Republika Srpska, Bosnia and Herzegovina

Environmental and Social Management Framework (ESMF) for the Sustainable, Integrated and Safe Road Infrastructure Project (P502979)

Public Company RS Roads

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Contents

Table 1: Abbreviations

CEFTA	Central European Free Trade Agreement
BiH	Bosnia and Herzegovina
E&S	Environmental and Social
EA	Environmental Assessment
EHSG	World Bank Group Environmental, Health and Safety Guidelines
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
FBiH	Federation Bosnia and Herzegovina
GDP	Gross Domestic Product
HBS	Household Budget Survey
IFI	International Financial Institutions
PC RS Roads	Public Company Putevi Republika Srpska
PIT	Project Implementation Team
RS	Republika Srpska
TCT	Transport Community Treaty
SSTP	Safe and Sustainable Transport Programme
GFDRR	Global Facility for Disaster Reduction and Recovery
EU	European Union
WBIF	Western Balkans Investment Framework

Executive Summary

Introduction

Due to its specific geo-political position, natural and landscape features (that largely conditions feasible transport infrastructure) the development and quality of road transport network in Bosnia and Herzegovina (BiH) is crucial for its further economic development, and socioeconomic regional integration. Poverty poses a worrisome prospect for a significant proportion of the population, particularly in rural areas of the country. This is where the improved transport can make a great difference: development of the network opens access to regional and distant markets, reduces the cost of export and can consequently boost production. Especially economies that are remote and rural, but with comparative advantages which are increasingly sought in the past decade such as healthy food from small-scale production.

The road network, which spans about 25,000 km, plays a significant role in integrating BiH with its main trading partners, such as Croatia, Serbia, Montenegro, and EU countries, as well as different regions within the country. Approximately 90 percent of passenger transport and 80 percent of freight transport in BiH is carried out via road transport. Though development of other means of transport is possible, the landscape, geomorphology and hydrogeology predispositions of BiH territory, make development of other means of transport (e.g. railways, waterways) difficult and expensive, especially in the southern part of the country.

The planned operation builds on the past and present World Bank involvement in the transportation sector in Bosnia and Herzegovina; mainly, the Transport Sector Modernization Program (TSMP) approved by the World Bank's Board in August 2016 to effectively support Bosnia and Herzegovina's transport modernization and help achieve national economic and social goals, and the Federation Road Modernization Project, aimed at improving road connectivity and safety, which has recently been completed. The proposed SISRI operation is consistent with the Country Partnership Framework (CPF) FY23-FY27. The proposed operation would support the three High Level Outcomes of the CPF: (i) increased inclusive private sector employment; (ii) increased key public services outcomes; and (iii) improved environmental outcomes and climate change resilience.

Objectives of the ESMF

This Environmental and Social Management Framework (ESMF) is a part of Project's E&S due diligence. It is developed (i) to address the potential environmental and social impact attributable to the Sustainable, Integrated and Safe Road Infrastructure (SISRI) Project; (ii) to identify, assess, evaluate, manage and report (on) E&S risks and potential impacts in a manner consistent with the WB policies and ESSs, WB Environmental Health and Safety Guidelines (EHSG), applicable EU requirements and other Good International Industry Practices (GIIPs), and national legal requirements and standards; (iii) to guide environmental and social due diligence of the Project activities and ensure implementation fully compliant to the national, regional, cantonal and local legislation, WB E&S and legal Policies and Environmental and Social Standards (ESSs). E&S due diligence of sub-projects will be carried out in all life-cycle phases – preparation, construction/implementation, use phase as well as dismantling (where applicable); (iv) to provide an overview of the SISRI Project and tentative sub-projects and includes key findings of the early E&S risk analysis for activities planned.

As for the Project, geographical scope of the ESMF is Respublika Srpska (RS). RS is one of the two Entities of Bosnia and Herzegovina, each with its specific laws and governing structures, and for the purposes of this Project with its own Project Implementation Unit (PIU).

Overview of the Project activities

The Sustainable, Integrated, and Safe Road Infrastructure Project (SISRI) aims to enhance road connectivity and safety in FBiH and RS through various infrastructure interventions and Technical Assistance (TA) activities. Activities are organized in 2 components: 1st component is focused on improving safety and upgrading roads for better performance and climate change resistance, while the 2nd component supports a wide range of activities related to resilience and safety of priority national roads, performance of public enterprises for road management and maintenance, protection of roads, improvement of critical road elements (e.g. most vulnerable bridges), etc.

Tentatively selected infrastructure investments include the upgrade and improvement of the M-18 regional corridor between Brod na Drini (Foca) and Hum (Scepan Polje), reconstruction of bridges on Tatinac and Drinjaca rivers. Currently, the M18 road on this section is in poor condition. It runs through challenging mountainous terrain that is susceptible to landslides and flooding due to extreme weather, aggravated by changes in weather patterns as a direct impact of climate change. Therefore, the design and construction approach must adhere to the highest resilience standards. Potential critical areas will undergo additional geomechanical investigations before the completion of Bidding Documents.

The work will be carried out along the existing routes and will involve resurfacing, road safety enhancements, structural renewals, road protection measures, and the rehabilitation of bridges and tunnels. A part of the road is likely to include a new alignment, however, the design and the exact route are still unknown, and will most likely be defined during implementation itself upon the development of the final design documents

Capacity building for enhanced road management is RS will focus on technical assistance support focused on improving the efficiency of expenditures in the sector in areas including planning, works execution and operational management. It will also finance overall management of the project.

Project Development Objective

The objective of the project is to improve regional transport connectivity and enhanced road network management thought:

- financing improvement to sections of a key regional corridor, route 2b, between Sarajevo and Podgorica;
- interventions that improve climate resilience through targeted investments in slope stability and flood protection measures and road safety black spots. This includes addressing part of the backlog rehabilitation program together with targeted sections of climate and road safety vulnerability to bring the overall network to a maintainable condition and to reduce network vulnerability;
- institutional support will be provided to enhance road network management and the governance of the road companies in RS;
- improving the overall financial sustainability of the companies through modern asset management techniques that optimize the use of scarce public expenditures.

The PDO is supported by two components: (i) improved regional connectivity; and (ii) enhanced road sector governance. Successful implantation of the PDO will be measured though prescribed adequate result indicators (available in Project Appraisal Document - PAD).

Project beneficiaries and implementation arrangements

Project beneficiaries include road users, communities along the route (whether using the road or otherwise benefiting from it), road sector companies and their employees including road maintenance companies, students, local population at large and that in risk of poverty as well as private businesses around the route or using the route; these can be (but are not limited to) local residents, businesses, service companies, tourists, and public servants such as police and customs officials. The direct expected improvements in road conditions and safety are anticipated to result in reduced vehicle operating costs (consequently lover cost if transport), increased comfort for commuters and other users, lower risk of traffic accidents, etc. The rehabilitation and upgrade of approximately 150 km of main roads will lead to improved and safer transportation throughout Bosnia and Herzegovina. The construction of Route 2b (under consideration of financing) will enhance connectivity between the capitals of Sarajevo and Podgorica, yielding positive economic effects on the municipalities along the route and their rural areas. Additionally, the new road will improve connectivity with neighboring Montenegro, benefiting the broader population of Bosnia and Herzegovina as well as facilitating development of tourism and trade. As per ESF requirements, the Project Stakeholder Engagement Plan (SEP) was prepared for the Project as a part of the project-level E&S due diligence. The Project level SEP has pre-identified stakeholders under the Project, project-affected parties, and communication channels, set minimal communication requirements, and translated ESS10 objectives (Stakeholder Engagement and Information Disclosure) to practical steps and activities relevant to the Project. The Project level SEP also establishes basic requirements for the Project and local level GRM and provides basic information on WB GRM. Additionally, it outlines a roadmap for the site-specific SEP that will identify stakeholders (including vulnerable groups, project-affected parties, and others), potential impacts and risks as per ESS10 and define adequate GRM and general communication and consultation channels.

The project capacity building, policy development support, and training will directly benefit the PC RS Roads, and the local construction industry as well as sectoral service companies (that deal with design, construction, and maintenance of roads). They will also benefit from the internship program that will enable about 30 internships (60% will be women) in road sector companies.

The Project will be implemented by PIU organized and engaged by the RS Roads as the main implementing agency. two separate implementation units. RS Roads has experience of implementing World Bank projects including the BiH Floods Emergency Recovery Project. The RS Roads PIU there is a full time, in-house environmental specialist with an additionally hired environmental consultant that is helping to revise the already prepared, EU funded EIA report for Scepan polje. The RS PIU will hire a dedicated social specialist prior to Appraisal. Three months into project effectiveness, the RS Roads PIU will also engage part-time OHS expert as well as Communication Expert when needed anytime during project implementation.

Eligibility for financing

The Project will not finance any activities listed in the World Bank Group IFC Exclusion List given in Annex 2, nor will it finance any high-risk activities identified after the E&S screening and/or assessments against the risk criteria as defined in the World Bank Environmental and Social Policy, E&S Directive for IPF, and Environmental and Social Framework (ESF) and this ESMF (in the Annex 3).

Regulatory and institutional overview

The applicable and relevant legislation regulating the field of environmental protection, physical planning, occupational health and safety, labor rights and cultural heritage is fairly developed. However, it is to the large extent

outdated (some date from the 1980s, passed by the Socialist Federative Republic of Yugoslavia), not EU harmonized, and still does not cover all environmental and social aspects of the Project (e.g. removal, management and transport of special wastes such as asbestos, public consultation requirements, and more). This is why reliance on Borrower's framework is not recommended.

In terms of Project E&S management and requirements, the key legislation includes Law on Spatial Planning and Construction Republic of Srpska (OG 40/13, 2/15, decision 106/15, 3/16, 104/18, 84/19)), Law on Public Roads Republic of Srpska (OG 89/13), Law on Survey and Cadaster Republic of Srpska (OG 6/12), Environmental Protection Act (OG 71/2012, 79/2015 and 70/2020), Instructions on the content of the environmental impact study (OG 108/13), The Regulation on Plants and Facilities that May be Constructed and Operated Only with a Valid Ecological permit67 (the RS Regulation on permitting; relevant primarily in relation to suppliers), Law on Waste Management (OG 111/13, 16/1870/20, 63/21), Nature Protection Act (OG 20/14, 22) , Labor Law of Republika Srpska (OG 01/16, 66/18, 91/21, 119/21), Law on Survey and Cadaster Republic of Srpska (OG 6/12), Expropriation Law (OG 112/06, 37/07, 66/08, 110/08, 106/10), and other relevant.

The Ministry of Spatial Planning, Construction and Ecology of Republika Srpska is the competent body for environmental protection, a body responsible for a range of critical functions related to urban and rural development. Its responsibilities include the formulation and implementation of policies for spatial planning, overseeing construction standards, and ensuring sustainable development practices. The ministry is tasked with the development of spatial plans at various levels, including regional and municipal, and it works to ensure that construction activities comply with legal and safety standards. Additionally, it plays a crucial role in environmental protection, managing natural resources, and addressing ecological challenges. Environmental protection and nature conservation are integral parts of Ministry's jurisdiction. The ministry is responsible for regulating environmental impact assessments, enforcing ecological regulations, and overseeing the preservation of protected areas. It also addresses pollution control, waste management, and promotes environmental awareness among the public and industry stakeholders.

