic and other activities that may have an impact on the environment, with nature preservation and the sustainable use of resources. The Law defines the applicable legal principles, the protected objects and the competencies and roles of the Government, the Committee for Environmental Protection under Government of Tajikistan, the local authorities, public organizations and individuals.

The Water Code (2000) stipulates the policies on water management, permitting, dispute resolution, usage planning and cadastre. It promotes rational use and protection of water resources and defines the types of water use rights, authority and roles of regional and local governments for water allocations among various users, collection of fees, water use planning, water use rights and dispute resolution. The Code delegates Water User Associations to operate and maintain on-farm irrigation and drainage infrastructure.

Noise, Water and Air Quality Standards. These standards are provided in the following tables:

Table 4. Tajik Standards on Air Quality

Air Quality Standards	
Parameter	Tajikistan Standard mg / m ³
Particulate Matter	0.150
Nitrogen Oxide (NO)	0.060
Nitrogen Dioxide (NO ₂)	0.040
Sulphur Dioxide (SO ₂)	0.050
Carbon Dioxide	3.000
Ammonium	0.200

Source: ADB, environmental profile of Tajikistan

Table 5. Tajik Standards on Noise

Noise Standards	
Parameter	Tajik Standard in accordance with Sanitary Norms CH 2.2.4/2.1.8.562-96 (provided by Sanitary Epidemiology service of the Ministry of Health of Tajikistan)
Allowable Noise level for Working place of the drivers and service staff of trucks and construction equipment	70-80 dBA
Allowable Noise level created by cars for area adjoining to residential houses, buildings and other receptors at the distance of 2 m	70+10 dBA in period from 7 a.m to 23 p.m, 60 dB+10 dB = 10 dB in period from 23 p.m. to 7 a.m
Allowable Noise level for areas adjoining to hotels and hostels	75 dB +10 dB in period from 7 a.m to 23 p.m, 65 dB+ 10 dB= 10 dB in period from 23 p.m. to 7 a.m

Source: ADB, environmental profile of Tajikistan

According to the *Law on Environmental Expertise* (2011), environmental expertise is intended to prevent negative impacts on the environment as a result of a proposed activity, forecast impacts from activities that are not considered as necessarily damaging to the environment and create databases on the state of the environment and knowledge about human impact on the environment. This Law and the Law on Environment Protection envisage two types of environmental expertise – State Environmental Expertise and Public Environmental Expertise, which are not given equal importance. While State Environmental Expertise is a prerequisite for beginning any activity that may have an adverse environmental impact, Public Environmental Expertise becomes binding only after its results have been approved by a State Environmental Expertise body. The State Environmental expertise is authorized to invite leading scientists and qualified outside specialists to participate in the review. Approval should be issued within 30 days, unless the project developer agrees to an extension, and remains valid for two years, if the decision is positive. For very complicated projects the term of consideration and approval can be extended till 60 days. According to the Law on SEE the Public Environmental Expertise of economic activities or other activities implementation of which can negatively impact the environment of population which live in relevant area can be carried out by any public organization and citizen. They have right to send the proposals to the responsible government bodies concerning environmental issues of implementation planned activities; to receive information on results of conducted State Environmental Expertise from relevant responsible bodies. The materials reflecting the public expertise delivered to the experts' commission should be taken into consideration under preparation of conclusion of State Environmental Expertise and decision making on realization of expertise object. The Public Environmental Expertise is carried out under the state registration of application of public organization. The registration can be done by local executive authorities (during 7 days) in place where the expertise activities are planned. The public organizations which are organizing this expertise, should in form the population of initiation of expertise and then on its results.

EA Administrative Framework. The Environmental Protection Law states that a SEE should be conducted by the CEP, which is designated as a duly authorized state environmental protection body. The CEP absorbed the former State Forest Enterprise and has a staff of over 2000. It has a comprehensive mandate that includes policy formulation and inspection duties. The CEP has divisions at oblast (region), city and rayon (district) level, in the form of Departments of Environmental Protection (DEPs), within the Hukumat (local administration) at each city or rayon.

Licensing. Licenses are legal instruments to regulate certain potentially hazardous activities where minimal qualifications and strict adherence to rules are required to ensure that they are carried out efficiently, safely and do not result in potentially very significant and irreparable damage to the environment and human health. In particular, licenses are required for handling hazardous waste; for activities in industrial safety, sources of ionizing radiation, production and handling of pesticides and other agrochemicals. They are issued by the relevant industry regulator (ministry or committee) or an entity to which it has delegated such right. Licensing is also used to ensure the most efficient and sustainable use of natural resources. For example, licenses are required for prospecting, collecting or extracting mineral resources (borrow areas), or for constructing underground facilities not related to mining.

Environmental Permits are meant to ensure the sustainable use of natural resources. There are two types of permits: (a) permits to use natural resources; and, (b) permits for emissions or discharges. The natural resources use permits allow their holders to take a certain number or amount of a particular natural resource within a defined territory and time period. They are issued both to individuals (e.g. to hunt a particular species of animal or harvest particular factories) and to organizations (e.g. permits to extract ground or surface water for a particular use). By law, permits are needed for any commercial use of any resource. The authority that issues the permit and the legislation (government resolution) that applies depend on the resource. Permits to discharge polluted matter are issued by the relevant inspectorate (e.g. previous State Water Inspectorate or State Air Inspectorate – now departments) of the local State Environmental Protection Committees to industrial or agricultural enterprises and municipal utilities that release by-products into the environment. The permits allow releasing a certain amount of polluted matter (gases, liquids, solid waste) into the environment. The permits are normally granted for one year and indicate the maximum allowed concentration of the pollutants in the released matter, the maximum volume of the polluted matter and the pollutants allowed.

The elaborated existing normative legal base is intended for determination of legal basis for implementation of projects and their compliance with state requirements for environmental protection and mitigation of environmental impact.

2.4. World Bank Environmental and Social Standards (ESSs)

ESS1 Requirements

The MoT/PIG will assess, manage and monitor the environmental and social risks and impacts of the project throughout the project lifecycle so as to meet the requirements of the ESSs in a manner and within a timeframe acceptable to the Bank. In establishing the manner and an acceptable timeframe, the Bank will take into account the nature and significance of the potential environmental and social risks and impacts, the timing for development and implementation of the project, the capacity of the MoT/PIG and other entities involved in developing and implementing the project, and the specific measures and actions to be put in place or taken by the MoT/PIG to address such risks and impacts.

ESS1 addresses the way in which the environmental and social risks of the project will be addressed by the MoT/PIG. The aim of the requirements set out in ESS1 is to help MoT/PIG plan and designs projects, and manage project risks and impacts in a systematic manner. Projects have different risks and impacts, and different development timeframes. The assessment and management of environmental and social risks and impacts should be incorporated into the way the MoT/PIG manages a project and will support successful and sustainable project performance.

Each of the ESSs, including ESS1, sets out several objectives. The objectives describe the outcomes that each of the ESSs is intended to achieve. The MoT/PIG is expected to design and implement the project with the aim of achieving these objectives. Application of the ESSs can assist the MoT/PIG to address the risks and impacts of the project and achieve project outcomes that support lasting development. Each ESS sets out specific requirements that can help the MoT/PIG to achieve the objectives in ways that reflect the nature of project risks and impacts.

In some circumstances, the MoT/PIG will identify certain risks and impacts as part of the environmental and social assessment that are not specifically covered in the ESSs; such risks or impacts will be addressed in accordance with the mitigation hierarchy and the objectives of ESS1.

The MoT/PIG:

- Conducted an environmental and social assessment of the proposed project sites, including stakeholder engagement;
- Undertook stakeholder engagement and disclose appropriate information in accordance with ESS10;
- Developed an ESCP, and will implement all measures and actions set out in the legal agreement including the ESCP; and

- Will conduct monitoring and reporting on the environmental and social performance of the project against the ESSs.

Provide monitoring and reporting

If the project comprises or includes existing facilities or existing activities that do not meet the requirements of the ESSs at the time of Board approval, the Borrower will adopt and implement measures satisfactory to the Bank so that specific aspects of such facilities and activities meet the requirements of the ESSs in accordance with the ESCP.

Where a project includes facilities or activities that already exist, such as a project to rehabilitate a pollution control facility (for example, a wastewater treatment plant) or to improve existing transport infrastructure, these facilities or activities should be subject to an Environmental and Social Audit to determine the nature and extent all environmental and social areas of concern at such existing project or activities identifies and justifies appropriate measures and actions to mitigate the areas of concern, estimate the the cost of the measures and actions, and recommends a schedule for implementing them. The audit may be a separate assessment or be part of a broader ESIA. Any measures identified by the Borrower should be incorporated into the ESCP.

Conditions of Employment

Project workers will be provided with information and documentation that is clear and understandable regarding their terms and conditions of employment. The information and documentation will set out their rights under national labor and employment law (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from the requirements of the ESS2. This information and documentation will be provided at the beginning of the working relationship and when any material changes to the terms or conditions of employment occur.

Community Health and Safety

The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project lifecycle, 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 in compliance with ESS4.

Stakeholder Engagement

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

The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project lifecycle, 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 in compliance with ESS 10.

3. ESIA METHODOLOGY

The purpose of this ESIA is to identify and assess the potential environmental and social impacts of a proposed project site in Sughd Region, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures. This document also defines the baseline social and environmental conditions and thus enables ex-post evaluations of project impacts. The project sites are at the stage of feasibility study and preliminary design; therefore, this document should be considered as initial assessment of the environmental and social impacts and risks in concrete road sections to be rehabilitated/reconstructed in Sughd Region only.

The following methodology was applied:

- Existing baseline data (including all available environmental legislation and guidelines) and relevant reports from previous Tajik road projects were collected, reviewed and analyzed;

- Discussions held with local experts from the Ministry of Transport, the Regional Road Administration in Khujand, the Regional Department of Environmental Protection Khujand, the Committee of Environmental Protection under the Government of the Republic of Tajikistan Dushanbe and the local associate, the Research and Design Institute;
- Informal interviews and participatory discussions were held with people living and working along the project roads;
- Preliminary designs and engineering data were reviewed and taken into account to identify environmental impacts and mitigation measures during design, construction and operating phase;
- Field trips with participation of the World Bank mission were implemented from August to December 2019 to examine the proposed alignments from the environmental and social point of view;
- Focus group discussions in targeted project sites.

The potential environmental and social impacts have been assessed according to the World Bank ESSs and the Tajik legislation. In addition, institutional aspects have been taken into consideration.

The roads are in fair/poor condition. Road rehabilitation including replacement of existing culverts and bridges is required, if these options should be implemented. Impacts to the environment are expected only during the construction phase. Impacts can be mitigated. Land acquisition is not anticipated in Sughd Region. Roads will be designed according to SNIP (Category II-III roads).

The necessity in CARs-4 Project is option assuming “the current state of affairs”. The project road provides national and regional access to the neighbouring Central Asian Republics Kyrgyzstan and Uzbekistan. Poor maintenance has been cited as one of the main factors which had resulted in the present deterioration of some road sections with the resulting extra costs to both regional and national economies.

Improved roads and access, therefore, require more emphasis on a sustainable road network maintenance program, as well as road maintenance capacities and skills to achieve and sustain the benefits from the investment. A program must be put in place to ensure that the regional road network does not deteriorate further. Maintenance equipment should therefore be kept functional regardless of circumstances.

In view of the above, a “do nothing” or “without project” option is not feasible since economic growth of Tajikistan depends on good road networks. Basically, rehabilitation of existing alignments in the ROW improves environmental conditions through reduction of dust emissions. Dust is a large contributor of air emissions in Tajikistan. Impacts on the environment from upgrading of existing roads and from construction of new road sections can be mitigated.

4. BASELINE DATA

This chapter describes the baseline environmental and social conditions relevant to the road sections in Sughd Region, located in Fergana valley.

4.1. Physical Characteristics

4.1.1. Topography, Geology and Soils of Tajikistan

Sughd Region of Tajikistan (5000 km²) is represented by the western part of the Fergana basin. It is composed of folded thick (up to 12,000m) of Mesozoic and Cenozoic strata of clastic and carbonate sediments deposited at the Hercynian folded complex, similar to the composition of its geological formations of the Paleozoic mountain frame. From the south and from the north the basin is bounded on its mountain frame, respectively, of the South and the North boundary of Fergana faults. Along the southern border of the Fergana basin it installed by numerous, mostly small oil and gas deposits (Selroha, Kanibadam Neftabad). Quaternary sediments occur in the Ferghana basin (silt, sand, gravel, clay). Triassic – Jurassic sediment stone can be found

in the northeastern part of the project area close to the Kyrgyz border (sandstone, marl, conglomerate, and siltstone).

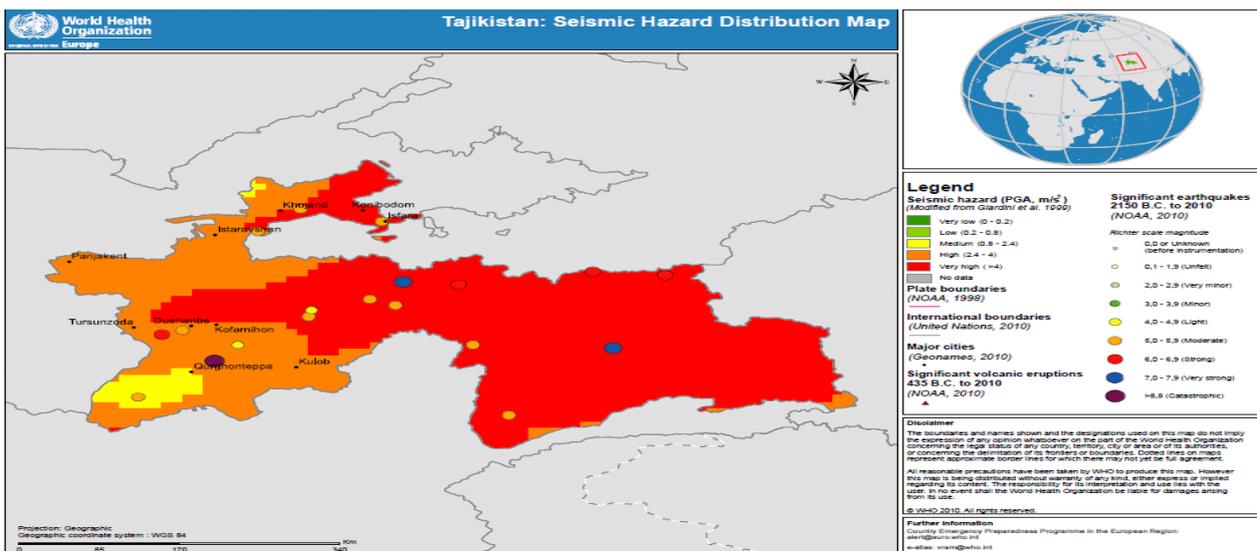
4.1.2. Landslides, Avalanches and Earthquake Activity

Landslides are significant problems in the mountainous regions of Tajikistan. Soil erosion is a widespread natural phenomenon due to the relief and climate of the country, but it is 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 Tajik Republic is a highly disaster-prone country, being exposed to 20 different kinds of natural hazards, the most dangerous in terms of prevalence and recurrence and damage include; earthquakes, debris flow, flash floods, landslides, rock-falls, and avalanches. Almost all of the country has a high – to very high risk for earthquakes.

The project area is located in the Fergana Valley at the edge of the Central Asian Fold Belt in the Tien-Shan Mountain System formed by the collision of the Siberian and the North Chinese, Tarim, Afghan-Tajik and Kazakhstan-North Tien-Shan plates. The area of the project roads is still seismically active. Earthquakes with magnitudes of 5 – 5.9 on the Richter scale are rather frequent and there are records of earthquakes in the relatively recent past.

Figure 4: Seismic Activity Map of Republic of Tajikistan



4.1.3. Erosion

Some locations of the project area are subject to erosion.

The erosion includes:

- Bank erosion, close to roads;
- Line erosion along the roadbeds in the ditches and atmospheric flows, irrigating waters, temporary waterways;
- Erosion of road slopes as a rule at the sections with overflow;
- Erosion of lower slopes at the sections with location of small engineering structures (pipes/culverts), especially at the sections of mudflow valleys

The occurrence of mud flows is typically for the whole study area during the rainfall season from end of spring till beginning of summer. Disturbed grass cover and vegetation, fissured mountain formation, easy to loosen soil types and locally uneven rain events with high daily maximums cause them. These mud flows, occurring a few times per year, can have unfavourable influence on the studied road sections.

4.1.4. Climate and Air Quality

In general, Tajikistan's climate is continental, subtropical, and semiarid, with some desert areas. The climate changes drastically according to elevation, however. The Fergana Valley and other lowlands are shielded by mountains from Arctic air masses, but temperatures in that region still drop below freezing for more than 100 days a year.

Tajikistan is the wettest of the Central Asian republics, with the average annual precipitation for the Kafiristan and Vakhsh valleys in the south being around 500 to 600mm, and up to 150 mm in the mountains. In the project area annual precipitation is 146mm at Isfara and 193mm at Khujand (source: local weather stations). Most intensive precipitation occurs in spring.

Table 6. Temperature data from Tajik weather stations close to the project road (monthly average, annual average, maximum, minimum)

Weather station	I	II	III	IV	V	VI
Khujand	-0,9	2,0	8,5	15,6	21,6	25,8
Farkhad HPP	-1,8	1,6	8,1	15,0	21,2	25,6

Weather station	VII	VIII	IX	X	XI	XII
Khujand	27,4	25,2	19,7	12,4	6,4	2,0
Farkhad HPP	27,4	25,2	19,8	13,1	6,4	1,8
Weather station	Average annual		MAX	MIN		
Khujand	13,8		45	-26		
Farkhad HPP	13,6		44	-28		

Source: Local weather stations, 2019

Air quality also differs across the project area, largely as a result of micro-climates and density of industry and transport routes. The level of air pollution is especially high in cities and towns (Khujand, Spitamen, Gafurov and Kanibadam). Major contributors including vehicle emissions (leaded or poor-quality gasoline and diesel), and emissions from mining and processing industries. One of the main sources of air pollution in the region relates to the burning of fossil fuels for heating, cooking and power within the urban areas, although this impact is being reduced as more portions of the valley become powered by hydroelectricity from the Tajik vast hydro resources.