The Ministry of Labor, War Veterans and Disabled Persons' Protection of Republika Srpska is a public institution focused on social welfare, labor issues, and the rights of specific social groups within Republika Srpska. It is responsible for creating and enforcing policies related to employment, labor relations, and social security. The ministry also provides support to disabled persons, ensuring they have access to benefits, rehabilitation services, and pensions.

Bank's Environmental and Social Standards

The World Bank has established an Environmental and Social Framework (ESF) to uphold the goal of eradicating extreme poverty and promoting shared prosperity through sustainable development and ensuring health planet. ESF includes the Bank's Environmental and Social Policy and a set of Environmental and Social Standards (ESSs) intended to support sustainability Borrowers' projects.

The Environmental and Social Standards (ESS) outline mandatory requirements for Borrowers and projects, aiming to identify and mitigate potentially adverse environmental and social impacts. The ESS are reinforced by the compulsory WB Group Environmental, Health, and Safety Guidelines and are implemented alongside national policies, with the stricter regulations taking precedence. The EHS Guidelines define performance levels and measures achievable in new facilities by existing technology at reasonable costs. They should be applied based on the hazards and risk types determined for each project, considering site-specific variables and other project factors. There are

ten WB ESS, each outlining objectives for achieving specific outcomes in environmental and social impact management, the relevant for this project are as follows:

ESS1 - Assessment and Management of Environmental and Social Risks and Impacts

ESS2 - Labor and Working Conditions

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS4 Community Health and Safety

ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS8: Cultural Heritage

ESS10: Stakeholder Engagement and Information Disclosure.

Environmental and Social risks and potential impacts

This project is rated as Substantial risk for environment and social due to the potential nature of the sub-projects' environmental and social aspects and potential impacts including civil works and the potential impact of Technical Assistance (TA) Project elements downstream. The pre-construction phase of the M18 Sarajevo – Podgorica road project involves updating plans for road rehabilitation and construction to enhance climate resilience and safety. The project includes new road sections between Brod na Drini and Hum to improve alignment and bypass urban congestion, expected to be around 2km.

Civil works include construction, reconstruction, rehabilitation, and maintenance of roads and structures like bridges and tunnels. Technical assistance covers design, safety inspections, and other activities. Risks are diverse. Larger construction works cause risks of dust, noise, and vibrations, pollution from bridge and tunnel operations, and keeping hazardous materials like fuel and oils, use of large quantities of mineral materials, generation of waste, and other typical for civil works in transport sector. Long-term water disturbance from bridge works and soil disturbance from new alignments and bypasses could occur, potentially causing landslides and erosion. Occupational health and safety risks include injuries from falls, working at heights, and handling heavy machinery and chemicals. Climate change adds risks of heatstroke, dehydration, and storm-related dangers.

Community health and safety risks include mainly traffic disturbances and accidents, leading to additional transport costs and increased accident risks. Construction-related dust and noise pose health risks, especially in populated areas. The project will generate substantial waste, including construction debris, contaminated materials, and biodegradable waste. Invasive plant species, if used for re-greening could negatively impact the environment. Some routes may affect protected areas or cultural heritage sites, impacting wildlife and habitats, but habitat fragmentation risk is low as new routes largely follow existing roads. Long-term, the project aims to improve road durability, traffic safety, and economic access. Adverse impacts are expected to be short-term, with long-term negative effects unlikely if mitigation measures are timely and effective.

The operational phase of the M18 Sarajevo – Podgorica road project involves several risks, despite the majority of work occurring on existing roads with minimal new construction. Positive impacts are expected, such as safer and faster traffic, improved connectivity, and better market access for rural areas. Traffic safety remains a concern, with Bosnia and Herzegovina's road fatality rates being high compared to EU countries. The project aims to reduce this through addressing blackspots, improving landslide and soil erosion resistance, and enhancing road longevity with better drainage and weight-in-motion systems.

Community health and safety impacts are anticipated to be low in terms of noise and vibrations, as most roads are pre-existing. Bypasses will divert traffic from urban centers, reducing noise pollution. Noise monitoring will be in place, with mitigation measures ready if limits are exceeded. Improved road conditions should also decrease vibrations, and efficient drainage will reduce frost damage and erosion.

Risks from accidental situations, particularly the transport of dangerous goods, pose a significant threat to soil, groundwater, and human health. Regulations are in place for the transport of hazardous materials, with mandatory measures to prevent accidents and minimize consequences. In case of an accident, immediate reporting and cooperation with authorities are required, with rescue and protection organized under relevant laws.

Waste management during operation will involve various types of waste, including construction debris, metals, car wrecks, and hazardous materials. Waste will be managed according to national laws, with separate collection and processing. Hazardous waste is likely to be exported in compliance with the Basel Convention.

Soil and water impacts are mainly from winter maintenance and runoff management. Poorly positioned drainage can cause infrastructure damage, water turbidity, and soil degradation. Winter maintenance involves the use of salts and gravel, which can alter water chemistry and mobilize heavy metals, potentially affecting local food sources. Mechanical snow removal is suggested as a remedy to reduce salt usage.

As design of road rehabilitation and upgrades is not known, as well as all locations, based on the nature of the Project, it is assumed that there may be temporary closing of roads, there may be a slowdown of traffic or temporary unavailability of services (medical services, care services, mobile stores, library buses, etc.) that can impact human health and quality of life. In addition, it is possible that due to road features and safety upgrades would cause inability to use some traditional means of transport such as horse-carriage or horses for timber transport, as well as lose the existing access to road (e.g. as is unsafe or because construction of water collection system or installation of protective rails, or other road furniture). If alignment is changed, there may be loss of land (permanent), but also temporary loss of access to land, water, rivers, forest products resulting in the loss of livelihood. However, it is expected that the long-term impacts will be positive, including improvement of safety of travel, reduced number of accidents and casualties, creating conditions for faster economic development, especially tourism, etc.

Environmental and social review procedures

For projects involving multiple sub-projects the World Bank requirements involve mandatory review of adequacy of local environmental and social requirements relevant for the subprojects, as well as assessment of the Borrower’s capacity to manage the environmental and social risks and impacts of such sub-projects, particularly, Borrower’s capacity to (a) perform sub-projects screening; (b) ensure necessary specialists for conducting environmental and social assessment; (c) review findings of environmental and social assessment for individual sub-projects; (d) implement mitigation measures; and (e) monitor environmental and social impact during project implementation. The WB requires appropriate environmental and social assessment of sub-projects is carried out, and appropriate preparation and implementation such sub-projects in accordance with national law and any requirement of the ESSs

that the Bank deems relevant to such sub-projects, by developing and following procedures to secure ESF and regulation compliant implementation.

The PIUs (and ultimately Putevi RS) will be responsible for E&S screening, E&S assessment, monitoring and reporting on the environmental and social performance, national legislation and ESF compliance under each sub-project to ensure efficient application of measures as defined in site-specific management instruments including ESMF in the design, pre-construction and construction phase.

Each sub-project and its activities must undergo environmental and social assessment compliant to this ESMF, and consequently the ESF, integrating stakeholder engagement activities including consultation and feedback.

The Environmental and Social assessment will follow the 5 step Process to identify risks associated with specific sub-projects, screen out any substantial and high-risk activity, identify potential impacts and define measures aimed to prevent or minimize negative impacts and determine the type of management instrument required to meet the project standards.

STEP 1: Sub-project screening and risk classification

The Environmental and Social Screening Questionnaire (ESSQ) provided in the Annex 5 contains questions about the project (type of the proposed activities – construction/reconstruction/rehabilitation/installation, use of hazardous or toxic materials, impacts on protected areas, etc.)

Sub-projects will also be screened to ensure that the involuntary taking of land, displacement (economic or physical) and/or restrictions of access that may occur to achieve the objectives of the sub-project are adequately addressed compliant to the national law and WB ESS5 standards. While conducting E&S assessment dedicated Template for Land Acquisition, Restrictions on Land Use and Involuntary Resettlement screening provided in the Annex 17 of the ESMF will also be considered.

Environmental and Social Screening Questionnaire for each subproject will be updated (if needed) prepared and filled in by the final beneficiary (with the advice of the PIU) and reviewed by PIUs Environmental and Social (E&S) Specialists. Development of ESSQ will take into account relevant E&S aspects of the sub-project, risks and potential issues, such as the type, location, sensitivity, and scale of the project, etc. Once the ESSQ has been satisfactorily completed, the PIU will submit the document and the E&S Screening Report (in an agreed form) with proposed risk rating and E&S Instrument to the WB. For sub-projects where land issue risks and impact occur report must include information resulting from screening based on Template provided in Annex 17.

The ESSQ helps the PIU E&S specialists to determine the sub - project risk based on screening criteria and preliminary impact assessment. Low, moderate and substantial risk activities will be eligible for financing under the Project and screening will consider other eligibility limitations defined in the ESMF. **High risk activities and those listed on IFC exclusion list will not be considered for financing**. Further, PIU E&S Specialist will, as a part of the screening process, define E&S due diligence documents that are appropriate to address risks and ensure sound E&S management of activity. Development of ESSQ will take into account relevant risks and issues, such as the type, location, sensitivity, and scale of the project, etc.

The final decision on sub-project risk classification requires endorsement of the World Bank, therefore, before the assessment, PIU prepares an E&S screening report, subject of the approval from WB Environmental and Social Specialists, who confirms the risk.

STEP 2: Sub-Project Preparation

The necessary documentation for the implementation of the sub-project, including the technical documentation for the sub-project to be financed, including the technical description of the sub-project, permits and approvals issued by the competent authorities in connection with the implementation of the sub-project, as well as the dynamics of the execution of works, will be prepared by the PIU Environmental and Social Experts. All technical assistant documents and reports must be reviewed and approved by PIU E&S experts before they can be considered complete, including the development of design standards. E&S Assessment for low and moderate risks may be carried out by the designer, however, its quality remains responsibility of the PIU E&S Specialists. Substantial risk E&S Assessments and Instruments must be prepared by an independent expert.

STEP 3: Preparation and Disclosure of ESIA/ESMP/ESMP Checklist, CHMP

Construction/reconstruction/rehabilitation/installation/investigation and other civil works are expected to have low, moderate and substantial environmental and social risks, thus development of full-fledged or partial EISA with ESMP will be developed for substantial risk projects and, ESMP or ESMP Checklists and ESCOP (templates available at Annexeses 6,7,9,and 10) will be developed for moderate-risk sub-projects. Low risk projects may require ESCOPs. Cultural heritage related risks will be addressed through the development of Cultural Heritage Management Plan (CHMP) and, where applicable, with integrated conditions obtained in opinions and permits of competent authorities for interventions into physical cultural heritage. CHMP can be developed as a stand-alone document or integrated/annex to ESIA/ESMP or ESMP Checklist.

E&S instruments (ESIA/ESMP/ESMP Checklists/ESCOP and/or CHMP, and/or site-specific SEP) will be prepared in parallel with the sub-project design. The design and E&S instrument will inform each other. However, E&S instrument (any type of ESA – ESMP, ESIA, ESCOP, etc.) must be finalized prior to bidding procedures, and shall be subject to review and approval of the WB as any other E&S Instrument. It is recommended that construction permit is not obtained before finalization of aforementioned E&S instruments due to potential delays that the design may suffer as part of E&S Assessment and consultations. Similarly, RAP will be prepared once exact physical footprint of the Project is known, and before expropriation process and obtaining construction permit.

In the case of ESIA, the PIU E&S experts will always explore ways to integrate the national and WB procedures and not duplicate assessment, consultations or any other effort. The integrated procedures are subject to approval of the WB E&S Specialists.

Full-time (can be adjusted depending on the project progress) experienced environmental specialist and social specialist, and part-time OHS specialist will be hired in the PIU for the period of project implementation and assume responsibility for the implementation of this ESMF. PIU may also include communication specialist to support consultations and outreach activities.

PIU E&S Specialists will propose (and the bank will approve), on a case-by-case basis, the necessary ESS documentation. When confident that the document meets WB quality and content requirements E&S Specialists submits the draft documents for the review by the World Bank. After the approval is obtained, the documents shall be publicly disclosed and consulted. The finalized E&S Instrument will reflect relevant comments Documents reflecting relevant comments obtained in the public consultations (for moderate risk subprojects) and include minutes of public consultations will be considered finalized. ESIA/ESMP/ESMP Checklists/ESCOP and CHMP (when applicable) will constitute an integral part of bidding and contracting documentation for contractors. When satisfied with the quality of ESMP Checklists/ESCOP, the Bank may decide to perform only post review of these documents.

STEP 4: Public consultations

Public consultation and engagement are covered in national legislation, including the right to address petitions, request information on projects carried by public bodies, consultation of neighbors and local communities, etc. Additionally, the processes for reaching and informing potentially impacted persons and communities will be amended by WB principles, and by engaging actively with these persons/groups, especially with vulnerable groups where such situations will surface.

These aspects are addressed in the current document, under the provisions for Grievance Redress Mechanism, Public Consultation and Social Risk mitigation measures and also through SEP.

PIU E&S Specialists will be responsible for publishing the documents to the public and introducing the public in the whole process of subproject implementation.

Disclosure package for Draft ESIA/ESMP/ESMP Checklist/CHMP will include the following documents: Public announcement for organization of the public disclosure containing the call for comments (for moderate risk subprojects), draft version of E&S Instrument, form for submitting comments and suggestions, and Grievance form.

All relevant comments from the public will be addressed and if needed reflected in the final E&S document.

Information about upcoming public consultations (for moderate risk subprojects) during the preparation of ESIA/ESMPs/ESMPs Check list/CHMP for respective sites will be posted on the website of the Putevi Republike Srpske. The PIUs will also explore means to disseminate this information in accessible formats, both online and offline in the culturally appropriate way.

All comments and questions shall be processed and together with feedback incorporated in the final version of the E&S Instrument (EISA, ESMP, etc.) and captured in the minutes of the meeting.

The PIU will submit such final document with the confirmation of re-disclosure, and were documents can be accessed to the WB.

Unlike other instruments, site specific RAPs will be prepared, consulted and finalized as early as possible in the project, and mandatory before expropriation process commences.

STEP 5: Integration of ESIA/ESMP/ESMP Checklist/ESCOP/CHMP in tender and contracting documentation

E&S Instruments (ESIA's ESMP/ESMP /ESMP Checklist/CHMP/ESCOP, etc.) will be prepared prior to the bidding of works and the final version integrated into tender and contracting documentations for the selected sub-projects and in the contracts for their execution to be signed with the selected works contractors. The Contractors will be required to demonstrate that all mitigation measures have been accounted for in C-ESMP/ESMP Checklist/C-ESCOP, C-CHMP to ensure sub-project implementation in environmentally and socially acceptable manner.

STEP 5: Implementation, project supervision, monitoring and reporting

The contractor (and consequently all its sub-contractors) is responsible for the implementation of ESIA's ESMP/ESMP/ESMP Checklist/CHMP/ESCOP mitigation measures and monitoring plan as well as any subsequent corrective measures prescribed by PIU and WB. Implementation of particular community safety and OHS measures that relate to use period, safety of staff, emergency preparedness, Waste Management Plan, Traffic Management Plan and other defined in the ESCP is responsibility of project beneficiaries and PIU as will be defined in the ESIA's ESMP/ESMP/ESMP Checklist. PIU regularly supervises works through site visits, review of documentations and other

available means (for moderate risk subprojects). The PIU will report on ESMF, ESIA/ESMP and ESMP Checklist/CHMP/ESCOP implementation compliance to the WB in the regular semi-annual Progress reports and for sub-projects in line with the ESCP and in dynamics agreed in the ESMP or ESMP Checklists.

PIU will notify WB without delay and within 24 hours of any incident or accident related to the project or that has an impact on it, and that has or could have a significant adverse effect on the environment, the affected communities, the public, or the workers included, for example, occupational accidents that could result in serious injury, minors, injuries, falls, vehicle accidents, larger spills of chemicals, oils, fuels, etc. The PIU will adhere to ESCP and reporting procedures developed for the Project guidance in the World Bank's Environment and Social incident response toolkit (ESIRT) and sure that their own response procedures are in line with the ESIRT. The PIU will provide sufficient detail regarding the incident or accident, indicating immediate measures taken to address it and include any information provided by any Contractor/Subcontractor or supervising engineer. As per Bank's request, Putevi RS will also prepare a report on the incident or accident with a detailed Root Cause Analysis (RCA) to be submitted within 30 business days of the incident to the Bank (unless differently agreed with the Bank).

There are separate procedures developed for the Technical Assistance activities and Associated Facilities.

Monitoring and reporting

PIU of Putevi RS will monitor the environmental and social performance of the project in accordance with the legal agreement (including the ESCP) and Project E&S due diligence and guideline documents such as ESMF, SEP and LMP. The extent and mode of monitoring is agreed upon with the Bank, and is proportionate to the nature of the project, the project's environmental and social risks and impacts, and compliance requirements. Implementation of E&S Instruments (including EISAs, ESMPs, ESMP Checklists, ESCOPs and site-specific SEPs) prepared for particular sub-projects is responsibility of a respective Contractor, including of Mitigation Plan and Monitoring Plan. Nevertheless, as the overall ESF compliance falls under responsibilities of the Putevi RS as implementing agency, the PIU will perform regular supervision of the Project and E&S Instruments compliance/implementation as well as prescribe corrective measures.
Based on the results of the monitoring, the Putevi RS PIU will identify any necessary corrective and preventive actions, and incorporate these in the relevant management tool, in a manner acceptable to the Bank. The PIU must implement the agreed corrective and preventive actions in accordance with the amended ESCP or relevant management tool and monitor and report on these actions.
The PIU must notify the Bank promptly of any significant incident or accident relating to the project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers.

ESMP implementation reports for the works envisaged under the project will be submitted semi-annually, unless works are located in nature protected areas or can impact cultural heritage. For such projects (located in the sensitive areas/buildings), ESMP implementation reports will be prepared quarterly (if not differently agreed with the WB Environmental and Social Specialists).

1 Introduction

1.1 Context

Due to its specific geo-political position, natural and landscape features (that largely conditions feasible transport infrastructure) the development and quality of road transport network in Bosnia and Herzegovina (BiH) is crucial for its further economic development, and socioeconomic regional integration. Poverty poses a worrisome prospect for a significant proportion of the population, particularly in rural areas of the country. This is where the improved transport can make a great difference: development of the network opens access to regional and distant markets, reduces the cost of export and can consequently boost production. Especially economies that are remote and rural, but with comparative advantages which are increasingly sought in the past decade such as healthy food from small-scale production. The latest available data from a 2015 Household Budget Survey (HBS) indicates a slight increase in poverty from 15 to 16 percent between 2011 and 2015. The rural areas bear a disproportionate burden of poverty, with significantly higher poverty rates than urban areas (19 percent compared to 12 percent). Jobs are scarce and salaries are low in these areas, with around 40 percent of poor rural workers employed in the agricultural sector, which faces low and declining productivity and competitiveness. Connectivity to markets is crucial for the ability to trade agricultural products, and open prospects to increased trade, earnings and alleviation of poverty.

The road network, which spans about 25,000 km, plays a significant role in integrating BiH with its main trading partners, such as Croatia, Serbia, Montenegro, and EU countries, as well as different regions within the country. Approximately 90 percent of passenger transport and 80 percent of freight transport in BiH is carried out via road transport. Despite a declining population, the motorization rate has increased by over 30 percent in the last decade, with a notable rise in road freight traffic which has grown by nearly 6 percent per year. Landscape, geomorphology and hydrogeology predispositions of BiH territory, make development of other means of transport (e.g. railways, waterways) difficult and expensive, especially in the southern part of the country.

Improving connectivity within the Western Balkans and between the Western Balkans and the EU is a crucial action to facilitating growth and creating job opportunities in the region, and consequently tackling poverty in BiH. The transport links are part of the indicative extension of the Core and Comprehensive Trans-European Transport Network (TEN-T) to the Western Balkans. Upgrading these links is a priority for transport investment and serves as the basis for leveraging investment through the Western Balkans Investment Framework (WBIF) and Connecting Europe Facility (CEF). In BiH, the indicative extension to the TEN-T road network includes the main North-South Road corridor (Vc) and four routes (No.1, No.2, No.3 and No.9), with Route 2b connecting Sarajevo and Montenegro being a key component of this project.
Although the direct trade with Montenegro is relatively modest at 1.4 percent of the total, the route connecting Sarajevo and Montenegro is important for tourism (hence indirect export), with traffic volumes increasing sharply during the summer months. Montenegro is the 4th biggest tourism market for BiH.

The proposed operation is a continuation of the World Bank's involvement in the transportation sector in Bosnia and Herzegovina (BiH). The World Bank has had a long-term engagement in the transport sector in BiH. This includes previous projects such as the Road Management and Safety Project which ended in 2007, the Road Infrastructure and Safety Project which concluded in 2012, the Federation Road Sector Modernization Project (FRSMP) which ended in 2023, and the Republika Srpska Railway Restructuring Project (RSRRP) which is set to close in 2024. The FRSMP aimed to improve road connectivity and safety, and the RSRRP supports the financial, operational, and

organizational performance improvement of railways in RS. The proposed Sustainable, Integrated, and Safe Road Infrastructure Project (SISRI) is not formally part of the Transport Sector Modernization Program (TSMP), but it will continue the World Bank's engagement in improving connectivity, safety, and state-owned enterprise reforms.