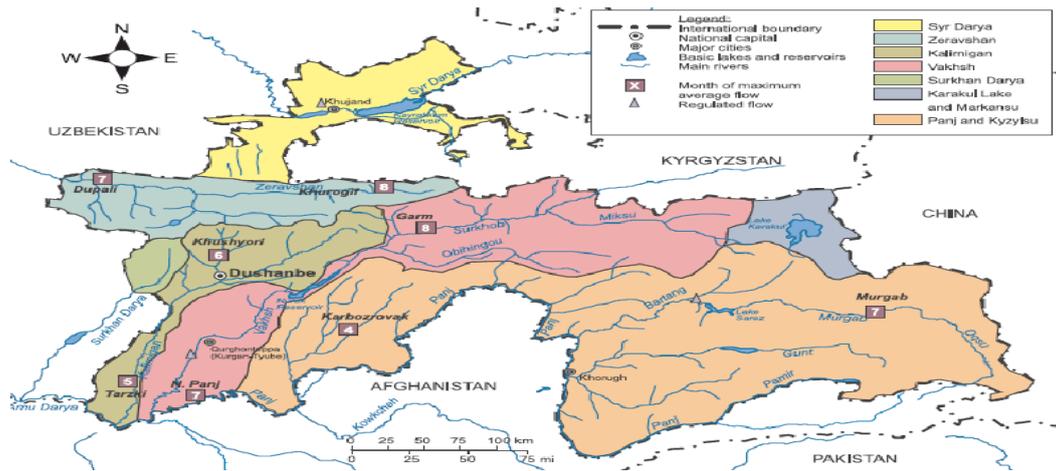
There are also concerns regarding transboundary air pollution, especially in the Ferghana Valley (Bekabad – Spitamen – Dehmoi – Khujand – Gafurov – Kanibadam – Kakand – Ferghana and Isfara – Batkent – Osh) which is shared by Uzbekistan, Tajikistan and the Kyrgyz Republic. Uzbekistan is the largest contributor to air pollution in the Ferghana Valley because of its higher emissions and prevailing wind patterns; some of this pollution is transmitted to Tajik territory.

4.1.5. Hydrology and Water Quality

The study area belongs to the water basin of the Syr Darya River. Geographically the north hang of the Turkestan mountain chain forms part of this area. The Turkestan mountain chain servers as the main watershed of the biggest water systems in Central Asia: the Syr Darya and Amu Darya.

The major rivers are the Syr Darya (total length 2,400 km), which flows for 195 km across the Fergana Valley in the north, the Zaravshan, which runs through central Tajikistan.

Figure 3: River basins of Republic of Tajikistan



Surface watercourses originating mostly from mountainous areas create conditions for the formation of aquifers. The capacity of these resources depends on rainfall, snowmelt and the abundance of glaciers in the upper reaches of the rivers. The complex geological structure of the territory, diversity of kinds of rocks and lengthy period of their formation, relief and climate, as well as human activities (irrigation and water-supply) have defined the peculiarities of hydro-geological and hydro-chemical conditions of ground water resources.

No data were available concerning water quality of SyrDaryo River and Isfara River. It is assumed that both rivers are subject to untreated domestic and industrial pollution.

4.2. Biological Resources

4.2.1. Flora

The Ferghana Valley has a long history of human settlement featuring agricultural development with some limited industrial activity. As such, within the immediate vicinity of the Project Road very little flora is present. Degraded slopes exist along many portions of the road which have led to increased soil erosion. Much of the forest on these slopes has been cut by the local population to provide fuel wood as a result of the lack of a reliable power network in the Valley. Most vegetation in the Project Area now occurs in irrigated land and gardens, growing fruits, vegetables, and cereals. Both introduced and local species and varieties are used.

Trees have been planted along parts the roads in the eastern sections. Most of them are ornamental species, primarily *Populus* (poplar) species. Also fruit and nut trees, including apricot, persimmon, walnut and mulberry trees occur. No important, rare, endangered, or protected species are found within the vicinity of the road.

No adverse impact on the environment is anticipated during the design phase since these sections follow existing alignments. No widening is required. No animal habitats will be fragmented. Cutting of bushes and trees cannot be excluded entirely. Tree fellings can be mitigated by planting two trees instead of one to be cut. Land acquisition is not required. These options are uncritical from the environmental point of view.

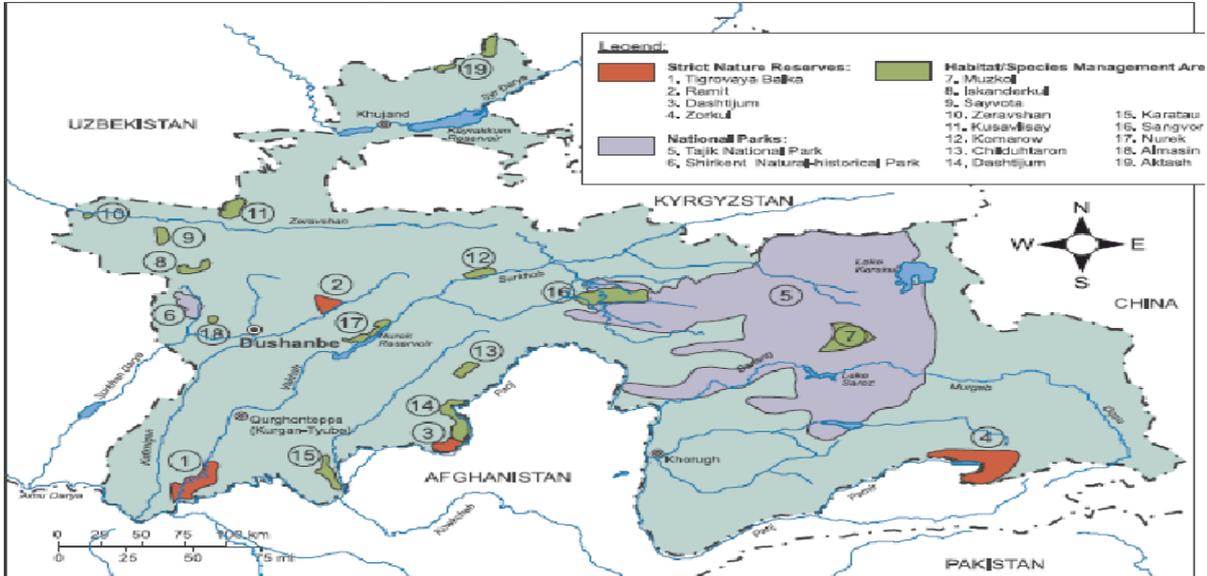
4.2.2. Fauna

While the Republic of Tajikistan is home to a wide diversity of animals and birds, generally the biodiversity of the wildlife / fauna in the project road area is rather low. There are relatively few species and few individuals. The following animals may rarely stray into the area: Jackals (*Asi-atic jackal*), Eared Hedgehog (*Paraechinus hypomelas*), Porcupine (*Hystrix indica*), Tolai Hare (*Lepus nigricollis*), Steppe Cat, and Gazelle (markhor). There are no critical habitats for these species within project area. Within the agricultural areas, typical farm birds of Tajikistan occur. These include the following potential occurring species like hoopoe, roller, bee-eater, doves, quail, corn crane, lapwing, golden oriole, larks and most commonly large flocks of myna birds. No endangered species are expected in the vicinity of the road sections.

4.2.3. Protected Areas

There is no protected area to be touched by CARs-4 Project roads. Aktash preserve (No. 19) is located in north of the Sughd region and it is very far from the project area (Figure below).

Figure 4: Protected areas of Republic of Tajikistan



4.3. Traffic Volumes and Transport Modes

Figures 5 give an overview of the project area including the road network which was used for the calculation of the traffic volumes. The present-day traffic volumes for 2019 are summarized in Tab. 7.

Table 7. Traffic density forecast on Dushanbe-Khujand–Spitamen–Dehmoi-Gafurov-Kanibadam road and to the border of the Kyrgyz and Uzbek Republics borders (annual averagedaily traffic)

Section	from	to	Car	LGV	Minibus	Light truck	MGV	3-ax HGV	4+ax HGV	Total
	Kanibadam	Khujand	9,358	470	1572	2460	250	380	250	14,740
	Gafurov	Gafurov (circle meat processing Plant)	5,500	391	209	1282	197	438	129	8,146
	Gafurov (circle meat processing Plant)	Gafurov (City gaz supply circle)	6,800	200	450	800	29	15	350	8,644
	Gafurov (circle meat processing Plant)	Ovchi-Kalacha	4,359	0	288	150	0	0	0	4,797
	Dehmoi-	Gafurov (circle meat processing Plant)	5,400	250	150	360	250	280	350	7,040
	Spitamen	Dehmoi	4,505	508	436	406	0	0	3,551	9,406

4.4. Burrow Pits and Quarries - Construction Materials

Natural sources for aggregates suitable for road construction are available in the needed quantities in the area adjacent to the construction sites. The location of licensed quarries has been provided by the following authorities:

- Regional Road Department of Sughd Oblast
- State Enterprise Road Maintenance Department Gafurov
- State Enterprise Road Maintenance Department Kanibadam

The borrow area southwest of Khujand was visited during the fact-finding mission. A new asphalt plant and a crusher were available to be used by the project. (Figure 5 and 6).

Figure 5: Existing licensed asphalt plant and gravel quarry for western sections of the project area



Figure 6: Existing asphalt plant and crusher southwest of Khujand



Extraction of construction material from licensed quarries mentioned above must be part of the tender documents. Extraction of construction material from unlicensed quarries and riverbeds must be prevented by the construction supervision and MoT/PIG.

During the fact-finding-mission, the Consultants visited one and discovered two additional sites of radioactive tailings in poorly constructed containment areas 9 - 13 km northeast of Dehmoi and northeast of section 2. They remain from the Soviet era, when Buston was a 'closed location' where the Soviets processed uranium for their first atomic bomb and nuclear weapons. The Consultants' internet searches show that there are three main uranium tailings preservation sites in Sughd Region, which are known to constitute a serious danger for the environment and human life not only in nearby cities and towns but in Central Asia as a whole. The tailings will not be touched during construction works. No burrow pits or quarries in the Buston areas will be used. Additionally, the burrow pits and quarries selected will be coordinated with the Regional Department of Environmental Protection in Khujand to ensure adequate distance from uranium tailing or other radioactive waste sites.

4.5. Socio-Demographic Characteristics

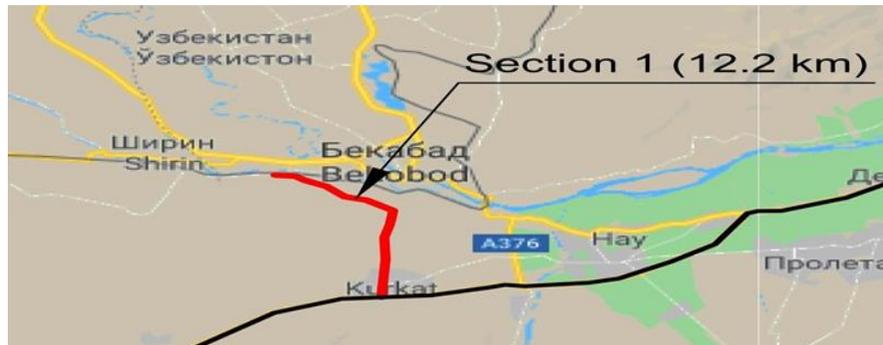
This initial ESIA assessment covers the following road sections in Sughd Region:

- (I) Section 1. Spitamen-Dekhmoy road (12.2 km) - the western sections of the Bekabad / Spitamen-Dehmoy road leading to the border crossing (Hashtiyak checkpoint) of the Spitamen region and connects the Bekabad city of the Republic of Uzbekistan;
- (II) Section 2-3. Dekhmoy-Gafurov-Kishtevarz (26,9 km) - in the south-western sections of the road District -Gafurov from Jamoat Dehmoy J.Rasulov District to Jamoat Isfisor; and
- (III) Section 4. Kanibadam-Kuchkak (9.0 km) -the western section of the Kuchkak-Kanibadam road, which connects to the rehabilitated road section horns Kanibadam-Patar.

The project is expected to benefit more than two million residents of the Sughd region of the Republic of Tajikistan. As a result of the construction and rehabilitation of roads, it is expected not only to improve their quality and throughput, but also to improve the level of improvement of the nearby territory and improve the environment.

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

Figure 7: CARs-4, Spitamen-Dekhmoy road section, 12.2 km



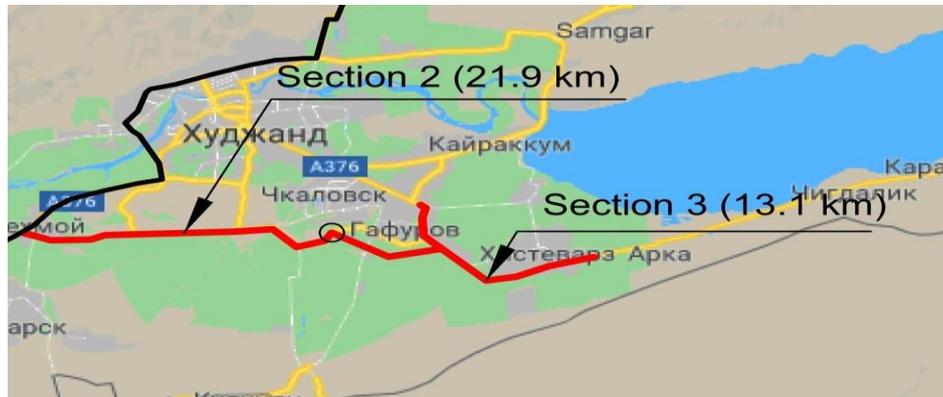
Spitamen is a district in north-central Sughd region of Tajikistan, stretching across the province’s narrow part from the border with Uzbekistan and border with Kyrgyzstan and also with Rasulov, Devashtich, Mascho district of the Republic of Tajikistan. The district population is 137,012 and the total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

At this design stage, no negative impact on the environment was stated, because the rehabilitation works will follow the outline of existing highway. Extension of the road is not required. There will be no impact animal habitat. Cutting of trees and shrubs is not excluded, which can be mitigated by the subsequent planting of three trees, instead of one cut down. No acquisition of land is required either. Long-term mitigation measures will not be needed. From an environmental and social point of view, this option is not critical.

4.5.2 Section 2-3: Dekhmoy-Gafurov-Khishtevartz (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 (Qairoqum), also in the south.



Section 2 of the CARs-4 project, the Dekhmoy-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 Dehmoy jamoat of Jabbor 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 administration 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.

At this stage, no negative impact on the environment is expected, because it is envisaged on an existing route but 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 point of view, this option is not critical.

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. No impact is anticipated on 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. 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 point of view, this option is not critical.

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. Felling of trees and shrubs is not excluded, which can be mitigated by the subsequent planting of three 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.

4.5.3 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.

No acquisition of land is required either. In addition, 3 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 point of view, this option is not critical.

4.6. Socio-Economic Baseline of the Project Sites

Table 8: Socio-Economic Baseline of the Project Areas

N	Name of the Jamoats	Population	Number of disabilities	Number employed population	Number of schools	Number of labor and migration	Number of hospitals
<i>Spitamen district</i>							
1.	Kurush Jamoat	29,292	107	12,359	6	1,413	2
<i>Jabor Rasulov district</i>							
2.	Dehmoy Jamoat	16,323	65	5,310	5	1,700	1
<i>Gafurov district</i>							
3.	Shahraki-Gafurov Jamoat	20,375	46	11,030	7	880	2
4.	Jamoat Isfisor	42,852	112	20,160	11	7,654	2
5.	Jamoat Histevarz	60,519	105	26,092	13	12,234	2
<i>Kanibadam district</i>							
6.	R/Hamraboev jamoat	29,300	45	11,680	7	1,700	1
7.	Ortikov jamoat	26,400	63	11,346	6	1,812	1

Source: Local Government Data, 2019

4.7. Gender Issues in Sughd project sites

Domestic violence against women continues to be one of the most significant and underreported human development challenges in Tajikistan. According to the 2017 Tajikistan Demographic and Health Surveys (TjDHS)², the percentage of women who have experienced physical violence since age 15 increased from 19 percent in 2012 to 24 percent in 2017. In Sughd, this figure decreased from 22.2 percent in 2012 to 16.5 percent in 2017. Three quarters of women surveyed under the TjDHS who have experienced physical or sexual violence have never sought help and never told anybody. Rural women were more likely to experience physical violence than urban women. It is of note that project sites are all rural. According to the 2017 TjDHS, Sughd had the highest percentage of women reporting physical violence at 12 percent.

MoT/PIG gender consultant, Ms. Otambekova Zulfiya, and social development consultant, Mr. Shirinshoev Alifbek, conducted site visits on March 17-27, 2020 to target areas in Sughd region to conduct focus groups on gender issues.

² Tajikistan Demographic and Health Survey (TjDHS) 2017 <https://dhsprogram.com/publications/publication-fr341-dhs-final-reports.cfm>

Focus group discussions with communities (four focus groups with women and four with men in Sughd oblast and focus groups with women and two men in GBAO) to study common and gender barriers, as well as factors contributing to their mobility and participation in productive activities that can be (partially) overcome in the framework of the proposed project.

Focus groups (FGs) were conducted to discuss the social part of the project, gender issues, road safety, transport and local roads in project sites in Sughd region. Public consultations and focus groups were held separately with men and separately with women. In total focus groups and public consultations were conducted in 3 districts of Sughd region (Spitamen, Gafurov and Kanibadam). In Sughd region, the number of participants in public consultations and focus groups was more than 110 people (50 male and 60 female). The duration of focus groups in each district or city ranged from 70 to 90 minutes, covering the following geographic areas:

- 2 FGs – Isfisor jamoat of Gafurov district, Sughd;
- 2 FGs – Shahraki Gafurov jamoat of Gafurov district, Sughd;
- 2 FGs – Kurush Jamoat of Spitamen district, Sughd;

The consultants collected and analyzed quantitative and qualitative data. The following tools were used to collect quality data:

- Interviews with representatives of the local Hukumats, women departments, NGOs, local governments (jamoats) and communities.
- Focus group discussions with women and men in communities at project sites.