The proposed operation aligns with the Country Partnership Framework (CPF) FY23-FY27 and would support the three high-level outcomes of the CPF, namely: increased inclusive private sector employment, increased key public service outcomes, and improved environmental outcomes and climate change resilience. The operation would support the private sector through more efficient market competition for road works, and it would enhance key public service outcomes by improving the management and efficiency of public finances, strengthening governance, reducing the fiscal burden of state-owned enterprises, and improving public service delivery. The project is designed to promote financial sustainability, better allocation of public resources, and improved governance and transparency in the road sector. Additionally, it would contribute to environmental and climate change resilience by building resilience to natural shocks through the incremental reduction of infrastructure vulnerability to extreme weather conditions.

1.2 Objectives of the Environmental and Social Management Framework

This Environmental and Social Management Framework (ESMF) is developed primarily to identifies pre-addressed risks and address the potential environmental and social impact attributable to the Sustainable, Integrated and Safe Road Infrastructure (SISRI) Project. Its geographical scope is Respublika Srpska (RS). The main objective of the ESMF is to guide environmental and social due diligence of the Project activities and ensure implementation fully compliant to the national, regional, and local legislation, WB E&S and legal Policies and Environmental and Social Standards (ESSs). ESMF is designed to identify and assess E7S risks and impacts, evaluate measures implementation success and effectiveness, manage and report (on) E&S risks and potential impacts, all in a manner consistent with the abovementioned WB policies and ESSs, WB Environmental Health and Safety Guidelines (EHSG), applicable EU requirements and other Good International Industry Practices (GIIPs), and national legal requirements and standards. In the case these reference documents, regulations and guidelines differ, as a rule stricter ones will prevail. The SISRI Project is prepared and will be implemented under WB Environmental and Social Framework (ESF) – as such the due diligence guidelines, procedures, requirements, assessments and envisaged instruments are risk-proportional. Equally, the ESMF has designed risk commensurate steps, processes, and procedures for screening, preparation and implementation, risk proportional assessment, management, reporting and monitoring of environmental and social risks and impacts for each sub-project and activity (including Technical Assistance activities - TA) that will be prepared and implemented under the project. ESMF will take into account and guide the E&S due diligence of project activities in all life-cycle phases – preparation, construction/implementation, use phase as well as dismantling (where applicable).

The ESMF document also provides an overview of the SISRI Project and tentative sub-projects and includes key findings of the early E&S aspects analysis for activities planned, as well as identify potential E&S implications. The E&S risks and potential impacts were assessed against the environmental and socioeconomic ESF objectives, requirements, policies and WB E&S standards (ESSs), taking into account type and scope of activities, potential cumulative and transboundary impacts, baseline conditions, WB E&S policy requirements, regulatory and institutional capacity and commitment of the Borrower and Implementing Agencies, as well as nature and magnitude of the identified risks.

Based on the preliminary E&S assessment the ESMF tailored general guidelines, forms for measures, identified E&S instruments and plans for prevention, reduction, mitigation and/or compensation of crucial adverse risks and impacts, rules for estimating and budgeting costs of such measures, as well as information on the institutions and positions responsible to manage the risks and impacts. It provides Information on subproject settings, including any potential environmental or social vulnerability of particular importance for management of impacts and mitigation measures commensurate to the scale of the impacts.

All of the subprojects to be financed under the Project will be subject to the project specific environmental and social screening, following the procedures laid out in this Framework. The screening aims at identifying potential impacts at the subproject's levels so adequate avoidance, minimization, mitigation or offset measures as the case may be, are applied. This ESMF is intended to be used as a practical tool during program formulation, design, implementation, and monitoring in SISRI Project. The purpose of this framework is to specify the procedures that the Project stakeholders will have in place and follow during implementation, with the objective that all activities supported under the Project will be environmentally and socially sound and sustainable, consistent with WB Standards and BiH national legislation, RS regulation and ESF.

Finally, the ESMF provides guidance for the process, required forms and content of Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plans (ESMPs) and Checklist ESMPs for all subprojects which will be implemented under the SISRI Project, Environmental and Social Audits for projects that have already commenced, Technical Assistance as well as Associated Facilities under the Project.

2 Project Description

2.1 Project overview

The Sustainable, Integrated, and Safe Road Infrastructure Project (SISRI) aims to enhance road connectivity and safety in RS through various infrastructure interventions and Technical Assistance (TA) activities. The Project will focus on investing in the rehabilitation and strengthening resilience and safety of priority national roads, and providing capacity building for enhanced road management, and tentatively includes upgrading and improving the M-18 regional corridor between Brod na Drini (Foca) – Hum (Scepan Polje) (Route 2b of the TEN-T network) for which the design and the exact route will be determined and designed as the part of the Project.

The upgrade and improvement of the M-18 regional corridor between Brod na Drini (Foca) and Hum (Scepan Polje), which provides the shortest connection between Bosnia and Herzegovina and Montenegro. The works are likely to involve creating a new road alignment (the specific route has not been defined at the Project Appraisal Stage), rehabilitation or/and contruction of bridges, viaducts, tunnels and other infrastructure, rehabilitation/reconstruction of existing road, construction of the drainage and water collection system, water treatment, etc. to improve connectivity and safety of traffic, cut down travelling time, enhance safety of participants of traffic and local communities, as well as better driving experience. Currently, the road is in poor condition and in some parts only 3.5m wide. It runs through challenging mountainous terrain that is susceptible to landslides and flooding due to extreme weather, aggravated by changes in weather patterns as a direct impact of climate change. Therefore, the design and construction approach must adhere to the highest resilience standards. Potential critical areas will undergo additional geomechanical investigations before the completion of Bidding Documents. The project will fund necessary climate and natural disasters resilience enhancement activities, including (but not limited to) climate change redesign of existing road improvement plans, slope protection works, drainage, construction of tunnels and

viaducts, and other where needed to create a road resilient to climate vulnerabilities. Improved road conditions will also facilitate better winter maintenance when necessary. Additionally, the project will cover the costs for all required interchanges, and other road infrastructure and furniture, and site supervision. The exception will be the bridge over the Tara River, which will be constructed from the state funds before work on the corridor commences.

The investment in rehabilitating and enhancing the resilience and safety of priority national roads (under Component 2) will fund the reconstruction and improvement of selected sections of the road network in both entities. The work will be carried out along the existing routes and will involve resurfacing, road safety enhancements, structural renewals, road protection measures, and the rehabilitation of bridges and tunnels. The main focus of this initiative will be on investments that reduce the vulnerability of the road networks to climate change and elevate safety standards. To prioritize the sections, the outputs from the asset management system and records on the network status in Republika Srpska (RS) will be utilized as a starting point, further combined with simplified economic analysis in RS. This project will also promote the institutionalization of road asset management systems. In addition to investments, this subcomponent will also support investment-related Technical Assistance (TA) such as Road Safety Audits, Technical Control, Supervision, and similar activities.

Capacity building for enhanced road management is RS will focus on technical assistance support focused on improving the efficiency of expenditures in the sector in areas including planning, works execution and operational management. It will also finance overall management of the project.

Relation to the National Strategies and Country Partnership Framework

The planned operation is part of the ongoing World Bank involvement in the transportation sector in Bosnia and Herzegovina. The Transport Sector Modernization Program (TSMP) was approved by the World Bank's Board in August 2016 to effectively support Bosnia and Herzegovina's transport modernization and help achieve national economic and social goals. The Federation Road Modernization Project was the first phase of the TSMP, aimed at improving road connectivity and safety, which has recently been completed. The Republika Srpska Railways Restructuring Project, the second phase of the TSMP, is currently focused on improving the financial, operational, and organizational performance of the railways in Republika Srpska. The proposed Sustainable, Integrated, and Safe Road Infrastructure Project will continue the World Bank's efforts to improve connectivity, safety, and reforms in state-owned enterprises.

The proposed operation is consistent with the Country Partnership Framework (CPF) FY23-FY27. The proposed operation would support the three High Level Outcomes of the CPF: (i) increased inclusive private sector employment; (ii) increased key public services outcomes; and (iii) improved environmental outcomes and climate change resilience. Support for creating private sector employment would be through more efficient market competition for road works. Support to key public service outcomes is through improving the management and efficiency of public finances; strengthening governance and reducing fiscal burden of state-owned enterprises; and improving public service delivery. The design of the Project reflects these elements and is expected to promote financial sustainability, efficient allocation of public resources, improved governance, and transparency in the road sector.

Additionally, the project aligns with the environmental and climate change resilience goals, aiming to reduce infrastructure vulnerability to extreme weather conditions. The project is in line with the goals of the European Union (EU) accession and supports national and regional policy objectives. It aims to connect communities in a safe,

sustainable, resilient, smart, reliable, and affordable manner while reducing air pollution, noise, and greenhouse gas emissions through greener means of transport.

At the Republic of Srpska (RS) level, the project is consistent with the Road Sector Development Strategy 2016-2025 and the Road Safety Strategy 2019-2022. Further, Bosnia and Herzegovina Transport Strategy (2016-2030) emphasizes the improvement of financial sustainability, quality of highways and regional roads, and increased road safety as key objectives.

2.2 Project Development Objective

The objective of the project is to improve regional transport connectivity and enhanced road network management thought:

- financing improvement to sections of a key regional corridor, route 2b, between Sarajevo and Podgorica;
- interventions that improve climate resilience through targeted investments in slope stability and flood protection measures and road safety black spots. This includes addressing part of the backlog rehabilitation program together with targeted sections of climate and road safety vulnerability to bring the overall network to a maintainable condition and to reduce network vulnerability;
- institutional support will be provided to enhance road network management and the governance of the road companies in RS;
- improving the overall financial sustainability of the companies through modern asset management techniques that optimize the use of scarce public expenditures.

The PDO is supported by two components: (i) improved regional connectivity; and (ii) enhanced road sector governance. Successful implantation of the PDO will be measured though prescribed adequate result indicators (available in Project Appraisal Document - PAD).

2.3 Project components

Overview of Project components is presented in the Table 2 below while the full description of Project activities is available in the Annex 1.