Key findings in Sughd:

- Respondents considered the main barriers to access to the market as inadequate road quality and transport. Women are engaged on equal terms with men in marketing an assortment of cash crops in the market. Most respondents combine their main work with trading a variety of cash crops. The availability of transport will help expand opportunities for generating income, increase productivity, promote gender equality and improve the quality of life.
- Public transport is the main type of transportation to access the market, even though several times a day a trader must bring products to the market, that is travel back and forth. Even though this type of transport is inconvenient in transporting an assortment of cash crops, it remains the most affordable type of transportation.
- Lack of public transport, minibuses are available only in jamoats. Therefore, access is only available to small markets within jamoats. It is almost impossible to drive goods into the city due to the lack of transport. Drivers often violate the rules on the road, which leads to serious consequences. Despite the insecurity, the use of public transport as a mean of transportation to access to markets, respondents believe that minibuses are the most acceptable and affordable transport for accessing markets.
- Respondents noted that goods for sale mainly comprise assortments of crops. Despite the shortages and unsatisfactory state of transport and road infrastructure, producers find opportunities to enter the market. Several respondents noted that it was the lack and unsatisfactory state of transport, road infrastructure, a large number of regulatory bodies, and duplication of their functions that caused the abandonment of trading activities.
- The availability of transport and road infrastructures will help expand income-generating opportunities, increase productivity and promote gender equality, improve the quality of life. The quality of roads and transport that is inadequate - is the main barrier to access the market and affects the work of medical (public health) and educational institutions as well.
- The general opinion of the respondents regarding the requirements and procedures related to business registration, obtaining licenses and permits was equally positive. They noted the support of local Hukumats. However, several respondents nevertheless noted that there are difficulties in the cost of registering entrepreneurial structures, obtaining license for entrepreneurial activity, high quantity of regulatory bodies and duplication of their functions.

Key Conclusions in Sughd

- All respondents consider the inaccessibility of appropriate transport and road infrastructure as a priority problem in conducting small business and generally improving the economic condition of the household and society.
- Most of the FG participants live in rural areas and therefore functioning transportation links are of great importance to them. Respondents also indicated the need to improve the condition of small access

roads between villages and ensure road safety, especially when it comes to child safety. Women emphasized their concern about the intensity of traffic near schools. Women consider it necessary to have road signs, sidewalks and traffic lights on the roads. Respondents noted the need for higher control over road speed.

5. SOCIAL AND ENVIRONMENTAL IMPACTS AND MITIGATION

5.1 Social-Economic Impacts and Mitigation Measures

Road construction will have both negative effects (for example, dust, noise, loss of pregnant roadside little sellers vegetables fruits, loss of underground water pipes, pollution, loss of time, more difficult to get home, etc.), and a positive effect (temporary employment, clarity, improved transportation, road safety, etc.) from a social and economic point of view.

5.1.1. Demographic Impacts

The impacts on demography will be of concern mainly during construction phase and would be related to the mobility of the population. During construction phase, two different kinds of population mobility. Former is the forthcoming civil workers coming for construction and other staff. Latter is the population mobility due to the construction in the area. It has been planned to employ approximately 200 workers in the construction activities of the Project.

5.1.2. Economic Impacts

As the workers and staff coming to the region for construction activities would increase, the demand for the goods and such is also expected to increase. Thus, an increase in demand might cause an increase of prices for certain goods at the regional level. However, the limited incoming population and the economically integrated character of region to the bigger settlement areas are predicted to reduce the inflationist impact resulting from demand increase and finally would remain at low level. On the other hand, this would bring the opportunity for trade in the area. The goods and services needed during project activities will be purchased from the region. Therefore, trade in the region will increase as a result of construction activities. If all activities are conducted simultaneously, a significant increase in the economy of the region is expected. In addition, transportation infrastructure for the project activities within the region will be improved. As a result, the economic integration will increase, which is a positive impact.

5.1.3. Impacts on Land and Properties

The road rehabilitation works will be carried out within the ROW and no additional land required. No houses or properties affected by the road constructions. The social screening carried out reveal that no temporary or permanent relocations. There will be some construction induced minor impacts such as access restrictions to businesses along the road and the site-specific mitigation plans are included to address such impacts.

At this stage, no social impacts are expected, because it is envisaged on an existing routes the width of the road is 17-19 meters and road extension is not required. No acquisition of land is required. 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.

In total no households will be impacted by land acquisition in Sughd region. CARs-4 project will become a potential route for intra-regional and international transport link and will increase the number of road users, which will bring additional benefits to local businessmen, farmers and residents. Within the framework of this project, local communities receive improved quality of roads, reduced travel time, improved cross-border trade. In the future, this region may attract local investment through the opening of new projects, restaurants, gas stations, sores and etc.

5.1.4. Impacts on Traffic and Road Access

The CARs-4 project will cause temporary impacts on local access and traffic in rehabilitation areas during the construction period due to detours and traffic inconveniences, also local roads could be damaged during

transportation of borrow materials or by construction equipment, or by abnormal amounts of diverted public traffic, and this issue was raised during consultation.

Mitigation of the foregoing impacts will include:

- Contracts will include a clause specifying that care must be taken during the construction period to ensure that disruptions to traffic and road transport are minimized. The contractor shall ensure that the roads remain open to traffic during construction activities;
- The contractor will prepare a traffic control plan, to be approved by the project supervision consultant. The plan will include haulage and work site routes, traffic control devices, temporary fencing, barriers and barricades, detours, traffic signs and speed limits, and safe passage of pedestrians;
- Prior to construction activities, the contractor will install all signs, barriers and control devices needed to ensure the safe use of the road by traffic and pedestrians, as required by the traffic control plan;
- Signs, crossing guards and other appropriate safety features will be incorporated at grade level rail and road crossings;
- Local authorities and residents in a working area will be consulted before any detours for construction or diverted public traffic are established;
- Disposal sites and haul routes will be identified and coordinated with local officials; and
- Construction vehicles will use temporary roads constructed for that purpose to minimize damage to agricultural land and local access roads. Where local roads are used, they will be maintained and reinstated to their original condition after the completion of civil works.

5.1.5. Noise and Vibration

During construction, there will be a temporary adverse impact due to the noise of the construction equipment, especially heavy machinery. Compaction equipment, blasting operations for cuts and excavation of foundations and grading produces noise and vibration. Construction noise is generally intermittent, attenuates quickly with distance, and depends on the type of operation and location and function of equipment.

The most sensitive areas within the project area are hospitals, housing areas and rest homes. Consideration will be given to installation of a noise barrier if construction (or operation) noise levels exceed the national standards or cause nuisance or interfere with school or health service provision activities.

All reasonable measures will be taken to limit noise generation to the EHS Guidelines of the World Bank Group which sets that receptors such as residential, institutional, and educational areas should have noise level of 55 dB(A) from 07:00 AM to 10:00 PM (daytime) and no greater than 45 dB(A) from 10:00 PM to 07:00 AM (nighttime). Use of construction equipment and vehicles will be limited to acceptable time when they have the least impact.

Vibration during the construction period will also be a significant consideration, particularly vibratory rolling of the granular pavement layers, or blasting, or diversion of abnormal amounts of public traffic onto usually lightly trafficked side roads. Some of the existing structures close to the road are of mud-bound construction or otherwise of poor quality and may be damaged by vibration. The contractor will be required to carry out trials of his proposed construction methods close to vulnerable structures, for prior approval, and will not be permitted to use methods which will cause damage (even if he offers to be responsible for compensation). A joint (building owner/consultant/contractor/MoT/PIG) dilapidation survey of vulnerable structures close to the new road will be carried out before construction. This will be used to verify any claims of damage allegedly caused by his work, for possible compensation. In addition, a similar prior survey will be made of condition of the road and adjacent structures along proposed diversion roads (whether to be used by the general public only, or by construction traffic also), which will be required to be maintained to at least their preconstruction condition and reinstated after use.

Cooperation between the contractor and the local residents is essential and it is the responsibility of the project supervision consultant to arrange meetings between these parties and arrange such matters as work schedules (hours of equipment operation, traffic lanes to be kept open, diversion roads, etc.), locations of work camps and material storage areas, and siting of rock crushers and batch plants.

Measures to be included in the project to mitigate the effects of noise and vibration include:

- Requirements in the ESMP and contract documents that all exhaust systems be maintained in good working order and that regular equipment maintenance will be undertaken;
- The contractor will prepare a schedule of operations that will be approved by the project supervision consultant. The schedule will establish the days and hours of work for each construction activity and identify the types of equipment to be used;
- Prohibition of any construction activities between 10 pm and 7 am in settlements or close to sensitive receptors such as hospitals and schools;
- The contractor will consult with the community in respect of construction activities and potential noise and vibration impacts. The consultation process will be facilitated by the project supervision consultant;
- Blasting will only be carried out during the day and according to a pre-established schedule, the adjacent communities will be notified of the blasting times well in advance;
- Use of blasting mats to reduce noise during blasting operations;
- Prior to commencement of construction, the contractor, in conjunction with the project supervision consultant, will undertake a dilapidation survey (including photographs) of all buildings adjacent to the new road and diversion roads (also the original pavement condition of diversion roads);
- Trials of the contractors' equipment (especially vibratory rollers) will be carried out adjacent to vulnerable structures, and if cracking or other damage is observed to occur, the contractor will be required to amend their working methods to avoid damage (for example, use of non-vibratory rollers with thinner layers or cement stabilization, or increased asphalt thickness);
- Use of low volume charges will reduce the potential for vibration induced damage to structures; and
- In the event of damage proven to be due to the contractor's activities, owners of structures will be fully compensated.

5.1.6. Labour and Community safety Impacts

Construction camps may place stress on resources and infrastructure of adjacent communities which could lead to antagonism between residents and workers. To prevent such problems, the contractor will provide temporary facilities in the camps such as health care, eating and sleeping areas (including a cook and provision of meals), water supply, and prayer areas.

The project has the potential to contribute to local poverty reduction through provision of income generation opportunities such as construction employment and provision of goods and services to workers.

The mitigation measures require a number of specific provisions to be included in contract documents including provisions for (i) a set aside for jobs for the poor (60% of the direct unskilled and semi-skilled labour), including a minimum number of persons to be given agreed structured training for more skilled posts; (ii) explicitly prohibiting the use of foreign unskilled and semi-skilled workers or unskilled and semi-skilled workers from elsewhere in Tajikistan unless there are no local unskilled and semi-skilled workers available; (iii) written contracts signed and regular payment of legal wages to workers; (iv) no use of trafficked or child labour for construction and maintenance activities; (v) no differential wages being paid between men and women for work of equal value; (vi) signing Code of Conduct by every worker, (vii) all workers are provided with training on GBV and protocol in work place safety and community relations during civil work period. and (viii) use of locally sourced materials used in the rehabilitation to the maximum extent possible.

5.1.7. Reducing Disturbance of Communities

During construction works, special attention shall be paid to the aspects effecting the populated environment during the transport movement on the roads with only pavement subgrade in settlements, watering or temporary roads should be arranged as necessity.

In order to mitigate the effect on ambient air it is necessary to:

- Repair the existing subgrade road layers;
- Regular watering of both types of pavement subgrade in dry weather;
- Regular check of transport and exhaust gases; and,
- Vehicles with non-standard emission shall not be allowed.

In connection with the influences caused by noise and vibration:

- In order to carry out any work equipment should be used which will minimize the associated noise and in addition, the technical maintenance will be conducted to reduce the levels of noise and vibration;

- The works must be carried out in view of a background noise. It should not be allowed to leave the equipment and machines in idling. Their engines must not work in idle regime without necessity.

5.1.8. Worker Camps and Access Roads

Contractor will be using mainly local camp established under the CARs-2 Project in Isfara and Road Administration Guest House in Kanibadam. It will be responsible for conforming to all the environment safety requirements in connection with the arrangement of construction camp, given below. Significant attention must be paid to the question of temporary access roads since an unfeasible selection may increase a negative effect on social and environmental conditions. Contractor must design and build camps in a way to minimize impact on local communities and plants existing on site (trees, bushes). In the design must be incorporated treatment of the storm water prior to discharge into the stream.

The work shall be carried out along with removing the soil layer and placing it in the area chosen beforehand. The conditions of soil preservation shall conform to the Land Reinstatement Plan.

Wastewater from construction camp (shower, kitchen, toilet, etc.) must be collected in special septic tanks and has to be preliminarily approved by the engineer. Cesspool emptier truck will discharge wastewater into the local sewage system in the place agreed with the local authority.

It is also necessary to take measures on mitigating the effect of the storage and distribution of mineral oils. These include:

- Around the tanks for storage and distribution of mineral oil a barrier of waterproof material shall be arranged;
- The area inside the barrier shall also be finished in waterproof material;
- For the operations of receiving-giving out of fuel by means of tank trucks the area is to be prepared with the view of the measures against spillage; and,

When choosing a route for temporary access roads, as a minimum, the following two aspects shall be taken into consideration:

- They must be as far as possible from settlements; and,
- The preparation works for temporary access roads must begin with the removal of the soil layer and its placement in the area chosen beforehand.

5.2 Environmental Impacts

5.2.1 Flora and Fauna

No adverse impact upon habitats and flora of the project area during construction phase are expected as a result of road rehabilitation on existing alignments: Trees alongside the road shall be protected against damage caused by construction machines. In terms of impacts on fauna, there is the potential for construction workers to poach edible animals and birds of the locality in spite of prohibitions. The contractors will be responsible for providing adequate information to the workers regarding the protection of fauna.

The road construction is not expected to have significant impact on the fauna. Noise, emission and dust minimization actions, as well as prevention of poaching by the workers will be included in the C-ESMP as mitigation procedures:

- The plants will be covered with dust, which will impact the feeding base and reproduction of vertebrate and invertebrate species; the impact is limited to the territories in the immediate vicinity (adjacent to) of the road.
- Dust reduction measures should apply, such as covering materials, removed topsoil and waste to avoid wind erosion and spreading around; restriction of the speed of trucks delivering materials to the construction ground, covering friable material with tarpaulin during transportation, avoiding high dumping of materials during unloading. If required, the ground (machinery stationing, camp site) should be watered to avoid generation of dust, noise and vibration level should be reduced by means of securing proper technical maintenance of machinery/vehicles, adherence to no horn policy, strictly keeping to the stationing-operation ground during the construction and operation;
- The fuel-oil storage should be equipped with adequate secondary containment (impermeable cover of

the area, and the containment of sufficient capacity to avoid pollution of soil/water outside the berm and/or washing it off by the runoff);

- Spills should be immediately cleaned up to avoid spreading of pollution;
- Trenches or pits, if made, should be fenced or protected to avoid entrapping and injuries of the fauna species. Bright colored ribbons may be used for big animals (e.g. cattle), while metal plastic and other shields/fences may be used for small animals. If, despite of the mentioned precautions, small animals turn to be entrapped, upon completion of the shift, planks or medium size twigs must be made available for the animals to escape from the pits/trenches after the night. Pits and trenches must be checked prior to filling up.

In order to minimize disturbance to plants and animals, any toxic and hazardous materials required for construction, including asphalt will be properly stored and secured, and sited in approved locations. Vehicles and equipment shall be maintained in good operable condition, ensuring no leakage of oil or fuel and the fitting of proper exhaust baffles.

The construction Contractor and MoT/PIG and Road Department, based on the pre-entry survey data, should apply all efforts to minimize the impacts on the red list species and accordingly refine the route. Inventory of each single specimen of the red data tree species remaining under the impact after the route refining should be conducted.

A compensatory tree planting plan will be developed and implemented by Contractor. This plan will specify not only species, but provide information on the soil, existing forests around, detailed documentation on land ownership, phytosanitary conditions in forests around the sites selected for tree planting, species and age of seedlings, timetable of planting, maintenance needs and institutional arrangements for maintenance, physical protection of young plantations, etc.

5.2.2 Storm Water Drainage

The storm runoff shall be accumulated by means of the accumulation channels (ditches) arranged on both sides of the roads, which while taking into consideration the relief topography (inclination) shall be connected with specially arranged drainage outflow systems after going through which the storm water shall flow mainly to the local relief and surface waters. This will prevent the development of erosion processes along the road. In this connection for the effective work of the measures for decreasing the effect, the following works shall be carried out:

- Periodical cleaning of certain sections of ditches in order to provide oblong inclination of their bottom- not less than 10%;
- Carrying out works for the reinforcement- repair of certain damaged areas of ditches;
- Preservation of the water pipes in working condition; and
- Periodical cleaning of drainage outlet equipment from soil, then the restoration of embankment and planting of the plants with well developed root system.

5.2.3 Contractor's Work Camp

The Isfara worker camp established under CARs-2 Project will be used to host the civil works contractor workers, as well as the Kanibadam Road Administration Guest House to host the contractor employees. Additional sites for contractor work camps and construction materials storages will all be approved by the PSC and will not be permitted in any environmental important or sensitive areas of Gafurov district. The potential number of the workers per contract is 200 people, the majority of which will be semiskilled worker from local surrounding areas.

Figure 8 Contractor's work camp in Isfara



Contractors will be responsible for supplying appropriate and adequate fuel in workers' camps (coal, liquid gas, electricity etc.) to prevent fuel-wood collection. Construction vehicles shall use carefully-located designated temporary access and haulage roads to minimize damage to habitats.

5.2.4 Air Quality

During construction the rehabilitation and ongoing maintenance works will have a minor impact on local air quality through emission of exhaust from vehicles and asphalt, aggregate and concrete plant, as well as through dust generation from vehicles transporting materials and from exposed stockpiles of material. The rehabilitation of the road, including construction of new sections, will result in reduction of dust emissions compared with existing unpaved or damaged sections. The CARs-4 project's monitoring plan requires that baseline conditions be recorded prior to the reconstruction works in order that air quality can be monitored both during and post rehabilitation works.

Air quality impacts from asphalt plant, aggregate crushers, and dust emissions have been addressed in the above sections. The following mitigation measures have to be implemented by the contractor to reduce emission levels of construction equipment:

5.2.5 Construction Waste Generation

During construction and operation of the projected road a number of waste streams will be generated:

- Inert mineral materials such as excavated earth, sand and gravel asphalt and concrete rubble, which will be entirely recycled and used as construction materials for filling, grading and landscaping.
- Potentially noxious or hazardous materials such as waste from construction camps and workshops, concrete slurries from washing plants, barrels and containers from fuels, lubricants and construction chemicals, scrap metal, and spent welding electrodes. This will be disposed via existing municipal waste management facilities in accordance with Tajik regulations;
- Timber from felled trees and other organic matter from the clearing of the alignment will be collected and stored in appropriate locations outside the immediate construction zone and if suitable made available for sale to the public as firewood.

The following volumes of waste generation have been calculated for Sughd sections:

Table 9. Generation of construction waste

Type of waste	Classification	Way of storage and disposal	Waste volume, ton/period
Construction waste	GG170 Green List Construction, construction sites Site improvement	Special ground	2.9
Exhaust oil	AC-030, amber list wastes	Special enterprises for disposal	2.864
Electrode stubs	GA090 Green List	Special enterprises for disposal	0.00153
Waste end	AC-030 Amber list	Special enterprises for disposal	0.01145

Solid municipal waste	GO060 Green List	Ground	388.74
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Mitigation Measures during Construction Period

The project preparatory work should provide special site provision for temporary storage of waste, indicating methods of removal to a place of disposal, processing or marketing. Disposal of wood and waste from tree and plant trimming should be carried out during the season of felling (preferably in winter).

Contractors must provide containers for all construction waste and should be separated; metals, plastics and construction materials. Any waste and scrap that can be recycled or reused must be separated and stored or taken off site as necessary. Waste materials for recycling and reusing within the construction site should be clearly marked and separated. In all cases storage must take place in clearly marked areas and taken off site as soon as practical. The Waste Management Authority and District Khukumat should be consulted in all waste matters. It must be the responsibility of the Contractor to dispose of all waste and to do so in accordance with local and national regulations. Any hazardous waste must be disposed of in accordance with local and national regulations. Disposal of any waste on adjacent sites with or without the land owner's permission, outside the construction site perimeter is not permitted unless the sites are approved waste disposal sites. Prevention of construction waste incineration: burning or incineration of any waste should not normally be permitted unless specifically approved by the waste disposal authority and environmental authority.

All general waste from the workers camps and office locations will be regularly taken by the contractor to the nearest approved waste disposal site. Disposal and incineration at the construction site will not be allowed. Temporary collection points will be provided within the site for all general waste and these will be clearly signed and will be collected regularly. Any medical waste will be disposed of separately to approve medical waste sites.

At the completion of the contract all waste including all temporary site buildings and installations and all unused materials shall be taken off site by the contractor. No waste should be left on any part of the construction site.

Mitigation Measures during Operation Period

Waste generated during operation will mainly be gravel and salt remnants from winter care, sludge / cake from settling ponds for storm-water, and asphalt, concrete and gravel from repair and maintenance works. None of these wastes is very hazardous and disposal pathways will either be existing municipal waste management facilities, landfills for mineral materials (gravel, rubble) or recycling facilities (cement kilns or asphalt plants). The annual quantities will fluctuate depending on weather conditions (length and severity of wintery conditions) and volume of maintenance works. The range is expected to lie between a few 100s to a few 1,000s of m³ per annum.

Existing waste management disposal facilities within the area are the responsibility of the district. The operator will agree prior to operation on what waste will be delivered to the publicly operated waste management sites. Other waste disposal will be agreed with the District prior to any disposal. Only District and CEP approved disposal sites will be used. Any hazardous or medical waste will be disposed of at separate approved disposal sites. The operator will be responsible for all collection within the road and service areas and disposal to the approved and agreed sites. No disposal will take place on the alignment or at the service/rest areas. No incineration will take place on the alignment or service rest areas unless it is in accordance with local and national incineration regulations.

5.2.6 Quarries and Burrow Pits

Quarry sites have not been identified yet. In order to reduce impacts associated with quarry activities and burrow pits, contract documents will specify only licensed quarrying operations to be used for material sources. If licensed quarries are not available, the contractors will be responsible for setting up dedicated crusher plants at quarry sites approved by the MoT/PIG and properly permitted by the CEP. Further, for all borrow sites, contractors will ensure that they acquire appropriate environmental permits or licenses from CEP before sourcing the material.

The contractors will be required to prepare a plan to identify the sources of material and that will be used for the embankments. The plan will be agreed with the engineer of the construction works supervisor and submitted to PIG, which will ensure that the plan is implemented. The materials and spoil plan should show

the location of any burrow pits to be used and the measures to be taken to rehabilitate these pits upon finalization of the project. MoT/PIG will approve and monitors implementation of the plan.

Prior to the start of the construction, the contractor will also prepare a borrow area operation plan indicating the borrow area, access and departure road, proposed area for extraction of material, and geological cross section.

However, no quarry shall be located within 500m of any urban area, protected area or sensitive receptor. In addition, Contractors will ensure that quarries and crusher plants are:

- Located at least 500 meters from urban areas to prevent noise and dust impacts;
- Located outside of agricultural land; and
- Where possible located on government owned lands

The following good practice for excavation, material storage and transportation is recommended: top soil must be stored separately, covered and used for re-vegetation of borrow area or slopes at the construction site material has to be excavated only in designated areas in coordination with PSC excavated material has to be stored at designated areas in coordination with PSC excavated material should not be stored in the vicinity of open water courses to prevent siltation or obstruction of water ways.

The contractor has to wet unpaved routes which go next to settlements to suppress dust pollution when hauling material from burrow pits fine material (sand) has to be covered with tarpaulin to prevent dust generation and contamination of transport roads. Aggregate load has to be wetted by the contractor to reduce potential dust emissions trucks must not be overloaded to prevent road accidents

To mitigate the impacts from quarry sites and burrow pits, it is recommended that in addition to the preparation of the materials and spoil plan, that bid and contract documents specify that (i) pit restoration will follow the completion of works in full compliance all applicable standards and specifications; (ii) arrangements for opening and using material burrow pits will contain enforceable provisions; (iii) the excavation and restoration of the burrow areas and their surroundings, in an environmentally sound manner to the satisfaction of the project supervision consultant (PSC) Site supervision by PSC will be required before final acceptance and payment under the terms of contracts; (iv) topsoil from burrow pit areas will be saved and reused in re-vegetating the pits to the satisfaction of the PSC. Extraction of construction material from riverbeds is not allowed in order to prevent erosion and destruction of the riverbanks including alongside infrastructure (roads, settlements).

5.2.7 Landscape

Natural landscape is a valuable factor in the inhabitant's perception and also an important part of the Environmental balance. Therefore, the need of inclusion the road into the natural landscape is of great importance. A good integration of the road into the landscape provides psychological clearness of the road for drivers, while change of landscapes on the road promotes traffic safety. The requirements for a combination of road design with natural landscape cannot be underestimated.

However, being in the surrounding landscape, the existing road does not improve the aesthetics. Most parts have the old asphalt-concrete surface. The surface is uneven and wavy. The existing reinforced concrete culverts and bridges and the sub-grade of the roads are in bad condition. Considering the above-mentioned facts, the design of the rehabilitated road, which will improve landscape of the roads. Construction of new alignments will disturb the existing landscape (agricultural land, pastures). Plantation of trees and bushes alongside the road will be an adequate mitigation measure.

5.2.8 Soils, Erosion and Slope Stability

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 suggested to use this material as fill material for re-cultivation of mine galleries or open pit mines. Reuse for road construction should also be taken into consideration if the material is suitable. Disposal on existing landfills cannot be recommended if the volume of the excavated material will

exceed existing capacities. Disposal of this material close to the road alignment has to be prevented to protect landscape and nature. Environmentally sound disposal of cut material and reuse of cut material for road construction must be part of the tendering documents.

Soil characteristics and topographic conditions have to be taken into account in the proposal of works and maintenance activities.

The main impacts on soil and slope stability during rehabilitation works are from (i) loss of agricultural soil or soils of high productive value; (ii) extraction of fill materials from rivers and/or burrow pits; (iii) conversion of the existing land uses such as agriculture and grassland to stockpiles of materials; (iv) soil erosion in areas of mountainous slopes, side slopes, and un-compacted embankments; and (v) soil contamination from chemicals and/or construction material spillage.

Earth embankments and material stockpiles will be susceptible to erosion, particularly during the rains and re-suspension of dust during the dry seasons. Certain types of road improvements, e.g. road widening, result in increased runoff and/or increased velocities that could lead to loss of soil.

Impacts will be mitigated by:

- All required materials will be sourced in strict accordance with Government guidelines, project provisions, and the ESMP;
- Priority will be given to location of material stockpiles, burrow pits and construction camps on unused land and non-agricultural land. All land will be rehabilitated to its original or better condition upon completion of the project works;
- The side slopes of cuttings and embankments will be designed to reflect soil strength and other considerations as included in the project specifications in order to prevent erosion;
- To prevent soil erosion gabion baskets for river-bank protection should be included in the engineering design;
- For embankments greater than 6 m, stepped embankments will be used;
- Material that is susceptible to erosion will be replaced;
- Random and uncontrolled deposition of excavated material will not be permitted. Suitable deposit sites will be designated (generally wide gently sloping areas located away from streams and rivers) at a maximum average spacing of approximately 1 km, and usually with a tipping zone from the road edge of not more than 10m width (unless a wider area clearly will not be detrimental), to minimise the area affected by depositing and requiring reinstatement;
- Re-vegetation of exposed areas including; (i) selection of fast growing and grazing resistant species of preferably local grasses and shrubs; (ii) immediate re-vegetation of all slopes and embankments if not covered with gabion baskets; (iii) placement of fiber mats to encourage vegetation growth, although due to the arid conditions in most of the road, this may only be feasible where there is regular rainfall or other natural water supply; and
- Acquisition of all necessary permits and approvals for location of construction camps, quarry sites and sources of construction materials from CEP and local government agencies prior to any construction or erection of camps and extraction of material.

5.2.9 Water Quality and Waterways

Surface water hydrology can be affected during all phases of bridge and culvert activities. Construction activities can result in compaction of soils and an increase in impermeable (or slowly permeable) surfaces. The subsequent increase in surface runoff may, in turn, increase the risk of flooding. Bridges and culverts can potentially alter the flow regimes of the river thereby affecting water velocity, depth, depositional patterns and channel morphology. These changes in turn may increase the risk of flooding and erosion.

Surface water quality could be affected by a number of factors during operations on site. Construction activities may encourage soil erosion and increase the sediment loads of nearby streams, while accidental leaks/spills of oil/fuel from storage tanks or construction, maintenance and decommissioning vehicles can also pollute surface waters.

The project has the potential to create some short-term and minor adverse impacts on water quality including (i) an increase in silt loads at culverts and bridge sites; (ii) construction materials such as gravel, sand, and fill being washed out into local streams and rivers during rain; (iii) hydro-carbon leakage and/or spills at storage

and mixing plant locations; and, (iv) discharge of waste water and sewage from work camps to local streams and rivers.

In addition to a number of the items outlined above employed to mitigate soil erosion and effects on slope stability that will also mitigate adverse effects on water quality, the following measures will be included in the engineering design and ESMP:

- Interference with natural water flow in rivers, water courses or streams within or adjacent to work sites, and also prevention of abstraction from, and pollution of, water resources in the project sites will not be permitted;
- Water courses, rivers, streams, drains, canals and ditches within and adjacent to project works sites will be protected from pollution, silting, flooding or erosion as a result of project activities;
- Streams, rivers and watercourses (including drains) within and adjacent to the work sites will be kept free from debris and any material or waste arising from project works;
- Sediment controls such as silt fences, coffer dams and silt barriers and other devices will be included in the engineering design to prevent both siltation and silt migration during project activities in the vicinity of rivers and streams.
- Discharge of sediment laden construction water or material (including dredged spoil) directly into surface waters will not be permitted. All such construction water will be discharged to settling ponds or tanks prior to final discharge;
- Water used for dust suppression purposes will be discharged to specially constructed settlement tanks allowing for sedimentation of particulates. After settlement the water may be re-used for dust suppression and rinsing of vehicles and equipment;
- Hydro-carbons, petroleum products to be used in bitumen mixes, and other chemicals will be stored in secure and impermeable containers or tanks located away from surface waters, the storage areas will require a concrete base or other forms of containment that will allow any spills to be contained and immediately cleaned up. Any contaminated soil will be handled according to CEP standards;
- Spoil and material stockpiles will not be located near waterways, rivers or streams;
- All storm drainage will be adequately contoured, sized, and lined where necessary;
- Construction and work camps will be equipped with sanitary latrines that do not pollute surface waters. A waste management plan, covering all liquid and solid waste, will be prepared by the contractor and submitted to the MoT/PIG;
- Discharge or deposit any material or waste into any waters except without the approval from the relevant regulatory authorities will not be permitted; and
- All water, wastewater and other liquids used or generated in execution of project works and activities will be collected and disposed in an approved manner in an approved location and will not cause either pollution or nuisance.

5.3 Baseline Environmental Considerations

Water, wind and pasture erosion are some of the most significant factors affecting the environment in Tajikistan. Erosion is a major threat, not only to the physical and biological environment, but also for the people dependent on arable land for farming or on land fertile enough for grazing.

Erosion is caused by wind, water and through overgrazing. Erosion is one of the fundamental environmental problems in the country. Thus, these issues should not be overlooked in any project, especially one having direct impacts, positive or negative, on erosion.

In the road corridor, the main active form is erosion at existing perennial or frequently running natural rivers and streams, and mudflow activity. Wind erosion also occurs. The main reason for wind erosion is desiccation of fine-grained granular non-cohesive local soils, either as a result of drainage of water resources by surface channels or groundwater extraction or drought, and removal of vegetation cover. The soils in these areas consist to a high percentage of gravel, in a cohesive matrix. Basically, the terrain is naturally barren and sparsely vegetated because of low precipitation mainly in summer.

Erosion processes caused by human activities occur mainly in the outskirts of settlements due to overgrazing and cattle treading especially on steep slopes. Care must be taken to ensure that the new or existing roads to rehabilitate do not further aggravate erosion in vulnerable terrain.

Sand, gravel, and other construction materials will not be extracted from river bottoms or banks in order to protect these habitats, including spawning grounds, feeding habitats, and habitats for juvenile fish.

5.4 Health and Safety

The project's construction phase can cause a range of health and safety impacts. The main impacts on health and safety are associated with (i) risks from construction work (noise, risk of injury), (ii) facilitation of transmission of communicable disease; (iii) contamination of local water supplies; and (iv) traffic safety issues.

The transmission of infectious and communicable diseases, such as COVID-19, sexually transmitted infections (STIs) and even HIV/AIDS is a potential impact posed by construction workers. The civil works phase of the project can pose risks for both the construction workforce and the communities along the roads for the civil works/construction period. High risk groups in the project area include traders, people from household who travel for marketing or selling, seasonal migrants, poor rural people (who risk passing it on to their spouses or partners), intravenous drug users (IDUs), and commercial sex workers (CSWs).

Providing the workers and employees with a detailed information on works, considering health and environment protection conditions and carrying out the special instruction training and technology, equipping the personnel with personal protection equipment (PPEs).

Checking of the knowledge of the technical personnel engaged in the works (bulldozer and excavator drivers, special transport drivers, etc.) in safe action as well as the supply of special information on environmental protection for the personnel engaged in construction.

Potential impacts to local water supplies include the possibility of temporary construction camps and the water supply and wastewater disposal associated with them. Contract provisions to ensure that these facilities are properly sited will be incorporated in project contract documents. Road improvement projects can also inadvertently cause adverse impacts on road and traffic safety as a result of higher vehicle speeds due to improved road conditions. The proposed rehabilitation works do not include design improvements that could encourage higher speeds above the design speed. However, some improvements may be carried out to improve safety, particularly line-of-sight, and at accident black spots. In towns, the design speed will be set at the statutory speed limit for such areas, with prominent speed limit and hazard signage and a ban on non-delivery parking, which are usually strictly enforced by the traffic police, and footpaths, pedestrian crossings, and other safety features. The project will create safety benefits as a result of reducing the conflicts between NMT and motorized traffic.

Currently both NMT and motorized carts mix with regular traffic in towns, even though they are much slower, swerve in and out of the main traffic stream, and make frequent stops. This situation is exacerbated by the use of the road by road-side sellers, who stand in the road with boxes of fruit, vegetables and tobacco to sell.

The main reason that users of NMT and the motorized carts travel with the main traffic stream, despite it being hazardous, is because the road shoulders are either gravel or earth, in many cases the gravel has disappeared leaving large holes and in other cases the existing shoulders also act as the drain and are often filled with water, making it impossible for use by NMT or pedestrians. Reducing the risk of accidents and improving the safety of pedestrians, NMT users and road-side sellers can be achieved by providing hard (sealed) shoulders in the road design, if budget permits, or at least strong, self-draining outward fall.

Air and noise pollution, which can affect the social as well as physical environment, have already been discussed.

Mitigation measures for the foregoing impacts include:

- Implement a COVID-19/STIs/HIV/AIDS and GBV/SEA awareness and prevention campaign at the workplace, seminars and training provided by medical workers;
- Take all necessary precautions to maintain the health and safety of the Contractor's Personnel;
- 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;

- 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;
- Ensure suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics;
- Each contractor will recruit an occupational health, and safety (OHS) officer to address health and safety concerns and liaise with the project supervision consultant and communities;
- Training of all construction workers in basic sanitation and health care issues, general health and safety matters, and on the specific hazards of their work;
- The contractor will provide personal protection equipment, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection, in accordance with relevant health and safety regulations, for workers;
- education post and first aid facilities within construction sites;
- Contractors will ensure that no wastewater is discharged to local water bodies and safe and clean drinking water is provided to all workers;
- Provide hard, instead of soft shoulders, and road markings and signage to enhance safety and indicate that NMT and pedestrians should use the shoulders, rather than mix in the mainstream if traffic;
- No site-specific landfills will be established at the construction camps;
- Septic tanks and garbage receptacles will be set up at construction work sites and camps, which will be periodically cleared by the contractors to prevent outbreak of diseases;
- Provision of adequate protection to the general public, including safety barriers and marking of hazardous areas in accordance with relevant safety regulations;
- Provision of safe access across the construction site to people whose settlements and access are temporarily severed by road construction.
- Provision of proper road markings, safe pedestrian crossings either at-grade or grade-separated as appropriate, speed calming measures such as rumble strips along settlement sections, reflectors, and signage, including posting of speed limits, on completed road sections.

5.5 Impacts on Cultural Resources

Road construction will not have any physical impact on any cultural / historical monuments which exist within the project area, as they are in a safe distance from the RoW. The assessment also included a process involving local communities in the process of identifying, assessing, surveying and protecting physical cultural resources. The heritage and cultural re-sources in the wider project area will not be impaired by the project works as they are located sufficiently far from the road Sections in Sughd region.

For any finds during construction work, the procedures described in paragraph 2 of Article 1 of the Law on the Protection and Use of Objects of the Historical and Cultural Heritage of the Republic of Tatarstan should be applied: “In case of discovering objects of historical, scientific, artistic and other cultural value, individuals and legal entities are obliged to suspend further work and notify the authorized body therefore.”

A Chance Find Report should be prepared by the Contractor and submitted to the construction supervision consultant and other interested parties, as agreed with the cultural property administration and in accordance with national law. A construction supervision consultant or other parties, as agreed, are required to report the findings to the cultural property administration. Annex 3 describes the outline for the Chance Find Procedure Plan.