Table 2: Overview of Project components

Compo-nent[1]	Component Description	Sub-component	Sub-component description	Entity
1 Improved Regional Connectivity	The overall objective of this component is to improve regional connectivity and the quality and sustainability of the magistral road network in BiH. A high quality, safe network is essential to provide reliable access to jobs, markets, and services in BiH and connectivity to neighboring countries. To this end, the component will finance: (i) upgrade and improvement of Route 2b of the TEN-T network connecting Sarajevo (BiH) and Podgorica (Montenegro), and (ii) for the reconstruction, rehabilitation and	1.1 Upgrade of Route 2b between Brod na Drini (Foca) and Hum (Scepan Polje)	(i) Upgrade of 13.245 km between Brod na Drini (Foca) and Hum (Scepan Polje) on route 2b (M-18) to improve the connectivity between Sarajevo and Podgorica. This also includes addressing issues of active landslides and ongoing deformations of the road surface, wooden bridges, damaged bridges, and curvy alignment. The entire investment will be in RS and jointly financed through an EBRD loan and WBIF grant.	RS
			(ii) Additional design work to enhance climate resilience as the road is vulnerable to flooding and landslides. The results from a GFDRR activity on Nature Based Solutions and Network Vulnerability Assessments will inform this process.	RS
			(iii) A road safety audit will be undertaken to inform the final detailed design.	RS
			The bridge over Tara canyon will be financed through BiH own resources before the start of works on the project road.	*BiH*
		1.2: Investments in a program of rehabilitation of priority national roads	(i) Carry out asset management system assessment and identify a priority list of rolling investments. (ii) Carry out road safety audits, technical control, designs, and site supervision of the sections to be financed under the subcomponent. All activities financed through this component will be complemented by a GFDRR grant to support integration of Nature Based Solutions into road designs and for the development of a methodology to assess road network vulnerability. The methodology for vulnerability assessment will be used to screen the country's road network for climate resilience considerations.	RS

[1] Full description of components is provided in the Annex 1

Compo-nent[1]	Component Description	Sub-component	Sub-component description	Entity
	maintenance of priority magistral roads.		(ii) Finance reconstruction, rehabilitation and maintenance of selected sections of priority magistral roads (identified by the RS program). In total, this sub-component will improve about 150 km of road and associated blackspot improvements and interventions to enhance climate resilience. The works will be undertaken along the existing alignment and will include resurfacing, partial pavement widening, works concerning traffic signalization improvements, structure renewal, road safety improvements, road protection works, and rehabilitation of bridges and tunnels as well ancillary connections i.e, crossroads, access roads, drainage systems, etc.	RS
			(iii) The Project will support reconstruction/rehabilitation design and works of two bridges, tentatively selected: Bridge on the Drinjaca River and Bridge Tatinac (highly unstable and deteriorated and will be repaired to enhance the safety and resilience of the road network). The scope of works can include bridge construction or rehabilitation and will undertake structural retrofits/reconstruction to withstand climate hazards.	RS
Component 2: Enhanced Road Sector Governance	This component will support the BiH EU accession and reform process in the transport sector through interventions that enhance road companies' ability to manage and operate their road infrastructure efficiently and cost effectively. The selected activities will strengthen road management in BiH with a particular focus on improving the financial sustainability of the road	Subcomponent 2.1: Improved safety and resilience of the BiH road network This subcomponent will support implementation of elements of the road safety ecosystem including screening and prioritization of blackspot locations and design and implementation of interventions. All activities are aligned with BiH accession agenda as identified in the EU aquis report for BiH. The subcomponent will be implemented through technical assistance, goods	(i) Road Safety Inspection and Blackspot improvement program: RSI will be performed on priority 1200 km road network across BiH. Recommendations from the RSI will be included in the road safety action plans of the road companies and support in the development of a program for Blackspot improvement, particularly in the RS where there has been no prior screening. Measures will be proposed to rehabilitate the road sections near these high-risk locations.	RS
			(ii) Stability monitoring: Develop a Slope Management System including landslides and facilities monitoring. This will include monitoring equipment, patrols, support with planned road closures, signing, periodic maintenance, and minor rebuilding to reduce vulnerability.	RS

Compo-nent[1]	Component Description	Sub-component	Sub-component description	Entity
	companies, streamlining climate resilience, and enhancing road safety.	and services, training and operating costs		
		Subcomponent 2.2: Enhanced operational management The subcomponent will finance technical assistance (TA), and procurement of goods and services to enhance the operational management of the roads sector in BiH. It will finance activities that support the institutionalization of modern road asset management system, a system of Weigh-in-Motion to protect existing assets from overloaded trucks, and the implementation of Intelligent Transport Systems (ITS) for tunnel management. The activities will support the development of multi-year maintenance plans based on priorities developed through RAMS designed to reduce the whole life costs of the road network and the overall financial sustainability of the sector.	(i) Enhancing the company level Road Asset Management Systems. The project will finance enhancements to the existing RAMs to integrate a module for the systematic economic prioritization of interventions. It will finance equipment for road condition monitoring, weather stations and screening of the network for optimal decision making and identification of network vulnerability. Further institutionalization of RAMs will be supported to help optimize multiannual planning and the preparation of investment and maintenance plans.	RS
			(ii) Implementation of a BiH wide Weigh-in-Motion system: Introduction of a weight control system will support the country in addressing overloaded trucks causing premature failure of roads. The project will finance the equipment necessary for a mixture of mobile weight control systems and fixed weigh-in-motion (WIM) systems. TA will support drafting the necessary legislation to facilitate the operations and enforcement of such a system.	
			(iii) Implementation of ITS in selected tunnels: The subcomponent will support higher utilization of ITS by centralized monitoring and control of ITS systems in tunnels.	
		Subcomponent 2.3: Project Management and Capacity building This subcomponent will finance eligible expenses for both	Engagement on a need basis of additional experts to ensure implementation in line with WB policies (e.g. procurement, financial management, environmental and social safeguards, etc.);	RS

Compo-nent[1]	Component Description	Sub-component	Sub-component description	Entity
		companies to enable successful implementation of the Project. The project will be implemented by the road company employees but they can benefit from capacity building and selected additional expert support as may be necessary in procurement, financial management, environmental and social safeguards and annual program planning.	Support to relevant training and knowledge exchange activities and operating costs like office equipment, travel, printing and translation costs. Cover cost of 30 paid internships, out of which sixty percent will be women. Paid internships will be granted to students from the final year of relevant faculties or recently graduated students, enabling the companies to identify candidates that could be good addition to their institutions. Establishment of the online platform for dissemination of information about the project and user feedback interface.	

2.3.1 Contingent Emergency Response Component (CERC)

The Project also includes Contingent Emergency Response Component (CERC) which is a financing mechanism designed to provide rapid access to funds in the event of a crisis or emergency. CERCs can be activated to reallocate uncommitted funds to address urgent needs without requiring project restructuring. This mechanism ensures that borrowers can quickly access necessary funds to mitigate the adverse economic and social impacts of emergencies, thereby strengthening Country's resilience and response capacity.

As CERC component activities have not yet been defined, thy are not a subject to this ESMF. However, mandatory ESF compliance extends to CERC. To ensure that the Project CERC component is implemented compliant to ESF, the borrower will prepare CERC Manual as specified the legal agreement (LA). The CERC Manual will include a general description of the E&S assessment and management arrangements including, Sustainable Integrated and Safe Road Infrastructure Project CERC Addendums to ESMF, Project-level SEP and RPF in accordance with ESCP provisions. Definition of CERC Manual and CERC component E&S due diligence procedures (including E&S screening, site-specific E&S assessments and instruments such as CERC site-specific ESIAs, ESMPs, SEPs, consultations and other, monitoring and supervision) will be guided by the Project-level ESMF E&S Review Procedures and fully complaint to ESF and WB EHSG.

2.4 Project Beneficiaries

Project beneficiaries include road users, communities along the route (whether using the road or otherwise benefiting from it), road sector companies and their employees including road maintenance companies, students, local population at large and that in risk of poverty as well as private businesses around the route or using the route. However, in addition to positive effects the beneficiaries may also experience impacts from land acquisition, restrictions on land use and involuntary economic and physical resettlement.

The main beneficiaries of the Project are road users, with an estimated 22 million users annually. This diverse group encompasses local residents, businesses, service companies, tourists, and public servants such as police and customs officials. The direct expected improvements in road conditions and safety are anticipated to result in reduced vehicle operating costs (consequently lover cost if transport), increased comfort for commuters and other users, lower risk of traffic accidents, and a lower risk of injuries and fatalities from road accidents, reduced negative impact to water bodies, improved reliability of roads and resilience to climate change effects, reduced cost of maintenance, etc. The potential indirect effects are numerous, including but not limited to improved conditions for trade, export (indirect and direct), development of tourism, increased availability or goods and services, broader employment opportunities, reduced emigration, and other socio-economic development opportunities. The safety benefits of the Project will extend to all road users, including pedestrians, and will also have economic implications by reducing the social and economic costs of road accidents. The rehabilitation and upgrade of approximately 150 km of main roads will lead to improved and safer transportation throughout Bosnia and Herzegovina. The construction of Route 2b will enhance connectivity between the capitals of Sarajevo and Podgorica, yielding positive economic effects on the municipalities along the route and their rural areas. Additionally, the new road will improve connectivity with neighboring Montenegro, benefiting the broader population of Bosnia and Herzegovina.

Improved road conditions will enhance the economic competitiveness of productive areas, supporting economic growth of beneficiary communities. Route 2b is also part of the comprehensive EU TEN-T Network, and improved safety and resilience of this link will be critical for reliable passenger and trade flows in this region. The improved quality of infrastructure and reduction in transport costs would allow for the re-establishment of freight transport along Route 2b and, as such, enhance BiH companies' ability to export. The project also has a high potential to boost tourism, given some of the most popular rafting sites in Europe are located along the alignment, attracting tourists from BiH, the Region and other European countries.

Wide range of local businesses will benefit from Project results. It will enable faster, more efficient, and cheaper movement of people and goods, which will open up opportunities for employment and business growth. Additionally, the easier, safer and larger movement and transport flows is likely to increase demand for goods and services and promote exports (active and passive, e.g. tourism). Various forms of tourism such as nature-based, gastro-tourism, historical and sports tourism is likely to emerge or bloom due to vicinity of nature and heritage attractions in the narrower region (including Sutjeska National Park, Maglic Peak, Zelengora Peak, Tara River – protected as UNESCO's biosphere reserve of the World, and under Human and Biosphere program, Drina River, Durmitor National Park in Montenegro, and more).

The project capacity building, policy development support, and training will directly benefit the PC RS Roads, and the local construction industry as well as sectoral service companies (that deal with design, construction, and maintenance of roads). Through technical assistance, road companies will enhance their capacity to manage road assets sustainably, including planning, budgeting, executing, and monitoring, while design, construction and maintenance companies will benefit from adopting modern design, construction, and monitoring strategies in transport construction sector national

guidelines. It would enable road companies to discharge their responsibilities more effectively and efficiently, benefiting all users. The Project is expected further to boost the capacity of the local construction industry to manage and implement contracts with an increased range of risks transferred to the private sector.

Both graduate students and public companies will benefit from the internship program that will enable about 30 internships (60% will be women) in road sector companies. Students will receive the first employment and experience while companies will identify the best candidates they want to keep in the long run. Online platform for Project information dissemination and user feedback interface will further facilitate learning and quality enhancement process.

Rehabilitation interventions should also benefit the global community from the expected reduction in GHG emissions. Rehabilitation and improvement interventions along the Route 2b road will reduce emission due to significant improvements of road pavement condition and the high level of the diverted traffic. On the other hand, rehabilitation of the magisterial road network will reduce emission due to less fuel consumption based on the improved road pavement conditions. GHG emission is expected to be reduced by 3.5%[2], i.e. for 242 tons of CO2 annually, on magistral road network and 264 tons of CO2 annually on Route 2b.