6. ANALYSIS OF ALTERNATIVES

Alternatives of alignment

During the conceptual design and feasibility study phases no alternative alignments were considered with the principal options referring to sections 1-4 due to the existing alignment and their location. It is considered that the present alignments of the sections as defined in this report are the most suitable in terms of environmental

and social risks and the minimum of environmental and social impacts. The selected alignment has the maximum environmental and social benefits.

Section 1 passes through four villages of jamoat Kurush, namely Kurkat, (Kurush) Shirin, Hashtyak and Navbunyod. Population of Kurush Jamoat in Spitament district.

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.

Section 4 passes through 2 Jamoats - Gafurdzhon Ortykova and Jamoat Rajab Hamroboev. The width of the road allows more than 18 meters and involves the reconstruction of a new Category II roadway to existing roads and which road expansion is not required. Cutting 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.

The offered road alignments follow the existing roads which have rather wide Right of Way and without any sensitive objects along it. The route passes across the settlements and are the zone of influence of transport, business, roadside services and small enterprises that defines it as insensitive to noise and air pollution.

After consideration of route options proposed by Sughd Road Department, the MOT included them into this project.

Environmental and Social Impacts of a Do Nothing Alternative

Do nothing would involve no new capital investment in the road and the present road would take all future traffic flows. This would create significant environmental disturbance to the existing communities along the present alignment; number of communities are now located along the present road. There would be increased noise and vibration, air pollution, and significantly danger to local communities and road users, in particular pedestrians. Crossing the road would become more hazardous and the roadside communities would be physically segregated between the different sides of the road. Traffic congestion would increase and the economic disadvantages of this would be significant. Overall the quality of the environment and social conditions would deteriorate along the present roads.

Environmental Impact of a Widening Alternative

The widening alternative would involve the widening of the present carriageway with a dividing strip. This would generally mean a widening of the ROW.

Conclusion

The do nothing alternative would have significantly larger adverse impacts on the environment and on the social conditions within the existing communities along the exiting road. Danger to local road users and pedestrians would increase, particular from the do nothing alternative. Danger to local road users will increase, especially at alternative of lack of implementation of the project.

The selected widening alternative which involves proposed rehabilitation passing along the existing alignment and brings the impacts on local communities to the minimum. There are no impacts on natural habitats. Overall it is considered that the selected alignment offers the best environmental and social approach to solving the problems with the present alignment and encouraging better transport connectivity.

During preparation of the design and estimate documentation of the road sections in Sughd Region, no changes of the existing alignment will be made to avoid any impacts on the road. The existing main cable communication lines and power lines which will be kept in the same corridor. During project preparation alternative options, as "without project" and "with the project" have been considered.

The “without project” scenario assumes that routine maintenance, pothole patching and reconstruction, when the road reaches very poor condition, will be conducted over the evaluation period. The project alternatives for the sections in Sughd region consists of widening the roads to a “category III” lane highway standard, where possible and maintaining the road with proper routine and periodic maintenance. In general, it is considered that the chosen plan of the route offers the best approach to the solution of problems with the existing roads, with stimulation of economic development and with improvement of regional connectivity, as well as connectivity between the districts.

7. DISCLOSURE AND PUBLIC CONSULTATIONS

7.1 Public consultations

The MoT/PIG consulted the representatives of local authorities, such as local Environmental Protection departments, local Hukumats, local NGOs and community leaders from target jamoats of Spitamen, and Gafurov districts from 14th June to 20th June 2019. During these consultations the MOT/PIG consultants obtained E&S data and concerns of the stakeholders. During the second round of public consultations held in 2 target districts on February 20, 2020, the MOT/PIG presented the summary of this draft ESIA/ESMP.

The purpose of stakeholder consultations during the ESIA process was to ensure that the views, interests and concerns of project stakeholders are considered during the project design. In particular, the large audience was informed about screening procedures, potential projects impact, and measures to be taken to prevent/mitigate potential impacts. An overview of the ESIA stakeholder consultation process for is presented in table below.

Table 9. Overview of the stakeholder engagement process during the ESIA for Sughd Region

<i>Steps</i>	<i>Objectives</i>	<i>Stakeholders involved</i>	<i>Activities</i>	<i>Main documents to be produced</i>
SCOPING Corresponds with the scoping phase of the ESIA June 2019	<ul style="list-style-type: none"> - Identify regulatory authorities and other stakeholders who should be involved in the ESIA process. - Notify stakeholders of the ESIA process and give them the necessary procedural and substantive information to facilitate their input to the process. - Engage stakeholders – listen to them and record issues raised (concerns, comments and questions). 	All	Stakeholder identification and analysis (desktop social scan)	List of potential stakeholders
			Planning stakeholder consultation and disclosure	SEP
			Notification of stakeholders of ESIA process and the proposed project	Background information document for stakeholders
			Engagement of stakeholders	<ul style="list-style-type: none"> - Records of meetings. - Updated stakeholder database and issues record.
DISCLOSURE AND CONSULTATIONS ESIA, SEP and RPF stakeholders February 2020	Disclose draft ESIA, SEP and RPF	Local communities, and regulatory authorities, NGOs and other stakeholders as required	Meetings with stakeholders, as per the procedure described in SEP	<ul style="list-style-type: none"> - Records of meetings. - Specific information-sharing documents.
FEEDBACK RESPONSE on the results of the ESIA Gender focus	<ul style="list-style-type: none"> - Provide relevant stakeholders with an update on progress with project planning, expected impacts 	All stakeholders that have shown an interest in the project	Notification of stakeholders	<ul style="list-style-type: none"> - Issue specific feedback documentation as necessary - Non-technical summary of the ESIA.
			Engagement of	<ul style="list-style-type: none"> - Records of meetings.

<i>Steps</i>	<i>Objectives</i>	<i>Stakeholders involved</i>	<i>Activities</i>	<i>Main documents to be produced</i>
groups	and proposed mitigation.		stakeholders	- Updated issues record.
March 2020	<ul style="list-style-type: none"> - Acknowledge issues raised by stakeholders and tell them how the MOT/PIG proposes to address these. - Engage stakeholders – listen to them and record additional issues raised. 		MOT/PIG discloses at MOT website; Public meetings in target jamoats	<ul style="list-style-type: none"> - Advertisements and postings - Minutes of public meetings

7.2 Disclosure

The ESIA documenting the mitigation measures and consultation process will be submitted to the World Bank and will be disclosed at the MOT website, www.mintrans.tj. The local communities expressed support for the project during the consultations as they clearly saw the benefit for the community as well as for the region. More informal consultation and disclosure will be done during implementation through preparation and dissemination of a brochure in Tajik, Russian and other languages as required, explaining the project, works required and anticipated timing of the works.

Following approval of this ESIA, a copy of the approved and a summary of the document will be sent to all relevant jamoats. Information regarding the approved project and the proposed environmental management measures will be posted at suitable locations on the project sites. Disclosure will conform to the World Bank ESS requirements that environmental and social assessment reports are accessible to interested parties in target areas.

7.3 Stakeholder Engagement Plan

MOT/PIG has prepared a Stakeholder Engagement Plan (SEP) that outlines how stakeholder engagement will be practiced throughout the project lifecycle and which methods will be used as part of the process. It outlines the responsibilities of MOT/PIG and contractors in stakeholder engagement activities implementation. Details on the ESIA stakeholder consultation are also presented in the SEP. The SEP is a live document that will be updated throughout the ESIA process and will continue to evolve as the project proceeds through the construction, operation and decommissioning phases.

SEP activities have been targeted at project affected persons (people affected by land acquisition, people residing in project areas, Jamoats), as well as at other interested parties (government agencies, NGOs, business and workers’ organizations, general public). The SEP outlines special considerations that will be given to ensure outreach to and engagement of disadvantaged and vulnerable groups. SEP activities include establishment and management of a project-wide grievance redress mechanism, public meetings, trainings and workshops, media and social media communication, disclosure of written materials, municipal information desks, involvement of project community liaison officers at the municipal level, as well as a survey among affected persons to gauge satisfaction with the quality of citizen engagement and share additional concerns.

7.4 GRM Mechanism

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.

MOT/PIG 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 Specialist 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) and/or a Social Development Specialist of the Project. Social Development Specialist files the complaint in the Register of Complaints and Suggestions. If the problem cannot be resolved to the satisfaction of the complainant, 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 local government at the district level. A statement of complaint is signed and dated by the affected party. The PIG Social Development Staff will facilitate the process with the local authority, and may serve a direct channel of communication with the beneficiary. If the beneficiary is not able to file a written complaint, the social development specialist will assist the affected party to prepare writing complaints, as well as will record informal complaints and suggestions. The affected party signs the statement. If the complaint is not resolved, the PIG SDS will escalate it to the MOT/PIG.

A social development specialist is responsible for ensuring the legitimacy of complaints and suggestions. If complaints or proposals fall within the jurisdiction of the Project, the PIG will inform the complainants of this and they will be assisted accordingly. The issues will be resolved within 14 days, during this period, meetings and discussions between the responsible agencies/ officials and with the affected party. All other complaints and grievances related to the assessment of the property or land acquisitions; such issues will be addressed through mitigations measures outlined in RAPs as per the requirements of the RPF.

This step-by-step process does not deter them from approaching the courts at any time, as an appeal option.

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.

Workers GRM

The project based GRM also include channels for the contracted workers to voice their concerns and to protect the workers against their employers. There are four options for the workers to file their complaints allowing anonymous grievances:

- 1) Contractor's grievance resolution representative at the civil works site;
- 2) Grievance Focal Point at the Supervising Consultant Office located in the region;
- 3) Workers can also contact the PIG Social Development Specialist based in the region;
- 4) At any time, the workers can contact the MOT/PIG Coordinator directly.

GRM for GBV Related Grievances

The project based GRM will be adapted allow for the uptake of SEA/SH claims or accusations. SEA/SH claims can be reported, like any other project-related grievance. The reporting platforms vary - in person, by phone call, online or SMS.

The GRM Focal Point of the respective level logs the SEA/SH related complaints, acknowledges their receipt, and may take two key actions: 1) Refers the person subject to such assault to relevant GBV service providers/local NGOs, identified in advance and according to preestablished and confidential referral procedures; and 2) If the assaulted person gives consent, the second action is to communicate the allegation to the MOT/PIG staff responsible for grievance matters.

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.tj
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.

7.5 ESIA Implementation Responsibilities

MoT has overall responsibility for preparation, implementation and financing of environmental management and monitoring tasks as they pertain to the project. MoT will exercise its functions through the PIG which will be responsible for general project execution, and which will be tasked with day-to-day project management activities, as well as monitoring.

Specialist staff will be assigned to the PIG to undertake all environmental assessment related tasks. The PIG environment and social consultants will be supported by the PSC (Project Supervision Consultant). The PSC’s team will need to provide an environmental monitoring specialist and social impact monitoring specialist. Currently there are no full-time staffs in the MoT/PIG assigned to environmental and social assessment, management or monitoring. Such tasks will be undertaken on a project by project basis by Consultants.

In the implementation of environmental management and monitoring tasks specific technical assistance will be provided by:

The Committee of Environmental Protection under the Government of the Republic of Tajikistan (CEP) will be consulted during the feasibility and detailed design processes and will also be requested to confirm, or otherwise, the categorization of the project. The CEP will be requested to review the ESIA and approve the project for its environmental importance. Ongoing consultation with CEP will be required during the implementation of the project.

The rural communities and village leaders and organizations will assist in arranging meetings with, facilitating consultation with, and providing information about, affected communities and environmental and

social impacts. An account of the process will be an integral part of the internal monitoring report prepared by MoT/PIG.

Responsibilities for the implementation of the monitoring requirements of this ESIA are shown in Tab. 23. Implementation of mitigation measures during the construction stage will be the responsibility of the contractor in compliance with the contract specifications and loan requirements. The environmental and social specialists of project supervision consultant will supervise the monitoring of implementing mitigation measures during the construction stage. The domestic environmental and social specialist will coordinate with the international environmental and social development consultant for resolving complicated issues that arise in the field and to provide continuously updated information in order to submit reports to MoT/PIG and World Bank.

After project completion, MoT will oversee the operation and maintenance of the project roads. MoT/PIG in cooperation with the district/regional administrations will undertake routine and random monitoring and analyze samples in CEP’s analytical control laboratory in Dushanbe as scheduled in the monitoring plan.

Table 10. Responsibilities for Environmental and Social Monitoring

Project Stage	Responsible Organization	Responsibilities
Detailed Design	MoT/PIG	Review and approve Environmental and Social mitigation and management measures. Translation of mitigation measures into clauses in contract documentation
Construction	Contractor	Implementation of required mitigation measures
	Project supervision consultants, MoT/PIG	Supervise contractor’s implementation of environmental and Social measures on a daily basis. Enforce contractual requirements
	Project consultants, Independent Monitoring Agency (IMA),	Audit construction phase through environmental and Social inspections and review monitoring data. Submission of quarterly reports. Provision of awareness/training to workers and technology transfer to the contractor.
Operation	MoT	Provide budget to undertake environmental and social monitoring
	MoT/PIG’s regional maintenance department	Undertake environmental and social monitoring and prepare bi-annual reports
	MoT/PIG	Review monitoring reports

8. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

8.1 Institutional Framework for ESMP Implementation

The overall objective of the ESMP is to bring the project into compliance with national environmental and social requirements and environmental and social standards of the World Bank.

EMP will be included into the bidding documents so that bidders can consider and incorporate their environmental responsibilities into their bid proposals. Later ESMP becomes an integral part of a contract for the provision of works and is binding for implementation. Works provider has to have in place Health and Safety Plan and Emergency Response Plan. Plan for managing of waste pre-existing in the road corridor is attached to this ESIA report. Contractor shall develop management plan for the waste and excess material to be generated during works.

Compensatory tree planting (and other greening/reinstatement as required) plan may be produced at a later stage, once progress of works allows initiation of reinstatement within the road corridor.

Information included in the ESMP is based on the main findings outlined in every chapter of the ESIA report, i.e., all proposed mitigation and monitoring actions set to a timeline, specific responsibility assigned and follow up actions defined. The ESMP is presented in a table format and divided into three main parts, dealing with the physical environment, with the biological environment, and with the socio-economic and cultural environment. Each part is organized by development stages, i.e. pre-construction, construction and road operation. The overall objective of the ESMP is to bring the project into compliance with national environmental and social requirements and environmental and social standards of the World Bank.

ESMP will be included into the bidding documents so that bidders can consider and incorporate their environmental responsibilities into their bid proposals. Later ESMP becomes an integral part of a contract for the provision of works and is binding for implementation. Works provider has to have in place Health and Safety plan and Emergency Response plan. Plan for managing of waste pre-existing in the road corridor is attached to this ESIA report. Contractor shall develop management plan for the waste and excess material to be generated during works. Compensatory tree planting (and other greening/reinstatement as required) plan may be produced at a later stage, once progress of works allows initiation of reinstatement within the road corridor.

8.2 Institutional Setup for ESMP Implementation and Reporting

The MoT/PIG is responsible for general oversight of environmental compliance of works through ensuring quality performance of the technical supervisor and of the contractor. The supervisor of works commissioned by the MoT/PIG will be charged with the responsibility to establish strong field presence in the project area and supervise the works. Along with ensuring consistency with the design and quality of works, the supervisor is mandated to track the implementation of the ESMP by the contractor, reveal any deviations from the prescribed actions, and identify any environmental / social issues should they emerge at any stage of the works. The coordinator of the PIG will be responsible for reporting to the MoT on the environmental and social performance on monthly basis through including safeguard compliance section into the general reporting.

Project: Central Asia Regional Links Program (CARs-4)

8.3 ESMP Table

ESMP Construction Phase

Activity	Potential Impact	Mitigation Measure	Cost of Mitigation	Responsibility for Mitigation	Responsibility for Monitoring
Site clearance	Cutting of grass and other herbaceous vegetation, cutting and removal of shrubs and tree felling activities.	<ul style="list-style-type: none"> • Identification of trees to be cut or replanted. During the construction of the bridges special attention shall be paid to the protection of the plant species along rivers and streams. • Avoidance of cutting and damaging of the trees without any special need. Preservation of vegetation as far as feasible. <p>Each removed tree shall be compensated by planting and maintaining 3 trees of the same species nearby or after completion of works and re-cultivation of temporarily used sites.</p>	The cost will be determined on case by case basis with consideration of the type of the plant species removed.	Construction Contractor(CC)	MoT/PIG
Offsite traffic	Impact on vegetation and soil	Strict keeping to the boundaries of the traffic route to avoid 'extra' damage of vegetation (if any) and soil ramming	No cost	CC	MoT/PIG
Establishment and operation of contractor's work camps	Water and soil pollution, uncontrolled spillage of the wastewater and waters polluted with mineral oils.	<p>Criteria for locating work camp at far distance from existing settlements to reduce social tensions</p> <p>Control the wastewater of the temporary construction units to avoid their possible impacts upon the surface water. The wastewater shall be collected in the septic tanks/pits. The tanks/pits emptied - waste disposed under agreement of local municipality.</p> <p>Fuel/oil tanks shall be surround with watertight material (it is possible to use clay for the purpose). Storage site arranged at least 100 m distance from any riverbed or streambed. The area under the reservoirs/inside the ricks shall also be covered with waterproof material. Any spill should be immediately isolated and cleaned up with absorbent materials. Onsite fueling must be avoided. If onsite fueling is required, this is to be done in the area arranged according to the requirements of pollution prevention plan. The designated areas for on-site fueling must be located away from drainage channels.</p> <p>Regularly checking of vehicles/machinery for leaks. All leaks shall be immediately repaired. Incoming vehicles and equipment shall be checked for leaks. Leaking vehicles/ equipment shall not be allowed on-site. Secondary containment devices drip pans or absorbent materials shall be provided. On small spills absorbent materials must be used.</p>	The costs will be estimated by contractor identified through tendering.	CC	MoT/PIG

Project: Central Asia Regional Links Program (CARs-4)

		<p>Materials and waste must be stockpiled so as to avoid erosion and washing off into rivers or streams. Drainage trenches must be established to divert surface runoff from the site.</p> <p>Waste collection area must be sited in order to avoid substantial amount of run-off from upland areas without draining directly to a water body.</p> <p>If there is a risk of fuel/oil spills, an oil trap should be additionally provided.</p> <p>To prevent runoff contamination, paving should be performed only in dry weather. Staff should be briefed in sound material/fuel/waste management</p>			
Quarries and Burrow Pits Construction materials source verification	Quality of construction materials, community safety around quarries and burrow pits, rehabilitation of degraded land	<p>Ensure properly permitted or licenced quarries and burrow pits are used to obtain construction materials.</p> <p>Obtain proper permits or licences from CEP for any new quarry or burrow pit opened for the Project in accordance with this ESIA, and the Project ESMF.</p> <p>Ensure depleted or closed quarries and burrow pits are properly restored in accordance with national regulations, this ESIA, and the Project ESMF.</p>	To be included in construction contract	CC	MoT/PIG
Earthworks and various construction activities	Soil stability and quality degradation, deterioration of the soil structure and reducing its productivity.	<p>Removal of topsoil prior to construction</p> <p>Maintaining the humus topsoil deposited along the RoW corridor in a stable state prior to reuse.</p> <p>Separate stockpiling of top and subsoil.</p> <p>Strict keeping to the boundaries of the access roads and operation grounds to avoid pollution, ramming of soil.</p> <p>Preservation of vegetation as far as feasible to avoid the risk of erosion</p> <p>Avoidance of fuel/oil spills</p> <p>Briefing staff in good practice</p> <p>Hydroseeding</p>	No extra costs required. Will be done within the budget of construction works.	CC	MoT/PIG
Establishment and operation of contractor's work camps and various construction activities	Safety of workers, operators and drivers.	<ul style="list-style-type: none"> • Providing detailed information to the personnel about the activities fore- seen in the project. • Holding trainings upon the safety of activities carried out by specialists in different fields • Briefing of new staff • Safety briefing prior to the shift start • Providing the personnel with personal protective equipment. • Checking the safety skills of the technical staff (drivers, etc.). <p>Preparation of a health and safety plan governing all activities on site.</p>	No extra costs required. Will be done within the budget of construction works	CC	MoT/PIG

Project: Central Asia Regional Links Program (CARs-4)

		Training of staff re Code of Conduct vis-a-vis local communities, incl. Awareness raising on COVID-19, HIV/AIDs and GBV/SEA			
Operation of equipment maintenance and fuel storage areas	Deterioration of water/soil quality caused by possible spillage of polluted waters, mineral oils or other contaminants.	<ul style="list-style-type: none"> Establishing control to avoid re-fueling the vehicles and technical equipment outside of construction camps or asphalt plants thereby preventing uncontrolled emergency spillage. Control of the proper status of technical maintenance of vehicles/building machinery (pipes for hydraulic fluid, fuel tanks, etc shall be daily checked before the machinery comes into the rivers). Usage of off-site vehicle wash racks or commercial washing facilities is preferable. If on-site cleaning is required, bermed wash areas for cleaning activities must be established. The wash area may be sloped to facilitate collection of wash water and evaporative drying. <p>Onsite repairs /maintenance activities should be limited. Priority should be given to offsite commercial facilities. If impossible, a designated area and/or a secondary containment for possible spills for on-site repair or maintenance activities must be provided. These areas shall be located away from drainage channels.</p> <ul style="list-style-type: none"> Machinery/vehicles must not be fueled or maintained near the riverbed (distance between the maintenance site and the river should be at least 100 m). <p>Briefing staff in good practice</p>	No extra costs required. The costs for arrangement of wash area (as appropriate) will be estimated by contractor	CC	MoT/PIG
Earthworks and various construction activities	Landscape disturbance.	Before launching the works with regard to possible changes of the landscape a landscape harmonization plan shall be worked out and approved by Employer.	No extra costs required.	CC	MoT/PIG
Earthworks and various construction activities	Archaeological chance finds	<ul style="list-style-type: none"> In the event of unexpected discovery of archaeological objects during construction operations the Contractor shall put all activity on hold and immediately inform the client. <p>Resume works upon written notice of the client.</p>	Cost of archaeological examination	CC	MoT/PIG
Earthworks and various construction activities	Air pollution from improper maintenance of equipment	<ul style="list-style-type: none"> Maintain construction equipment to good standard; improper functioning machinery that causes excessive pollution will be banned from the construction sites. <p>Speed limit for offsite traffic.</p>	No extra costs required	CC	MoT/PIG
Reinforced concrete mixing	Dust/air pollution from concrete mixing	<ul style="list-style-type: none"> Mixing equipment should be well sealed; vibrating equipment should be equipped with dust-remove device. <p>Keep at least 300 m distance from residences windward wind direction to reinforced concrete production plants.</p>	No extra costs required.	CC	MoT/PIG

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Earthworks, storage and transportation of soil or other fine-grained materials (cement, sand, etc.), vehicles moving across unpaved or dusty surfaces.	Dust/air pollution	<ul style="list-style-type: none"> 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. <p>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;</p>	The costs for arrangement of wheel-washing facility will be estimated by Contractor.No other costs required.	CC	MoT/PIG
Earthworks and various construction activities	Impacts upon the human beings and natural receptors caused by increased noise levels.	<p>In the vicinity of settlements material transport and working hours will be restricted to between 07 to 21 hours within a 500 m distance of the adjoining settlements.</p> <ul style="list-style-type: none"> Speed limit set for the offsite traffic. <p>Implementation of regular technical check-ups of mobile and stationary devices.</p>	No extra costs required.	CC	MoT/PIG
Construction of the road and structures, demolition of the road-side facilities	<p>Non-hazardous Wasteproduction From construction and demolition Hazardouswaste</p>	<ul style="list-style-type: none"> Development and implementation of waste management plan For temporary disposal of inert waste the site within the camp/operation ground must be selected. The waste must be placed so as not to interfere with free movement of machinery and staff, away from surface water (within at least 100 m). Waste must be source-separated in order to ensure efficient management and enable reuse. Any waste materials that may be used for the project must be reused on the site, or for the needs of municipality based on agreement, the rest should be disposed at the nearest landfill, as the case may be, under agreement of local authorities. <p>Briefing staff in good practice Briefing of the staff in hazardous waste management</p>	No extra costs other than that related to removal of the waste (under the contract) - required.	CC	MoT/PIG
Operation of equipment	Hazardouswaste	<ul style="list-style-type: none"> Implementation of waste management plan Hazardous waste containers shall have secondary containment and the waste shall not 	No extra costs other than that related to	CC	MoT/PIG
Establishment and operation of construction sites/camps	Production of non hazardous domestic waste (food waste, pack aging, plastic bottles, etc.)	<ul style="list-style-type: none"> Development and implementation of waste management plan Waste must be collected in waste containers fitted with lids to prevent scattering by wind, odor pollution and attraction of scavengers. The lid will also protect the waste from rain/snow. The containers should be located in a predefined area, remote from water bodies and away from traffic. <p>Briefing staff in good practice</p>	No extra costs other than that related to removal of the waste (under the contract) - required.	CC	MoT/PIG

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Various construction activities	Impacts on Fauna (accidental deaths, reduction, loss or isolation of habitats, etc.)	<ul style="list-style-type: none"> Trenches or pits, if made, should be fenced or protected to avoid entrapping and injuries of the fauna species. If, despite of the mentioned precautions, small animals turn to be entrapped, upon completion of the shift, planks or medium size twigs must be made available for the animals to escape from the pits/trenches after the night. Pits and trenches must be checked prior to filling up; Special attention should be given to the avian fauna in the spring-summer (April to July), the season most sensitive for birds; <p>Briefing staff in good practice</p>	No extra costs required	CC	MoT/PIG
Earthworks and various construction activities	Erosion, etc.	<ul style="list-style-type: none"> Selection of a reasonable embankment height and stabilization of slopes; Use of wooden shields for pits if they are very deep to preserve stability, as the case may be during the bridge construction; Establishment of temporary berms, slope drains, temporary pipes, con- tour ditches, ditch checks, diversions, sediment traps etc. <p>Briefing staff in good practice</p>	No extra costs required. Will be covered by construction works budget.	CC	MoT/PIG

ESMP - Operation Phase

Activity	Potential Impact	Mitigation Measure	Cost of Mitigation	Responsibility for Mitigation	Responsibility for Monitoring
Accidental fuel/oil spill and/or roadside litter washed off/blown off into rivers or streams	Water pollution	<ul style="list-style-type: none"> Surface sweeping and the development of better cleaning methods; Control over truck traffic to minimize spills; <p>Culverts must be cleaned routinely and repaired as far as required.</p>	No extra cost - included into the contract cost of the maintenance company	Selected Maintenance Company	MoT/PIG
Road resurfacing	Water bodies pollution by heavy metals, hydrocarbons and debris	<ul style="list-style-type: none"> Maintenance paving should be performed only in dry weather to prevent runoff contamination. <p>Proper staging techniques should be used to reduce the spread of paving materials during the repair of potholes and worn pavement. These can include covering storm drain inlets and manholes during paving operations, using erosion and sediment controls to decrease runoff from repair sites, and</p>	No extra costs	Selected Maintenance Company	MoT/PIG

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		using drip pans, absorbent materials and other pollution prevention materials to limit leaks of paving materials and fluids from paving machines.			
Transport emissions	Air pollution by transport emissions	Keep greenery near settled areas	No extra cost - included into the contract cost of the maintenance company	Selected Maintenance Company, Traffic Police,	MoT/PIG
Noise	Impacts upon the human beings and natural receptors caused by increased noise levels.	To protect residents along the road section from negative noise impacts noise mitigation measures should be applied - traffic velocity decrease in those sections where the noise limits are exceeded.	No extra cost	Selected Maintenance Company, Traffic Police	MoT/PIG
Littering	Possible negative impact on wildlife, water pollution	Signage may be an element of a roadside litter prevention program, educating the community that littering is illegal, fines apply and behaviors are monitored. The signs may be suitable for placement in a series of two to four signs at 10 km intervals to repeat the message in different ways.	No extra cost and included into the contract cost of the maintenance company	Selected Maintenance Company	MoT/PIG
Condition of green buffers	Impact on vegetation Road kills of animals	<ul style="list-style-type: none"> • Removal of faded plants and re-plating. • Status of plants • Keep records of accidents. If accident hot spots with large mammals are identified, appropriate protective measures shall be elaborated (e.g. reflectors /local fencing, warning signs, speed reduction etc.)	No extra costs - covered by maintenance budget	Selected Maintenance Company	MoT/PIG
Traffic	Incidence of accidents due to winter typical hazards (snow, ice, fog) if has	Installation of warning signs Informing	Low cost	Selected Maintenance Company, Emergency Management Agency	MoT/PIG
Road safety measures	High speed of vehicular traffic as a result of better roads.	Improved road signage, painting, and nighttime reflectors.	Part of construction contract	CC	MoT/PIG

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8.4 Environmental and Social Monitoring Plan

Monitoring Plan - Construction Phase

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency /or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
Supply of construction materials	Purchase of the construction materials from licensed providers	Offices and warehouses of material suppliers, and borrowing sites	Checking documents; Inspection of material quality	In the process of signing the agreements for material provision	Ensure technical quality of construction; Protect human health and environment	MoT/PIG
Transportation of construction materials and waste Movement of construction equipment	Technical condition of construction vehicles and machinery; Adequacy of the loading trucks for transported types of cargo, and canopy coverage of cargo transported in open trucks; Movement of construction vehicles and machinery along pre-defined routes.	Routes for transportation of construction materials and construction wastes	Inspection of roads adjacent to the construction site and included in the agreed-upon routes of transportation	Unannounced checks during the working hours	Avoid air and road pollution with dust and solid matter; Reduce traffic disruption	MoT/PIG Traffic Police
Operation of Construction machinery on site	Proper technical condition of construction machinery: • no excessive exhaust, • no fuel leakage, respect of working hours	Construction site	Inspection	Within and off working hours	Reduce air and soil pollution caused by equipment operation; Reduce noise and dust nuisance to local population	MoT/PIG
Servicing of construction machinery	Washing vehicles and machinery off-site of in the location sufficiently distant from water bodies;	Construction site and construction base (if applicable)	Inspection	Entire period of machinery operation	Avoid land and water pollution with oil products due to servicing of vehicles and	MoT/PIG

Project: Central Asia Regional Links Program (CARs-4)

	<p>Servicing vehicles and machinery with oils and lubricants off-site or in an especially arranged location on-site;</p> <p>technical adequacy of the servicing location:</p> <ul style="list-style-type: none"> • Solid, insulating floor or adsorbent layer (sand, gravel, membrane), • Containment barriers allowing enough space for holding fuel over the maximum amount expected on the location at a time, • Emergency fire fighting kit, sedimentation pool at car wash area. 				<p>machinery;</p> <p>Be ready for fire emergency action to promptly localize fire source and minimize material damage</p>	
Servicing of construction machinery	<p>Washing vehicles and machinery off-site of in the location sufficiently distant from water bodies;</p> <p>Servicing vehicles and machinery with oils and lubricants off-site or in an especially arranged location on-site;</p> <p>technical adequacy of the servicing location:</p> <ul style="list-style-type: none"> • Solid, insulating floor or adsorbent layer 	Construction site and construction base (if applicable)	Inspection	Entire period of machinery operation	<p>Avoid land and water pollution with oil products due to servicing of vehicles and machinery;</p> <p>Be ready for fire emergency action to promptly localize fire source and minimize material damage</p>	MoT/PIG

Project: Central Asia Regional Links Program (CARs-4)

	<p>(sand, gravel, membrane),</p> <ul style="list-style-type: none"> • Containment barriers allowing enough space for holding fuel over the maximum amount expected on the location at a time, • Emergency fire fighting kit, sedimentation pool at car wash area. 					
Generation of construction waste	<p>Temporary storage of inert and hazardous wastes separately at the designated locations;</p> <p>Timely disposal of waste to the formally designated landfills;</p> <p>Hand-over of hazardous wastes to licensed deactivating and processing companies.</p>	<p>Construction site and base (if applicable);</p> <p>Locations designated for waste disposal</p>	<p>Checking documents;</p> <p>Visual observation</p>	<p>Entire period of construction</p>	<p>Avoid pollution of the environment</p>	<p>MOT/PIG</p> <p>LocalMunicipality</p>
Accumulation of household waste	<p>Provision of waste containers on-site;</p> <p>Agreement with local municipality for regular out-transporting of waste</p>	<p>Construction site and base (if applicable)</p>		<p>Entire period of construction</p>	<p>Avoid pollution of soil and water with household waste</p>	<p>MoT/PIG</p> <p>LocalMunicipality</p>
Operation of asphalt-concrete plant	<p>Obtaining permit for impacting environment by Contractor and strict adherence to its terms;</p> <p>Placement of plant in the location permissive for</p>	<p>Construction site and base (if applicable)</p>	<p>Checking documents</p> <p>Inspection</p>	<p>Before establishment of plant and during entire period of its operation</p>	<p>Reduce inconvenience for local population due to plant operation;</p> <p>Reduce air and surface</p>	<p>MoT/PIG</p> <p>Environment Protection</p>

Project: Central Asia Regional Links Program (CARs-4)

	minimal disturbance of local population; Arranging sedimentation pool for capturing of liquid discharges from plant				water pollution from emissions and discharges from plant	Agency
Safety of labor	- Provision of Special Clothes and protective means for the contractors Consistency with the rules of exploitation of the construction equipment and usage of private safety means	Construction site	Inspection of the activities	The whole construction period	Reduce the probability of accidents	MoT/PIG

Monitoring Plan - Operation Phase

Activity	What (Is the parameter to be Monitored?)	Where (Is the parameter to be Monitored?)	How (Is the parameter to be Monitored?)	When (Define the frequency /or continuous?)	Why (Is the parameter being Monitored?)	Who (Is responsible for Monitoring?)
Cleaning road surface and shoulders from waste	Trash deposited from moving vehicles timely collected and removed; Bodies of animals overrun by vehicles timely collected and removed	Carriageway and shoulders of the road section	Inspection	Quarterly	Prevent road littering; Road safety	MoT/PIG Localmunicipality

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Keeping road drainage system operational	Periodic cleaning of draineditches from silt and trash	Drainage system long the road section	Inspection	Quarterly	Maintaining drainage system capacity for preventing road flooding and water damage	MoT/PIG Localmunicipality
Confinement of accidental spills and clean-up	Timely confinement, deactivation, and removal of liquid or powder spills of cargo in case of road accidents	On the road and its immediate surroundings	Inspection	Upon occureance of accidents, as required	Prevent pollution of soil and water	MoT/PIG Traffic Police; Localmunicipality
Disposal of waste from regular road maintenance works	Collection and timely disposal of waste from maintenance works to the designated landfill	On the road and its immediate surroundings	Inspection	Towards completion of scheduled maintenance works	Prevent environment pollution	MoT/PIG Localmunicipality

Monitoring Plan – Overall Activities

<i>Activity</i>	<i>What</i> <i>(Is the parameter to be monitored?)</i>	<i>Where</i> <i>(Is the parameter to be monitored?)</i>	<i>How</i> <i>(Is the parameter to be monitored?)</i>	<i>When</i> <i>(Define the frequency / or continuous?)</i>	<i>Why</i> <i>(Is the parameter being monitored?)</i>	<i>Who</i> <i>(Is responsible for monitoring?)</i>
All construction works	Technical progress and implementation of mitigation measures, compliance with Tajikistan E&S law, World Bank ESF, and Contractors' ESMPs (C-ESMPs)	Selected past and all current work areas	<ul style="list-style-type: none"> - Observations during normal activities - Inspections - Monthly reports and incident reports 	Continuous or as necessary	Verify implementation of mitigation measures	Supervision Consultant)
			E&S monitoring site vists	Quarterly	<ul style="list-style-type: none"> - Verify implementation of C-ESMP - Identify needed modifications to C-ESMP 	MOT/PIG E&S Consultants
	Working conditions, biodiversity management, and erosion control	All active work areas	Observations	During daily rounds (continuous)	Verify implementation of OHS Plan	Contractor safety manager
			Inspections	At least weekly		
		Active and recent tree cutting areas, active sites on steep slopes,	Observations	During daily rounds	Verify relevant aspects of C-ESMP are being implemented	Contractor E&S manager and/or specialist(s)
			Inspections	At least weekly		

Project: Central Asia Regional Links Program (CARs-4)