In line with Environmental and Social Standard ESS10 on "Stakeholder Engagement and Information Disclosure," it is required that the implementing agencies provide stakeholders with timely, relevant, understandable, and accessible information and engage with them in a culturally appropriate manner. Reflecting these ESF requirements for meaningful consultations, timely information dissemination, and inclusion of affected communities into the success of the Project (enabling increased shared prosperity), the Project Stakeholder Engagement Plan (SEP) was prepared as a part of the E&S due diligence of the Project. The main goal of the project-level SEP is to establish a framework for engaging with stakeholders, including public information disclosure and consultation, throughout the entire project cycle. The Project-level SEP details how the Project team (PIU) will communicate with stakeholders and includes a process for stakeholders to be informed in a timely manner, raise concerns, provide feedback (or be provided feedback), or file complaints about the project and related activities. The participation of the local population is crucial for the success of the project to ensure effective collaboration between project staff and local communities, integrate the needs and interests of the relevant communities and individuals into Project goals, minimize and address environmental and social risks associated with the proposed project activities, and ultimately reach material and non-material objectives of the Project and Project Environmental and Social Commitment Plan (ESCP) in the manner complaint to WB ESF, therefore acceptable to the WB. The Project level SEP has pre-identified stakeholders under the Project, project-affected parties, other interested parties, and communication channels, set minimal communication requirements, and translated ESS10 objectives to practical steps and activities relevant to the Project. The Project level SEP also establishes basic requirements for the Project and local level GRM and provides basic information on WB GRM. Additionally, it outlines a roadmap for the site-specific SEP that will identify stakeholders (including vulnerable groups, project-affected parties, and others), potential impacts, and risks as per ESS10 and defines adequate GRM and general communication and consultation channels.

2.5 Implementation Arrangements

The institutional structure of the BiH transport sector is complex, with state level and much decentralized entity level institutions. At the state level, the sector is administered by the BiH Ministry of Communications and Transport (MOCT), and at the entity level, by two separate Ministries of Transport and Communications (MOTC). Public companies are established in each entity and entrusted with the management of the road and railway assets and operations. Thus, the

[2] Smart Transportation Aliance (2020), Analysis of the relationship between road pavement maintenance condition, fuel consumption and vehicle emissions

development of the Framework Transport Strategy (2015-2030) for BiH has been developed considering entities and Brcko District constitutional competences.

The management of motorways and state road networks is entrusted to Republika Srpska (RS). Management of the roads network in RS is undertaken by Public Company Republic of Srpska Motorways for motorways (PC RS Motorways), and Public Company Putevi Republika Srpska (RS Roads) for the magisterial and regional roads. Local roads are managed by municipalities and cities. RS Roads the focus of this project, manage about 4,200 km of road. There is a backlog in rehabilitation of bridges and tunnels, interventions required on road safety and slope stability, and improvements needed on road geometry and junction design. Poor enforcement of axle-load limits is a key concern in both entities as the main contributor to premature deterioration to road surfaces.

The Project will be implemented by two separate implementation units. In the RS the implementing agency will be RS Roads which also has experience of implementing World Bank projects including the BiH Floods Emergency Recovery Project. In the Federation BiH the implementing agency will be PC Roads FBH, which already has the core members of the Project Implementation and Management Team (PIMT) which has long experience of implementing World Bank projects including the Federation Roads Modernization project closed in 2023, Road Infrastructure and Safety Project closed in 2012 and Road Management and Safety Project (P071347) which closed in 2007.

The RS PIU has a full time, in-house environmental specialist with an additionally hired environmental consultant that is helping to revise the already prepared, EU funded EIA report for Scepan polje. The RS PIU will hire a dedicated social specialist prior to effectiveness. Three months into project effectiveness, the RS Roads PIU will also engage part-time OHS expert as well as Communication Expert when needed anytime during project implementation.

Some overarching coordination of the Project activities will be carried out by the BiH Ministry of Communication and Transport (MOCT), in particular the TEN-T road network. The BIH MOCT will however have no actual implementation role in the Project.

The PC Roads FBH will engage environmental expert, and also formalize staffing of an environmental specialist, as well as social specialist in house. The Federation PC Roads track record for social risk management of previous projects is satisfactory, including grievance management and land acquisition and involuntary resettlement as well as preparation of satisfactory RAPs.

2.6 Development partners and financing streams

The Project will support part of a larger program of investments of road rehabilitation and upgrade that have been identified in Bosnia and Herzegovina. The overall financing plan for the project consists of IBRD financing, EBRD loan, Western Balkans Investment Framework (WBIF) grant, and Safe and Sustainable Transport Program (SSTP) grant financing. EBRD financing will be solely for construction of the Route 2b under joint procurement arrangements with the World Bank as defined by the Mutual Reliance Agreement. Route 2b will be financed based on a contribution ratio of 40 percent IBRD and 60 percent EBRD. The WBIF grant also linked to Route 2b will be allocated to IBRD and EBRD financing using the same ratio.

Mobilization of grant facilities to support development - WBIF, Safe and Sustainable Transport Program (SSTP), and GFDRR: Route 2b is considered a flagship project by the WBIF. The client is also requesting grant finance under the SSTP Facility to support road safety improvements in the country. In addition, the Bank mobilized a GFDRR technical assistance grant on climate adaptation to focus on Nature Based Solutions for slope stability in road design and construction and the preparation of a Methodology for Road Network Vulnerability Assessments.

2.7 Exclusions

The Project will not finance any activities listed in the World Bank Group IFC Exclusion List given in Annex 2, nor will it finance any high-risk activities identified after the E&S screening and/or assessments against the risk criteria as defined in the World Bank Environmental and Social Policy, E&S Directive for IPF, and Environmental and Social Framework (ESF) and this ESMF (in the Annex 3).

High-risk activities include those that are complex, large to very large scale, located in sensitive locations with a wide range of significant adverse risks and impacts that are long-term, permanent and/or irreversible, impossible to entirely avoid, some of which cannot be mitigated or require complex, with unproven mitigation that requires sophisticated social analysis, high in magnitude and/or in spatial extent (large to very large area or population).

Furthermore, high-risk activities may produce significant adverse cumulative or transboundary impacts, have a high probability of serious adverse effects on human health and/or the environment, take place in high-value and sensitivity areas (e.g. protected and internationally recognized areas), sensitive lands, or jeopardize the rights of vulnerable minorities and groups, cause intensive or complex involuntary resettlement or land acquisition, impact cultural heritage, may give rise to significant social conflict, and cause harm to human security risks. Additionally, there may be a history of unrest in the area or sector, and/or concerns about the use of security forces. All of listed above would exclude the activity from financing under this Project.

2.8 Tentative sub-projects

2.8.1 Upgrade of M18 between Brod na Drini (Foca) and Hum (Scepan Polje)

The key infrastructure operation under the project involves the planned reconstruction and upgrade of the existing M18 road between Brod na Drini (Foca) and Hum (Scepan Polje). The total length of the M18 is 20.2 km, and the project will focus on upgrading 13.245 km of different road sections, including infrastructure such as tunnels, bridges, culverts, and others. The M18 is the main road connecting Sarajevo and Podgorica, and it has not been significantly upgraded since its construction in 1965. This road is also of international importance, forming part of the main road network in the region and designated as the E - route (E762) or 2b route, which runs from Albania and connects with the motorway corridor Vc near Sarajevo. In terms of traffic, the road aims to distribute traffic flows between Bosnia and Herzegovina and Albania via Montenegro, as well as from Bosnia and Herzegovina to Central Europe.

Technical and exploitation properties of the existing road M18, Sarajevo – Foca (Brod na Drini), do not currently comply with traffic safety provisions due to the following lacks:

- Insufficient and inconsistent horizontal elements, sharp bends with small radius,
- Steep inclination towards Rogoj notch, which is located at an elevation of 1160m,
- Insufficient road width,
- Lack of a lane for slow vehicles,
- Insufficient visibility for safe overtake,
- Transit sections through settlements,
- Non-regulated intersections and accesses,
- Inconvenient geological and geo-mechanical properties in some sections with frequent occurrences of landslides,
- Demanding and expensive maintenance during the winter,
- Numerous "bottlenecks" where exploitation speeds are very low, and limited to 30-40 km/h, especially through settlements and in winter conditions.

The design of the road upgrade and reconstruction was prepared several times, lastly in 2017, when also EIA was conducted for the sub-project. However, both the design and the EIA require updates as (i) some of the newer sections of the road degraded in the meantime and also need fixing e.g. two bridges that were constructed in 2000 to avoid consequences of the construction of planned Buk Bijela hydro power plant originally were not part of the planned upgrade, however, after recent detailed observations, it was concluded the bridges need reconstruction; (ii) to overcome differences in elevation between roads and connections constructed in the meantime; (iii) to include construction of bypasses and interchanges, and (iv) to reflect recorded issues of flooding, landslides and other climate change effects on the road that will also be informed by the results from a GFDRR activity on Nature Based Solutions and Network Vulnerability Assessments, (v) reflect the results, conclusions and recommendations of the road safety audit that is planned under the Project and will be undertaken to inform the final detailed design. For these reasons (under-preparedness of the design, anticipation of the additional information and recommendations regarding climate change resilience design features, uncertainty regarding the final route and road elements), the tentative sub-project is currently (in the Project preparation phase) a subject to ESMF, and not ESIA or some other E&S instrument. The sub-project E&S instrument is likely to be EISA or focused ESIA, but this yet to be confirmed by E&S screening.

Due to the restrictions and functional characteristics of the road, the route is divided into three parts:

(1) Road section from Brod na Drini to Donji Kopilovi encompasses 5.5 km with two traffic asphalt paved lanes with a total width of 6-6.5m, shoulders width 1-1.2m, guardrails and chutes in the zones where the road passes though a cut. The road is in a relatively good condition, but with about thirty horizontal curves, of which half do not meet the technical requirements and significantly endanger traffic safety. At several places the road bed subsidence is visible. The road does not include drainage and surface runoff water collection system. An increase in the safety and quality of traffic requires a complete renovation and modernization of this part of the road.

Currently (2024), works are underway on road rehabilitation (for section A – 5.5.km). The works include pavement resurfacing, strengthening of retention walls and improvement of the drainage system, but does not include change in the geometric characteristics of the route. Therefore, these works are not carried out according to the mentioned main design and can be considered a maintenance works. The works are not financed form the Project funds and are not yet completed.

Figure 1: Current state of the M-18 road: section A

(2) The second part is the remaining part of the section from Donji Kopilovi to Hum, in a length of about 14.7 km. The road on this section is in a very poor condition and unsuitable for the movement of motor vehicles, especially buses and heavy trucks. There are 2 viaducts in the first part of the section, whose general conditions is yet to be established. Pavement width in this part is 3.5 m, with a lot of upper structure deformations and potholes. There are also parts of the road without shoulders, with a lot of cutting landslide, active and passive landslides. Traffic safety on this section is endangered by snow and rock fall due to the erosion of rock mass, especially

during the winter months. With more unpredictable weather and extreme weather conditions, this problem will only exacerbate. This section is a subject of potential financing under this Project.

Figure 2: Current state of the M-18 road: setion B

(3) The third part of the road consists of an existing bridge over the Tara River. According to the Preparation of design and studies for improvement of the road on the SEETO route 2b, EIA for Component 1, prepared in 2017 the bridge is only a single lane width, while the carriageway is made of steel trusses with timber planks. Steel construction of the bridge is supported by a slanted concrete column structure bearing on two reinforced concrete foundations reclined on the banks. Through a very small radius (about 20m) the road is connected with the bridge. The features of the bridge and connecting road (such as clearance of this existing border bridge, small horizontal curvatures of the alignments on both sides and the very steep gradient of the alignment on Montenegro side) do not allow heavy vehicle traffic. In the previous period, the bridge was reconstructed in order to allow the passage of vehicles with a load up to 10t. It is important to foresee for how long this bridge could exist on the improved route, if not replaced immediately along with first stage of the improvement, taking into consideration the above limitations and its obsolete construction. In the preliminary check, it is obvious that the characteristics of the existing bridge do not fulfil the requirements of the road profile and design speed for the road at this functional level. Reconstruction of this bridge is not a part of the Project support, but likely to be financed from BiH state funds.
Nevertheless, any works on the bridge over Tara River may be considered Associated Facility to the Project, and as such be a subject to WB ESF. This is yet to be confirmed. Instructions and templates for Associated Facilities are available in the Annex 11

Figure 3: Tara river bridge

Over the past 15 years, several different designs and two environmental assessments have been conducted. Some of the designs date back to the 1990s. In 2014, a Preliminary Environmental Impact Assessment (PEIA) was carried out, followed by a comprehensive Environmental Impact Assessment (EIA) in 2017. Both reports identified various infrastructure elements, such as viaducts, bridges, retaining walls, drainage systems, road widening, slow lanes, tunnels, bypasses, culverts, and other road components that require repair, reconstruction, or construction. However, none of these have been confirmed or subjected to detailed design. The existing preliminary and other designs will be revised to align with the findings of climate change and road safety research, drainage infrastructure, and geomechanical investigations that have been funded by the project, but also to address the original issues such as insufficient road width, poor visibility, lack of lanes for slow vehicles, route of bypasses, road surface deformations, replacement or repair of wooden bridges, reconstruction of damaged bridges, and curvy alignment. Further design work will focus on enhancing climate resilience due to the road's vulnerability to flooding and landslides. The design will also be adjusted and finalized based on the findings of the GDFRR Nature Based Solution research, Network Vulnerability Assessment, and newly funded geomechanical investigation and Road Safety Audit.

The operation presents a part of larger operation with the objective to improve connectivity and regional integration to trade routes of rural parts of both countries, as well as ultimately improve connectivity between Sarajevo, capital of BiH and Podgorica, capital of Montenegro. The Project supported investment is entirely located in RS and jointly financed through an EBRD loan and WBIF grant.

2.8.2 Tatinac River Bridge

The Tatinac Bridge is situated on the Regional Road RII-5501 (formerly known as R-443) in the Grajseljici - Klanci section of the Kalinovik Municipality.

The bridge was built during the Austro-Hungarian Empire and is currently in poor condition. Plans are in place to construct a new Tatinac bridge to replace the existing steel bridge. The planned location for the new bridge is on the Grajseljic i-Klanci section, nearby. During the reconstruction, the original bridge will remain in operation.

There are several problems related to operationality of this bridge, and the key ones include its age, wooden construction prone to impacts of weather conditions and its dimensions that are not matching standards of the regional road it is connecting. The width of the pavement on the existing bridge is narrower than the width of the pavement before and

after the bridge along the regional road. The road's width is approximately 5.7 meters, while the bridge's width is approximately 5 meters. The bridge's pavement structure is made of a wooden structure consisting of beams and planks, which requires frequent maintenance and replacement of wooden parts due to the effects of weather, especially water. The constructive part of the bridge is made of steel while the base is concrete: it has a steel continuous span construction with 3 spans, totaling a length of 38m. It is supported by 2 abutments and 2 intermediate piers, with reinforced concrete beams at the top of the pillars. The material of the middle pillars and the foundation of the construction has not been established.

The new bridge over Tatinac River will be designed and constructed as part of the Project activities.

The surrounding area has no settlements or built structures, and the terrain is hilly.

Figure 4: Tatinac River Bridge – current state

2.8.3 Drinjaca River Bridge

The bridge in question is located on the main road M-19.2 in the Municipality of Vlasenica, which is in the eastern part of the Republic of Srpska. The main road M-19.2 is a 30 km long road that connects Kladanj and Vlasenica, linking to the M18 highway in Kladanj and the M19 highway in Vlasenica.

The existing bridge is approximately 50m long, supported by two concrete arch girders on the shore, with four river and two coastal supports. It has a total width of 8.40m. The Drinjaca River's depth at the bridge point varies from 0.5 to 2.0m. Again, as with the Tatinac bridge, the main issues of the bridge are related to being old, poorly maintained and heavely impacted by the weather.

The existing bridge is built as a slab, supported by columns on arched girders fastened to the coastal supports, with asphalt barrier and pedestrian paths on both sides. However, the quality of concrete and steel in all elements of the bridge is very poor, with visible deep destruction of concrete and corrosion of steel. While the pavement structure of the bridge and approximately 100m before and after the bridge is in decent condition, due to the poor condition of the bridge, it is

necessary to build a new one. The new bridge is planned next to the old one which will continue to be used during construction and demolished after.

Figure 5: Drinjaca River Bridge – current state

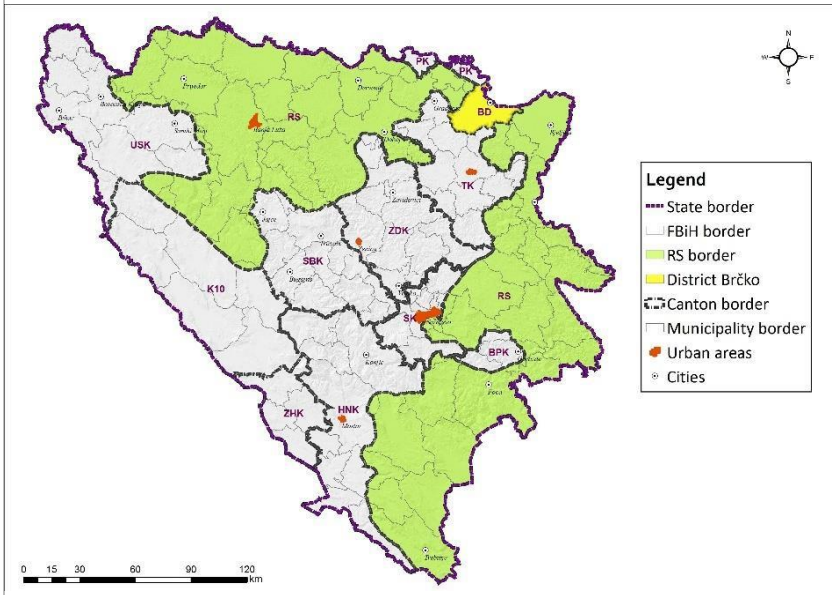
3 Baseline Data

3.1 BiH and RS in a nutshell

Bosnia and Herzegovina (BiH) is located in the South-East Europe, on the western edge of Balkan. It borders Serbia, Montenegro and Croatia, and has access to the Adriatic Sea through its southern border. The country is diverse from almost all aspects: geographic, climatologic, cultural, natural and socio-economical. BiH is an independent country with a decentralized political and administrative structure. It consists of two entities: the Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska (RS), as well as the Brcko District. This document will examine the environmental and social impact of the road transport sector, specifically road infrastructure construction, upgrades, and operations, mainly in Republika Srpska. Therefore, the information about the project and E&S baseline is focused on the RS entity and tentatively selected locations for sub-projects (primarily M18 section from Brod na Drini to Hum), which partially covers the entirety of BiH.

Bosnia and Herzegovina	
Abbreviation:	BiH
Capital:	Sarajevo
Area:	51.129 km^2
Population:	3.511.372
Languages:	Bosnian, Serbian, Croatian
Administrative structure:	BiH is a country with several levels of governance: at BiH level; at the level of entities/District (FBiH, RS and BD) at the level of Cantons in FBiH only at the level of municipalities. The highest legislative body in BiH is the Parliamentary Assembly of BiH. Other institutions at the national level are: Presidency of BiH, Council of Ministers of BiH, Constitutional Court.
Nominal GDP (2023)	BAM 45,618 million[3]
Nominal GDP per capita	BAM 13,285[4]
Nominal GDP growth (2022/2023)	4.23%[5]
EU status:	BiH has an EU candidate status. Accession negotiations with the EU are ongoing.
Main industries	Mining, wood harvesting and processing, tourism, agriculture
Main transport Sector:	Roads
Republika Srpska	
Abbreviation:	RS
Major cities or towns:	Banja Luka, Bijeljina, Prijedor, Doboj, Istocno Sarajevo, Trebinje
Area:	25.053 km^2

[3] Republika Srpska Institute for Statistics, This is Republika Srpska 2023
[4] Ibid
[5] Ibid

Geographical position:	Republika Srpska is an entity in Bosnia and Herzegovina. BiH borders Croatia, Montenegro and Serbia.  *Figure 1: Geographical map of BiH*
Population:	1.228.423
Languages:	Official languages: Bosnian, Serbian and Croatian
Administrative structure:	In RS the National Assembly of RS and the Council of Peoples have legislative authority. Entity level institutions include: National Assembly, President of RS with two Vice-Presidents and Senate, of RS and The Constitutional Court of RS.
Main industries	Coal, steel, iron, vehicles, tobacco, food, clothing, leather, wood, furniture, paper, chemical, pharmaceutical
Nominal GDP (2022)	BAM 14,537 million
Nominal GDP per capita (2022)	BAM 12.977
Nominal GDP growth (2021/2022)	3.9%
Transport sector	Length of roads: 14.410 km Transported passengers: 15.522 Transported goods: 3.665 t

3.2 Overview of key micro-locations (M18 section from Brod na Drini to Foca)

The Project relevant section of the M18 road section is fully located in the Municipality of Foca, in the southeastern part of Bosnia and Herzegovina (BiH) in the Republika Srpska. The road starts at Brod na Drini, a village about 4km south from the Town of Foca (which is the center of the Municipality). The road stretches to the municipality's eastern and southern borders with Montenegro. Its southeastern border is with the Municipality of Cajnice and to the north, the Municipality of Foca borders the municipalities of Foca/Ustikolina and Gorazde in the Federation of BiH (FBiH).