Activity	What <i>(Is the parameter to be monitored?)</i>	Where <i>(Is the parameter to be monitored?)</i>	How <i>(Is the parameter to be monitored?)</i>	When <i>(Define the frequency / or continuous?)</i>	Why <i>(Is the parameter being monitored?)</i>	Who <i>(Is responsible for monitoring?)</i>
		active construction sites				
		New rehabilitation sites	Inspections	Before construction begins	Verify supervisors are aware of requirements, construction boundaries are marked, etc.	
	Working conditions (equipment, tools, etc.) and workers (PPE)	All active work areas	Observations	During daily rounds (continuous)	<ul style="list-style-type: none"> - Verify safety of working conditions and workers - Provide guidance to supervisors and workers 	Contractor's Safety Officers
			Inspections	At least weekly		Contractor safety manager
	Worker and supervisor safety training	All active work areas	Records checks & interviews	Daily or as needed before beginning new work	Ensure workers are trained to work safely	Contractor's Safety Officers
Spot checks (at least once every site monthly)				Contractor safety manager		
Progress reports/meeting	Technical progress and status of C-ESMP implementation: <ul style="list-style-type: none"> - Safety - Biodiversity survey and restoration activities - Erosion control & site stabilization - Site restoration - Grievance management 	Recently and currently active sites	<ul style="list-style-type: none"> - Interviews with contractor E&S & technical staff - Review monthly contractor and Supervision Consultant E&S reports - Review worker & stakeholder grievance registers - Site visits 	Monthly	Verify technical progress and E&S protection	Mandatory attendees: <ul style="list-style-type: none"> - Contractor E&S personnel - Supervision Consultant (if any) - MOT/PIG E&S consultants and HSE Department representative
Drivers and vehicle safety	Driver qualifications	Office	<ul style="list-style-type: none"> - Verify valid driver's license and operator's permit as required - Check with traffic police if needed - Skills test as needed 	<ul style="list-style-type: none"> - Before allowed to vehicles/equipment - Annually 	Trained drivers	Contractor PM & safety manager

Project: Central Asia Regional Links Program (CARs-4)

Activity	What <i>(Is the parameter to be monitored?)</i>	Where <i>(Is the parameter to be monitored?)</i>	How <i>(Is the parameter to be monitored?)</i>	When <i>(Define the frequency / or continuous?)</i>	Why <i>(Is the parameter being monitored?)</i>	Who <i>(Is responsible for monitoring?)</i>
Vehicle safety (horns, backup alarms, lights, tires, safety belts, fire extinguisher, cleanup kit, first aid kit, etc.)	All auto park in use	Inspect and complete checklist	Daily before first use	Minimize traffic accidents, protect workers and other drivers/pedestrians	Driver/operator	
		Review checklists and vehicles	Spot checks: at least monthly for each vehicle			Contractor safety manager
Marking boundaries of work areas	Boundary is clearly marked	All active work areas	Observations and photographs	<ul style="list-style-type: none"> - The day before work is to begin - At least once during each stage of construction works 	<ul style="list-style-type: none"> - Limit areas of impacts - Verify no off-site damage 	Contractor supervisors & E&S personnel
Water quality	Erosion/ sedimentation	In any rivers or streams upstream and downstream of works	Visual observation or turbidity (discoloration/clarity)	Continuous during dally rounds	Determine if construction is affecting water quality, verify implementation of Land Management and Erosion Control Plan	Supervision Consultant and Contractor E&S manager and/or specialist(s)
	Suspended solids, pH, temperature		Electronic	Monthly during construction		
Air quality	<ul style="list-style-type: none"> - Visible dust and/or dust coating leaves on vegetation 	Road, construction areas	Observations	Continuous during daily rounds	Determine need for damping roads to suppress dust	All contractor managers, supervisors, E&S personnel,
	Black smoke from vehicles, equipment, other engines	All engines			Determine need to remove engine from service until repaired	
Biodiversity preconstruction surveys	Terrestrial an aquatic biodiversity	All areas to be affected by construction	<ul style="list-style-type: none"> - Visit to ongoing survey - Debriefs by survey team 	<ul style="list-style-type: none"> - Visits and spot checks two times during each survey 	Verify surveys are following TOR	MOT/PIG HSE Department
	<ul style="list-style-type: none"> - Mature trees (and buildings) with hibernating/ nesting bats & birds logged, photographed, & marked 	Selected areas being surveyed, while surveys are ongoing	<ul style="list-style-type: none"> - Visits to ongoing surveys - Spot checks of specimens marked after surveys - Debriefs by survey team(s) 	<ul style="list-style-type: none"> - Visits and spot checks: at least one site daily during surveys - Debriefs: daily verbal or email/written 	Verify surveys are identifying species of concern, mature trees, natural habitat	Contractor E&S manager & specialists

Project: Central Asia Regional Links Program (CARs-4)

Activity	What <i>(Is the parameter to be monitored?)</i>	Where <i>(Is the parameter to be monitored?)</i>	How <i>(Is the parameter to be monitored?)</i>	When <i>(Define the frequency / or continuous?)</i>	Why <i>(Is the parameter being monitored?)</i>	Who <i>(Is responsible for monitoring?)</i>
	<ul style="list-style-type: none"> - Trees to be cut marked - Fauna present and/or at risk identified, including birds of conservation concern (if any) 					
Land clearing activities (roads, bridges, right of ways, & construction areas)	Compliance with Land Management and Erosion Control Plan, including: <ul style="list-style-type: none"> - Boundary marking before construction begins - Working within boundaries - Topsoil storage and spoil storage - Drainage control to prevent erosion 	All areas being cleared	<ul style="list-style-type: none"> - Visits/inspections - Reports from supervisors to E&S manager 	<ul style="list-style-type: none"> - Before clearing - Daily during clearing - After clearing and before construction 	<ul style="list-style-type: none"> - Limit extent of clearing - Verify topsoil salvaged - Verify drainage controlled and erosion avoided - 	<ul style="list-style-type: none"> - Contractor E&S personnel - Contractor PM (spot checks)
	Condition of land/vegetation at boundary	All areas under construction	Inspections	At least weekly	Verify implementation of ESMP	Contractor E&S personnel
	Site restoration	Construction sites	Inspections	When and immediately after construction ends at that site	To verify restoration	Contractor E&S personnel
	Excavations and cuts	Areas of excavations marked, edges of excavations marked (tape, rock barriers, etc.)	Foundation locations, cuts on steep slopes	Before grounding broken	Before excavations	Limit area of disturbance

Project: Central Asia Regional Links Program (CARs-4)

Activity	What	Where	How	When	Why	Who
	<i>(Is the parameter to be monitored?)</i>	<i>(Is the parameter to be monitored?)</i>	<i>(Is the parameter to be monitored?)</i>	<i>(Define the frequency / or continuous?)</i>	<i>(Is the parameter being monitored?)</i>	<i>(Is responsible for monitoring?)</i>
	Works are within boundaries	Tower locations, substation location	Observation, photographs	Daily during works	Limit area of disturbance	Contractor E&S personnel & supervisors
	Soil salvaged and stored separately from subsoil/spoil	All excavations	Observations and photographs	At least once during works at each site	Topsoil conserved and protected from erosion	Contractor E&S personnel
	Workers received relevant training	Work sites and records	Interviews, records review	Prior to work at excavation sites	Verify workers can work safely	Contractor safety manager
	Barriers (tape, rocks, etc.) placed to prevent falls	Perimeter of excavations >1m deep	Observation	When excavation is complete	Protect workers and others against falls	Supervisor
				Spot checks (including when no active work is ongoing, such as weekend)		Contractor E&S personnel
	Open excavations marked when no ongoing work and end of workday		Observation	End of workday	Protect community members from falls	Supervisor & Contractor E&S manager
Vegetation cutting	Implementation of Flora and Fauna Survey Plan – Trees to be cut marked – If flora species of concern identified: logged, photographed, & marked – Mature trees with bats/birds logged, photographed, & marked – Fauna signs and presence documented, risks identified	Areas where trees and shrubs are to be cut	Observation	Immediately prior to cutting/clearing and during ongoing cutting/clearing	Verify species and specimens of concern are identified	Contractor E&S manager

Project: Central Asia Regional Links Program (CARs-4)

Activity	What <i>(Is the parameter to be monitored?)</i>	Where <i>(Is the parameter to be monitored?)</i>	How <i>(Is the parameter to be monitored?)</i>	When <i>(Define the frequency / or continuous?)</i>	Why <i>(Is the parameter being monitored?)</i>	Who <i>(Is responsible for monitoring?)</i>
Tree and shrub plantings	2+ trees and shrubs of same species planted per tree cut/removed	In location suitable for growth selected by qualified biologist	Observation and photography	During spring following cutting	Verify plantings	Botanist appointed by contractor
	Survival of 2+ plantings per tree/shrub cut			Prior to demobilization	Verify success to allow final payment	
				Annually for 5 years after planting	Verify success or identify need for replanting	Botanist appointed by local governments
Bat box placement	2+ bat boxes placed per bat-supporting tree cut or building removed	In location selected by qualified expert	Observation	Within one month of tree cutting	Verify placement	Botanist appointed by local governments
				One year after original placement	Verify in place	
Land restoration	Implementation of Land Management and Erosion Control Plan – Stable contours after construction – Placement of topsoil (if any) on bare ground – Planting native species (seeds or plants)	All areas where land was disturbed that will support vegetation	Observation and photography	Within one month of end of activities at that site	Identify need for repairs or verify restoration	Contractor E&S personnel
	Establishment of self-sustaining vegetation cover	All restored areas except slopes not capable of supporting vegetation cover	Observation & photography	Each month (spring, summer, fall) until vegetation cover determined to be self-sustaining and one year after that	Verify vegetation is established & determine if further action or repairs needed	Botanist appointed by contractor (and local government after construction ends)
Noise generation	Noise levels	Workplaces	Noise meters	Monthly at typical work sites	Verify noise is within standard or identify need for mitigation	Contractor E&S personnel
		Off-site locations		Within 24 hours of request or noise complaint by worker or external party		

Project: Central Asia Regional Links Program (CARs-4)

Activity	What	Where	How	When	Why	Who
	<i>(Is the parameter to be monitored?)</i>	<i>(Is the parameter to be monitored?)</i>	<i>(Is the parameter to be monitored?)</i>	<i>(Define the frequency / or continuous?)</i>	<i>(Is the parameter being monitored?)</i>	<i>(Is responsible for monitoring?)</i>
		At nearest residence when works are within 250mkm		Weekly, while work is ongoing within 250m of houses		
Traffic safety	Contractor compliance with traffic safety requirements	Construction sites	Observation and inspection	During construction	Verify compliance, ensure safety	MOT/PIG E&S specialists
	Installation of signs, reflectors, and road markings	Finished road	Observation and inspection	Prior to handover of road	Verify compliance	Contractor/safety engineer
Blasting	Slope slippage (landslide potential)	Within 200m of blasts	Observation	Same work shift as blast	Determine risk of landslide and need for corrective action	Personnel assigned by blast master
	Pre-blast condition	Buildings within 0.5m of blast	Inspection and photography	Prior to blast	Establish pre-blast condition	Personnel assigned by blast master & Contractor PM
	Post-blast condition: cracks, settling, flyrock damage, etc.			Within 24 hours after blast	Identify blast damage	
	Blasting contractor compliance with legal requirements for transport, storage, use	Magazine and blasting sites	Inspection	Monthly	Verify compliance, ensure safety	Contractor E&S manager
Ensuring adequate hygiene	Sanitation, water, etc.	Kitchens, break areas, toilets, accommodations	Inspections	Quarterly	Verify goods sanitation conditions	Supervision Consultant
	Toilets & potable water	Work locations	Observations	Daily during rounds	<ul style="list-style-type: none"> - Verify workers have potable water - Verify toilet facilities are available 	Safety Officers and/or E&S specialists, supervisors, managers
			Inspections	At least weekly		Contractor E&S specialist and/ or safety officer
Labour risks	Labour contracts issues	Contractor records office	Review of contracts for local workers	Quarterly	Verify availability of written contracts and employment terms	MOT/PIG Social specialist, M&E Specialist

Project: Central Asia Regional Links Program (CARs-4)

Activity	What	Where	How	When	Why	Who
	<i>(Is the parameter to be monitored?)</i>	<i>(Is the parameter to be monitored?)</i>	<i>(Is the parameter to be monitored?)</i>	<i>(Define the frequency / or continuous?)</i>	<i>(Is the parameter being monitored?)</i>	<i>(Is responsible for monitoring?)</i>
Worker grievance resolution	Worker grievance register	Work sites and Contractor records office	Review of register	Weekly	Verify grievances are being recorded and resolved	Contractor HR manager and PM
	Grievance handling and resolution		Interviews with managers responsible for resolution and with complaining workers	Before monthly progress meeting	Verify grievances are being addressed properly	Contractor HR manager, supervisors
Worker grievance resolution	Worker grievance register	Supervision Contractor records office	Review of register	Weekly	Verify grievances are being recorded and resolved	Supervision Contractor HR manager and PM
	Grievance handling and resolution		Interviews with managers responsible for resolution and with complaining workers	Before quarterly progress reporting	Verify grievances are being addressed properly	MOT/PIG Social specialist, M&E Specialist
External stakeholder grievance resolution	Stakeholder grievance register	Contractor records office	Review of register	Weekly	Verify grievances are being recorded and resolved	Contractor HR manager and PM
	Grievance handling and resolution	Community	Interviews of selected stakeholders who submitted grievances and with persons responsible for addressing	Before quarterly progress meetings	Verify grievances are being addressed properly	MOT/PIG Social E&S specialists, M&E Specialist
Stakeholder engagement	Worker behavior in communities	Community	<ul style="list-style-type: none"> - Reviews of grievance log - Interviews with community leaders 	Quarterly	Determine need for training/dismissals/ etc.	Contractor HR manager, PM, social specialist
	Community satisfaction with project	Community	<ul style="list-style-type: none"> - Reviews of grievance log - Interviews with community leaders and local residents 	Quarterly	Identify community issues	MOT/PIG Social specialist, M&E Specialist
Resettlement and compensation	Compliance with RAP	As specified in RAP				
Erosion control, land stability	Effectiveness of erosion control and land restoration	Burrow pits, construction material sites	Observations during routine maintenance patrols	Semi-annually during operation	Identify need for further land stabilization and erosion control	MOT/PIG Environmental specialist

Project: Central Asia Regional Links Program (CARs-4)

ANNEX 1: SOCIAL SCREENING FORMS COMPLETED FOR SECTIONS 1-4

Sub-section ___Spitamén-Dehmoi, Section 1_____

Sub-project implementation location _Sughd Region_____

(Indicate location of implementation with the designation on the map-scheme with photos)

Kind of activity:___Rehabilitation_____

(new construction, reconstruction, rehabilitation, maintenance)

Estimated cost _____

Estimated start date: _____2021_____

Technical drawings / specifications discussed: _____

Below is the screening for involuntary resettlement impacts. Both permanent and temporary impacts were considered and reported in the screening process.

a) Screening Questions for Involuntary Resettlement Impact

#	Possible Involuntary Resettlement Effects	Yes	No	Remarks
1	Will the project include any physical construction work?		X	
2	Does the proposed activity include upgrading or rehabilitation of existing physical facilities?	X		12,2 km of road sections of III category will be rehabilitated
3	Will it require permanent and/or temporary land acquisition?		X	Rehabilitation of road sections will go along the same network
4	Is the ownership status and current usage of the land known?	X		Current lands under the roads belong to the Sughd Road Maintenance Enterprise
5	Are there any non-titled people who live or earn their livelihood at the project site?		X	
6	Will there be loss of housing?		X	
7	Will there be loss of fixed assets (i.e. fences, pumps, etc.)?		X	
8	Will there be losses of crops and trees?		X	
9	Will there be loss of businesses or enterprises?		X	
10	Will there be loss of incomes and livelihoods?		X	
11	Will people lose access to facilities, services, or natural resources?	X		Temporary loss of access to some buildings
12	Will any social or economic activities be affected by land use-related changes?		X	
13	Were there any people being displaced from the assigned land / project site in anticipation of the subproject activity?		X	

b) Possible Involuntary Resettlement Effects

Project: Central Asia Regional Links Program (CARs-4)

Quantification of private land require to be acquired:
Any preliminary estimate of the likely affected land that will be required by the Project? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, approximately how much? ___ hectares
Information on displaced persons
Any estimate of the likely number of persons that will be displaced (economically and physically) by the Project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, approximately how many?
Any estimate of the likely number of persons that will be physically displaced (relocated) by the Project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, approximately how many?
Any estimate of the likely number of persons that will experience loss of more than 10% of productive assets? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, approximately how many?
Are any of them poor, female-heads of households, or vulnerable to property risks? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, approximately how many?.....
Are any displaced persons from indigenous or ethnic minority groups? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, how many?

a) Involuntary Resettlement Impacts

The Safeguard Team 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): _Alifbek Shirinshoev, social Safeguards Consultant, MOT/PIG_

Signature: _____ Date: 20.03.2020

Project: Central Asia Regional Links Program (CARs-4)

SOCIAL SCREENING FORM COMPLETED FOR SECTION 2-3

Sub-section__Dehmoi-Gafurov-Khishtevartz section_____

Sub-project implementation location_Sughd Region_____

(Indicate location of implementation with the designation on the map-scheme with photos)

Kind of activity:___Rehabilitation_____

(new construction, reconstruction, rehabilitation, maintenance)

Estimated cost _____

Estimated start date: _____2021_____

Technical drawings / specifications discussed: _____

Below is the screening for involuntary resettlement impacts. Both permanent and temporary impacts were considered and reported in the screening process.

Screening Questions for Involuntary Resettlement Impact

#	Possible Involuntary Resettlement Effects	Yes	No	Remarks
1	Will the project include any physical construction work?		X	
2	Does the proposed activity include upgrading or rehabilitation of existing physical facilities?	X		26,9 km of roads of II-III category will be rehabilitated
3	Will it require permanent and/or temporary land acquisition?		X	Rehabilitation of road sections will go along the same network
4	Is the ownership status and current usage of the land known?		N/A	
5	Are there any non-titled people who live or earn their livelihood at the project site?		X	
6	Will there be loss of housing?		X	
7	Will there be loss of fixed assets (i.e. fences, pumps, etc.)?		X	
8	Will there be losses of crops and trees?		X	
9	Will there be loss of businesses or enterprises?		X	
10	Will there be loss of incomes and livelihoods?		X	
11	Will people lose access to facilities, services, or natural resources?	X		Temporary loss of access to some buildings
12	Will any social or economic activities be affected by land use-related changes?		X	
13	Were there any people being displaced from the assigned land / project site in anticipation of the subproject activity?		X	

Project: Central Asia Regional Links Program (CARs-4)

Possible Involuntary Resettlement Effects

Quantification of private land require to be acquired:
Any preliminary estimate of the likely affected land that will be required by the Project? [X] No [] Yes If yes, approximately how much? ___ hectares
Information on displaced persons
Any estimate of the likely number of persons that will be displaced (economically and physically) by the Project? [X] No [] Yes If yes, approximately how many?
Any estimate of the likely number of persons that will be physically displaced (relocated) by the Project? [X] No [] Yes If yes, approximately how many?
Any estimate of the likely number of persons that will experience loss of more than 10% of productive assets? [X] No [] Yes If yes, approximately how many?
Are any of them poor, female-heads of households, or vulnerable to property risks? [X] No [] Yes If yes, approximately how many?.....
Are any displaced persons from indigenous or ethnic minority groups? [X] No [] Yes If yes, how many?

Involuntary Resettlement Impact

The Safeguard Team 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): ___Alifbek Shirinshoev, Social Safeguards Consultant_____

Signature: _____

Date: ___19.03.2020_____

Project: Central Asia Regional Links Program (CARs-4)

SOCIAL SCREENING FORM COMPLETED FOR SECTION 4

Sub-section Kuchkak-Kanibadam section

Sub-project implementation location Sughd Region

(Indicate location of implementation with the designation on the map-scheme with photos)

Kind of activity: Rehabilitation

(new construction, reconstruction, rehabilitation, maintenance)

Estimated cost

Estimated start date: 2021

Technical drawings / specifications discussed:

Below is the screening for involuntary resettlement impacts. Both permanent and temporary impacts were considered and reported in the screening process.

Screening Questions for Involuntary Resettlement Impact

#	Possible Involuntary Resettlement Effects	Yes	No	Remarks
1	Will the project include any physical construction work?		X	
2	Does the proposed activity include upgrading or rehabilitation of existing physical facilities?	X		9 km of road sections of II category will be rehabilitated
3	Will it require permanent and/or temporary land acquisition?		X	Rehabilitation of road sections will go along the same network. No land acquisitions.
4	Is the ownership status and current usage of the land known?		N/A	
5	Are there any non-titled people who live or earn their livelihood at the project site?		X	
6	Will there be loss of housing?		X	
7	Will there be loss of fixed assets (i.e. fences, pumps, etc.)?		X	
8	Will there be losses of crops and trees?		X	
9	Will there be loss of businesses or enterprises?		X	
10	Will there be loss of incomes and livelihoods?		X	
11	Will people lose access to facilities, services, or natural resources?	X		Temporary loss of access to some buildings
12	Will any social or economic activities be affected by land use-related changes?		X	
13	Were there any people being displaced from the assigned land / project site in anticipation of the subproject activity?		X	

Project: Central Asia Regional Links Program (CARs-4)

Possible Involuntary Resettlement Effects

Quantification of private land require to be acquired:
Any preliminary estimate of the likely affected land that will be required by the Project? [X] No [] Yes If yes, approximately how much? ___ hectares
Information on displaced persons
Any estimate of the likely number of persons that will be displaced (economically and physically) by the Project? [X] No [] Yes If yes, approximately how many?
Any estimate of the likely number of persons that will be physically displaced (relocated) by the Project? [X] No [] Yes If yes, approximately how many?
Any estimate of the likely number of persons that will experience loss of more than 10% of productive assets? [X] No [] Yes If yes, approximately how many?
Are any of them poor, female-heads of households, or vulnerable to property risks? [X] No [] Yes If yes, approximately how many?
Are any displaced persons from indigenous or ethnic minority groups? [X] No [] Yes If yes, how many?

Involuntary Resettlement Impact

The Safeguard Team 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): Alifbek Shirinshoev, Social Safeguards Consultant, MOT/PIG_

Signature: _____ Date: ___19.03.2020_____

Project: Central Asia Regional Links Program (CARs-4)

ANNEX 2: PRECAUTIONS TO PREVENT OR MINIMIZE THE COVID-19

Period 1: Unregistered cases of the introduction of the COVID-19 in the construction site

Table 12. Unregistered cases of the introduction of the COVID-19

1 Period	Mitigation Measure	Responsibility for Mitigation	Responsibility for Monitoring
When not a single case of coronavirus infection was recorded in workers during construction	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.	Construction Contractor (CC)	MoT/PIG
	Ensure daily wet cleaning in the premises with disinfectants that are active against viruses. 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).	Construction Contractor (CC)	MoT/PIG
	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).	Construction Contractor (CC)	MoT/PIG
	Recommend every day for workers and contractors regular use of disinfectants and personal care products Post a memo on the information board at the office of engineers and contractors on measures to prevent coronavirus infection.	Construction Contractor (CC)	MoT/PIG
	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.	Construction Contractor (CC)	MoT/PIG
	Ensuring regular airing of cabinets (every 4 hours for 10 - 15 minutes)	Construction Contractor (CC)	MoT/PIG
	To ensure, if possible, more free seating of employees in the offices (2 meters between people), as far as possible	Construction Contractor (CC)	MoT/PIG
	Ensure hygiene and disinfection goods	Construction Contractor (CC)	MoT/PIG
	Consider changes to work processes and timings to reduce or minimize contact between workers, recognizing that this is likely to impact the project schedule	Construction Contractor (CC)	MoT/PIG
	Daily collection of information on new coronavirus diseases among consultants to engineers and contractors. Provide the information on employee health on a daily basis for the consultant of MoT/PIG and Contractor.	Construction Contractor (CC)	MoT/PIG
	Limit business trips as much as possible	Construction Contractor (CC)	MoT/PIG
	If workers with symptoms of the disease are identified, ensure that they are isolated from the consultants of MoT/PIG, contractors and other workers, immediately contact a local hospital or doctors.	Construction Contractor (CC)	MoT/PIG

Project: Central Asia Regional Links Program (CARs-4)

Period 2: Registration of the COVID-19 in the construction site

2 Period of registration of the COVID-19

2 Period	Mitigation Measure	Responsibility for Mitigation	Responsibility for Monitoring
When a case of coronavirus infection during construction already registered and preparing for the spread of a new coronavirus disease.	Determine the beginning of the spread of a COVID-19 disease in the Project area	Construction Contractor (CC)	MoT/PIG
	Conducting preliminary discussions with specific medical facilities, to agree what should be done in the event of ill workers needing to be referred	Construction Contractor (CC)	MoT/PIG
	If the worker is infected at the workplace. Provide immediate notification of cases of suspected new coronavirus infection in a hospital in a given region and provide the worker with all means.	Construction Contractor (CC)	MoT/PIG
	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.	Construction Contractor (CC)	MoT/PIG
	Clarifying the way in which an ill worker will be transported to the medical facility, and checking availability of such transportation	Construction Contractor (CC)	MoT/PIG
	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.	Construction Contractor (CC)	MoT/PIG
	Ensure the immediate isolation of those who are suspected of having a new coronavirus infection and a contact hospital, and the worker should be transported to hospital and facilities to be testing (the biological material will also be delivered to the hospital by), while confirming the diagnosis; ensure the isolation of contact persons in a separate department. Organize timely medical care at the request of doctors	Construction Contractor (CC)	MoT/PIG
	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.	Construction Contractor (CC)	MoT/PIG
	Ensuring regular work (sanitary-anti-epidemic commission) with an assessment of the effectiveness of ongoing activities	Construction Contractor (CC)	MoT/PIG
	Conduct regular monitoring of the availability of medicines for the treatment of patients with a new coronavirus disease, personal protective equipment, disinfectants, medical equipment and other material resources etc.	Construction Contractor (CC)	MoT/PIG
	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	Construction Contractor (CC)	MoT/PIG
	Introduce anti-epidemic measures for a new coronavirus disease, including: - Strengthen the current disinfection regime with the use of disinfectants, air disinfectants and / or ventilation; - early active detection and isolation of patients with signs of pneumonia and flu - "morning filter"; - strengthen control over the temperature regime in the premises	Construction Contractor (CC)	MoT/PIG
	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).	Construction Contractor (CC)	MoT/PIG

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ANNEX 3: CHANCE FIND PROCEDURE PLAN

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

1. Definition of Physical Cultural Resources. This section should define the types of PCR covered by the procedures in Tajik law and regulation and World Bank’s Policy on Cultural Property. In some cases the Chance-Finds procedure is confined to archaeological finds; more commonly it covers all types of PCR. In the absence of any other definition from the local cultural authorities, the following definition could be used: “movable or immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance”.

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

3. Recognition. This is the most difficult aspect to cover. As noted above, in PCR-sensitive areas, the procedure may require the contractor to be accompanied by a specialist. In other cases, the procedures may not specify how the contractor will recognize a PCR, and a clause may be requested by the contractor disclaiming liability.

Procedure upon discovery

Suspension of Work

This paragraph may state that if a PCR comes to light during the execution of the works, the contractor shall stop the works. However, it should specify whether all works should be stopped, or only the works immediately involved in the discovery, or, in some cases where large buried structures may be expected, all works may be stopped within a specified distance (for example, 50 m) of the discovery. This issue should be informed by a qualified archaeologist.

After interruption of the work, the contractor must immediately report the discovery to the construction supervision.

The contractor may not be entitled to claim compensation for work suspension during this period. The construction supervision may be entitled to suspend work and to request from the contractor some excavations at the contractor’s expense if he thinks that a discovery was made and not reported.

Non-Suspension of Work

The procedure may empower the Resident Engineer to decide whether the PCR can be removed and for the work to continue, for example in cases where the find is one coin.

Chance Find Report

The contractor should then, at the request of the construction supervision, and within a specified time period, make a Chance Find Report, recording:

Date and time of discovery;
Location of the discovery;
Description of the PCR;

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Estimated weight and dimensions of the PCR;
Temporary protection implemented.

The Chance Find Report should be submitted to the construction supervision, and other concerned parties as agreed with the cultural authority, and in accordance with national legislation.

The construction supervision, or other party as agreed, is required to inform the cultural authority accordingly.

Arrival and Actions of Cultural Authority

The cultural authority undertakes to ensure that a representative will arrive at the discovery site within an agreed time such as 24 hours, and determine the action to be taken. Such actions may include, but not be limited to:

Removal of PCR;

Execution of further excavation within a specified distance of location of the discovery;

Extension or reduction of the area demarcated by the contractor.

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

If the cultural authority fails to arrive within the stipulated period (for example, 24 hours), the construction supervision may have the authority to extend the period by a further stipulated time.

If the cultural authority fails to arrive after the extension period, the construction supervision may have the authority to instruct the contractor to remove the PCR or undertake other mitigating measures and resume work. Such additional works can be charged to the contract.

Further Suspension of Work

During this 7-day period, the Cultural authority may be entitled to request the temporary suspension of the work at or in the vicinity of the discovery site for an additional period of up to, for example, 30 days.

The contractor may, or may not be, entitled to claim compensation for work suspension during this period.

However, the contractor will be entitled to establish an agreement with the cultural authority for additional services or resources during this further period under a separate contract with the cultural authority.

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ANNEX 4: SUMMARY OF PUBLIC CONSULTATIONS

Table 13. Summary of Public Consultations

№	Date	Organization, places / location	Name / Position	Questions
1.	14-20 June, 2019. Kurush jamoat of the Spitamen district 24.02.2020	Kurush Jamoat	1. 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 -NuralievSh 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 9. Community members from Kurush Jamoat In total 43 people were consulted.	ESIA draft consultations. Collaboration during the project implementation. Questions on the potential E&S impacts and basic requirements of the WB on environmental and Social safeguards of the project.
2.	24.02.2019 Sharaki Gafurov jamoat	The administration of the Gafurov District	1. Chairman of the Gafurov district – Gaforzoda A; Yovar Jamoat – SheralievKh; 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 MoT/PIG – Akhmedov I 5. Chairman of the Land Committee – Azizzoda R. 6. Chairman of Energy Utility – Unusov 7. Community members and activists of Gafurov Jamoat In total 76 people were were consulted	ESIA draft consultations. Collaboration during the project implementation. Questions on the potential E&S impacts and basic requirements of the WB on environmental and Social safeguards of the project.

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Minutes of Meeting with the representatives of jamoats -
Dehmoi, Isfisor, Yova, Goziyon, Zarzamin, Gafurov settlement,
Gafurov city on draft ESIA, Stakeholders Engagement Plan and Resettlement Plan
Republic of Tajikistan, Sugd Oblast, Gafurov city

Date: 15.10.2019

Meeting place: Hukumat of Gafurov District

Attended:

- Chairmen of jamoats of Gafurov District
 - Dehmoi Jamoat – Gaforova Abdurasul
 - Yova Jamoat – Sheraliev Hasan
 - Isfisor Jamoat – Dustmuhammad Anvar
 - Goziyon Jamoat – Shokirov Yuldosh
 - Zarzamin Jamoat – Abdullojonov Mukhtor
- Chairman of Urban Jamoat Gafurov – Hakimov Huseyn
- Head of SEHM of Gafurov – Ashurov Shuhrat
- Chairman of Irrigation and Water Melioration of Gafurov city – Lakimzoda A.
- PIG Consultant on Environment and PR MOT – Ikrom Akhmedov
- Chairman of the Land Committee of Gafurov city – Rahmoni Azizzoda
- Chairman of Urban Electric supply network of Gafurov city – Yunusov Iskandar
- Community leaders from target villages: Dehmoi, Haftganj, Madamiyat, Dashti Amin, Kutarma, Istiklol, Dustii Khalqho

Agenda: Consideration and discussion of ESIA, Stakeholder Engagement Plan and Resettlement Plan for the implementation of CARs-4 Project, on Rehabilitation of Dehmoi-Gafurov road section with the length of 35 km.

Speakers: Chairman of Urban Jamoat Gafurov – Hakimov Huseyn

He explained to the attendants that in the oblast CARs-4 project will be implement, Rehabilitation of Khujand-Isfara road Dehmoi-Gafurov section with the length of 35 km. The importance of the planned activities on ESIA/ESMP, Stakeholder Engagement Plan and the Resettlement Plan, and noted that local authorities will provide all practical assistance to the implementation of the SEP, RPF and ESMP and asked local community to assist with full responsibility for the implementation of these documents.

Speakers: MOT/PIG Consultant on Environment and PR, – Ikrom Akhmedov:

He explained to the attendants that the World Bank supported the Republic of Tajikistan in the Construction and Rehabilitation of Khujand-Isfara road Dehmoi-Gafurov section with the length of 35 km.

The credit funds have been allocated by the World Bank and the Republic of Tajikistan. It is necessary to take seriously about the Rehabilitation of Rehabilitation of Khujand-Isfara road Dehmoi-Gafurov section with the length of 35 km, which will lead to the development of international transport links, and improve the infrastructure of the surrounding areas and help the population, dekhkan farms, reduce poverty, provide jobs to local builders. During the implementation of CARs-4 Project and Rehabilitation of Dehmoi-Gafurov road section population and communities can apply directly to chairmen of jamoats on suggestions, remarks and complaints and record them in the Grievance Redress logs and all grievances received or offer according to the procedures of Grievance Redress Mechanism (GRM) of the World Bank, will be reviewed and decisions will be made. Thanked the attendants, heads of Jamoats of Gafurov city and representatives of dekhkan farms, the population and local communities wished success in fruitful work.

Resolved: To support the implementation of CARs-4, Rehabilitation of Khujand-Isfara road Dehmoi-Gafurov section with the length of 35 km

Chairman of meeting: Chairman of Urban Jamoat Gafurov, Hakimov H.

Secretary of the meeting: Chairman of Irrigation and Water Melioration of Gafurov city, Lakimzoda A.

Project: Central Asia Regional Links Program (CARs-4)

Minutes of Meeting with the Representatives Kurush Jamoat on ESIA, Stakeholders Engagement Plan and Resettlement Plan Republic of Tajikistan, Sugd Oblast, Spitamen city

Date: 10.10.2019

Meeting place: Kurush Jamoat of Spitamen city

Attended:

- Chairman of Kurush Jamoat of Spitamen city – Umarov Mukhtor
- Head of SEHM of Spitamen city – Abdullaev Sherali
- Chief Engineer of SEHM of Spitamen city – Abduloev Inom
- Chairman of Irrigation and Water Melioration of Spitamen city – Nuraliev Sh.
- PIG Consultant on Environment and PR MOT – Ikrom Akhmedov
- Chairman of the Land Committee of Spitamen city – Sultoni Mamur
- Chairman of Urban Electric supply network of Spitamen city – Ubaidullaev Firuz
- Community leaders from villages: Kurush, Shirin, Navbunyod

Agenda:

Consideration and discussion of Stakeholder Engagement Plan and ESIA for the implementation of CARs-4 Project, on Rehabilitation of Spitamen-Dehmoi road section with the length of 12.2 km.

Speaker 1: Chairman of Kurush Jamoats of Spitamen city – Umarov Mukhtor

He explained to the attendants that in the oblast CARs-4 project will be implement, Rehabilitation of Khujand-Isfara road Spitamen-Dehmoi road section with the length of 12.2 km.

The importance of the planned activities on Stakeholder Engagement Plan and the Resettlement Plan, and noted that local authorities will provide all practical assistance to this Stakeholder Engagement Plan and the Resettlement Plan and asked local community to assist with full responsibility for the implementation of this Plan.

Speaker 2: MOT/PIG Consultant on Environment and PR – Ikrom Akhmedov:

He explained to the attendants that the World Bank supported the Republic of Tajikistan in the construction and rehabilitation of roads. Huge credit funds have been allocated by the World Bank and the Republic of Tajikistan. It is necessary to take seriously about the Rehabilitation of Rehabilitation of Khujand-Isfara road Spitamen-Dehmoi road section with the length of 12.2 km, which will lead to the development of international transport links, and improve the infrastructure of the surrounding areas and help the population, dehkans farms, reduce poverty, provide jobs to local builders.

During the implementation of CARs-4 Project and Rehabilitation of Spitamen-Dehmoi road section population and communities can apply directly to chairmen of jamoats on suggestions, remarks and complaints and record them in the Grievance Redress logs and all grievances received or offer according to the procedures of Grievance Redress Mechanism (GRM) of the World Bank, will be reviewed and decisions will be made. Thanked the attendants, heads of Kurush Jamoat, dehkans farms, the population and local communities wished success in fruitful work.

Resolved:

To support the implementation of CARs-4, Rehabilitation of Khujand-Isfara road Spitamen-Dehmoi road section with the length of 12.2 km

Chairman of meeting:

Chairmen of Kurush Jamoats of Spitamen

Umarov Mukhtor

Secretary of the meeting:

Chairman of Irrigation and Water
Melioration of Spitamen city

Nuraliev Sh.