The Municipality of Foca, is rather large, covering an area of 1,115 km^2. It encompasses 95 inhabited places with a total of 19,811 residents and 6,521 households. These residents are organized into 22 local communities, resulting in an average population density of 18 inhabitants per 1 km2 for the entire municipality. In the wider project area, there are 8 settlements: Brod, Bunovi, Birotici, Celikovo Polje, Mazoce, Bastasi, Tecici, and Hum.

According to the preliminary data from the Census of Population, Households, and Apartments in Bosnia and Herzegovina carried out in 2013, there are 294 households and 927 residents within the territory of Republika Srpska, in the areas that comprise these local communities. Few people live in this area; there are only 586 residents. The beginning of the section in Brod na Drini has a higher population density, though the road section runs for about 800 m in length, and the number of inhabitants drops towards the Border. The part of the road around village Brod has a design speed limit of 50 km/h, whereas the part where the school is located has a design speed limit of 30 km/h. The remaining part of the section is sparsely inhabited.

Table 3 Number of population in the project coverage (*Source: Preliminary Environmental Impact Assessment (PEIA) for Component II for the main road E762 (M18), from Sarajevo to Foca*)

No.	INHABITED PLACE	TOTAL NUMBER OF REGISTERED PERSONS	TOTAL NUMBER OF HOUSEHOLDS	TOTAL NUMBER OF APARTMENTS
1	Brod	403	157	191
2	Bunovi	78	35	133
3	Birotici	23	14	27
4	Celikovo Polje	-	-	9
5	Mazoce	31	16	33
6	Bastasi	17	7	19
7	Tecici	19	6	13
8	Hum	15	-	25
TOTAL		**586,00**	**235,00**	**450,00**

The primary **demographic** characteristic of the subject area is the outflow of population, particularly the younger population. The local economy is primarily based on forestry, agriculture, and energy, with tourism emerging as a growing sector due to the region's scenic landscapes and opportunities for outdoor activities. The Municipality of Foca is renowned for its rafting tours on the Drina and Tara rivers, as well as for hiking destinations such as Zelengora, Maglicc, Volujak, Bioc, Vucevo, Ljubisnje, Perucica Nature Reserve, and the Tara Canyon. Fishing tourism is also popular. Hospitality industry includes large number of restaurants, and accommodations including hotels, motels, camping sites, and private accommodation. In terms of tourism development, and in general socio-economic activities and development, the entire area gravitates towards Foca. The area is scarcely populated, and the road is currently mostly used in tourism purposes, as an access to rafting entrances and as a transit road to Montenegro.

The Drina River and its tributaries are prominent features of the region, offers potential for hydroelectric power generation and presents a vital natural resource. Initiatives aimed at developing infrastructure, promoting sustainable tourism, and

attracting investment are part of a broader strategy to address these challenges and leverage Foca's potential for long-term socio-economic development.
The region's **educational** system includes primary and secondary schools, the University of East Sarajevo's Faculty of Medicine located in Foca, which attracts students from various parts of the country. However, like many areas in Bosnia, Foca faces challenges such as brain drain due to limited employment opportunities locally, prompting many young people to seek education and employment elsewhere.
Social services provided by Foca Municipality further include University Hospital in Foca, Health center in Foca and Public Institution Centre for Social Work Foca.

When speaking of **climate**, the area mostly has continental climate, and mountainous in areas with higher altitudes. Though it is relatively close to the Adriatic region, the impact of Mediterranean is negligible. According to data presented in the Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini) from 2017, the average temperature of the warmest month of July is changed to the subject area of 18.9 °C to 15.0°C (Zabljak), and minimum temperatures down to -30,°C. Cloudiness during the year is considerable. The sky is under the clouds 60% of the year. The highest cloudiness is in November, and the lowest in August.[6]The average annual precipitation in the basin to Foca are 1,587 mm and they are quite evenly distributed by months. The primary maximum of precipitation is in November or December, and the secondary in April and May. Minimum rainfall is in July and August. Climate change effects are very much present and impacting the area, key risk including forest fires, soil erosion and consequent landslides, draughts, and strong storms. In 2024 heat waves that lasted for weeks stroke Western Balkans and Southeast Europe, amongst other things contributing to forest fires that spread to Sutjeska National Park jeopardizing survival and health of Peruciuca Forest Reserve, one of last remaining primeval forests in Europe. Consequently, when considering climate conditions, the updated ESIA for this planned sub-project must take into consideration these (rapid) changes (and forecasts).

Key Hydrographic network features include rivers Drina and Tara, and a number of their tributaries. As they form a part of the Black Sea Basin, both rivers and their tributaries present international waterways. Of the most significant tributaries include as follow: Sutjeska, Piva until "Piva" Hydropower Plant, Susica, Petrovica, Strma Stijena brook, the Bistrica, Tvrdi potok, Skara, Stitarica, Pcinja and Velika Proscanica rivers. On the right side, going from the spring downstream, tributaries are: the Opasanica, Skrbusa, Svnjaca, Biogradska rijeka, Bjelojevacka rijeka, Rudnica, Selacka rijeka, rijeka Draga, Ljutanica and Jelovcev potok rivers. All the mentioned watercourses are mountainous, meaning they have steep beds (gradients are >>5‰) and extremely unequal flow.[7]

The heights in the area are made of durable rock mass, resistant to erosion of exogenous forces, mostly limestone and dolomite. Such **geo-morphological and hydrological conditions**, together with characteristics of the rock mass in the surface part of terrain have caused creation of many large gullies, gorges, occasional great depths, and width. Creating karstic **landscape** typical for the Dinaric Arc; Besides proluvial (foot of the slope sediment), terrain of the observed space is also affected by colluvial (unconsolidated deposited sediments) processes, primarily landslides. Fluvial (river depositing) process is also common in this area, and reflects in spacious and thick river terraces. Alluvial (loos deposit in the stream bed) deposits are not especially developed.[8]

The Project area is covered by natural **vegetation** of broadleaf high forest, at the transition between the western and eastern

[6] Ibid

[7] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

[8] Census of population, households and apartments in BiH in 2013, in the territory of the Republika Srpska - Preliminary results; Preparation of design and studies for improvement of the road on the SEETO route 2b, EIA for Component 1; 2017

Balkan areas of forest oak and hornbeam, and region of mixed forest, shrubs, pine forests and pastures in higher altitudes, respectfully. Anthropogenic influence there has been a significant degradation of the primeval forest reserves which led to the creation of low forests and underbrush. The assembly of these stands is often interrupted, the soil is eroded, leading to a significant reduction in the fertility of the land. Several plat species identified by Red List of Protected Species of Flora and Fauna in the Republika Srpska (RS Official Gazette, No. 124/12):

- *Cyperus fuscus L* - brown flatsedge,
- *Loroglossum caprinum calcaratum* - orchid*,*
- *Moehringia malyi,*
- *Campanula sparsa ssp. Sphaerothrix* – mountain bells*,*
- *Nasturtium officinale* - watercress*.*

The upper Drina canyon is characterised by a great diversity of **habitats for birds**. The area also represents a refuge for many but already rare and protected species in Europe. All species of birds are comprised by some measures of protection, although the red list of species of Europe are always prominent, notably Hieraaetus pennatus – Booted Eagle, Crex crex – Corn Crake, Eremophila alpestris – horned lark, Ficedula parva – red-breasted flycatcher. There are also present glacial relicts: horned lark, boreal species: Strix uralensis – Ural owl, Picoides tridactylus – Eurasian Three-toed Woodpecker, Pyrrhula pyrrhula – bullfinch, Oro-mediterranean species: Monticola saxatilis – common rock thrush, Regulus ignicapillus – firecrest and species of relict communities: Poecile lugubris –sombre tit, Emberiza cia – rock bunting. [9]

Common reptiles in RS include, but are not limited to common wall lizard (Podarcis muralis), European green lizard (Lacerta viridis) and slow worm (Anguis fragilis), then dice snake (Natrix tessellata), Aesculapian snake (Coluber longissimus), smooth snake Coronella austriaca and horned viper (Vipera ammodytes) are assumed to be common. In smaller tributaries is expected the presence of grass snake (Natrix natrix), and in the zone of oaks the presence of European copper skink (Ablepharus kitaibelii).[10]

Bearing in mind wide coverage of Project activities and distribution of present and potentially present species in the area of sub-components 1.1 and 1.2 that will be affected by the planned anthropogenic changes, a special attention must be paid to preservation of specific areas which are necessary for a complete life cycle of species, as well as timeframe of works to avoid sensitive seasons for protected species.

International Union for Conservation of Nature- IUCN declared many species of **amphibians** globally vulnerable. Species of amphibians that reside in the territory of the Republika Srpska, with fire salamander (Salamandra salamandra) and Greek frog (Rana graeca) being exceptions, the process of mating and egg laying mostly (green frog, toad) or compulsorily (triton, frogs in the family Bombina, European tree frogs, agile frog, common frog) is conducted in stagnant fresh water. Some other species may be present.

Natural properties of the area provide conditions for the occurrence of a large number of **mammal** species. In the area are readily found wolf (Canis lupus), wild boar (Sus scrofa), brown bear (Ursus arcotos), roe deer (Capreolus capreolus), domestic cat (Felix catus), badger (Meles meles), skunk (Putoruis puterius), weasel (Mustela nivalis), hare (Lepus europeus) and other species.

Based on available data on the structure of communities of **Phytobenthos** (organisms found attached to bottom surfaces

[9] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

[10] Ibid; Sofradžija, 1975

aquatic environments) in the river Drina, there were established 69 taxons (classified groups).[11]

Protected areas - The wider Project area includes valuable nature, landscape and cultural/historical areas, particularly the Sutjeska National Park, one of the oldest and most significant national parks in the country. The park is a sanctuary for diverse flora and fauna and houses Maglic, the highest peak in Bosnia and Herzegovina.

There are several protected areas relatively close to the Project area e.g. Sutjeska National Park being in the immediate vicinity. Within the Sutjeska National Park is Perucica forest, one of the last European primeval forests. It spreads over the area of approximately 1,400 ha. It has been a nature reserve since 1954.

The Park is planned to be extended, however, the route Foca - Hum will still be placed outside the boundaries of the planned extension of the National Park Sutjeska. The expansion of this national park is not foreseen on the right bank of the river Drina.

According to the Spatial Plan of the Republika Srpska until 2025 (at the second regular session of the National Assembly of the Republic of Srpska18.02.2015. Decision no. 2/1 - 021 - 214/14 ("Official Gazette of the Republic of Srpska" number 15/15) Proposal amendments to the Spatial Plan of the Republic of Srpska until 2025 was adopted), the list of areas planned for the establishment of protection in the planning period envisages establishing of the National Park (Category II according to IUCN categorization) "Tara Canyon and Ljubisnja" on the territory of the Municipality Foca. This has not yet taken place, however, according to accessible maps, the protected area will include a section of the road closest to the Montenegrin border. Therefore, biodiversity and nature protection will need to be given special consideration in the E&S assessment of site-specific E&S instrument covering activities in this area.

[11] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

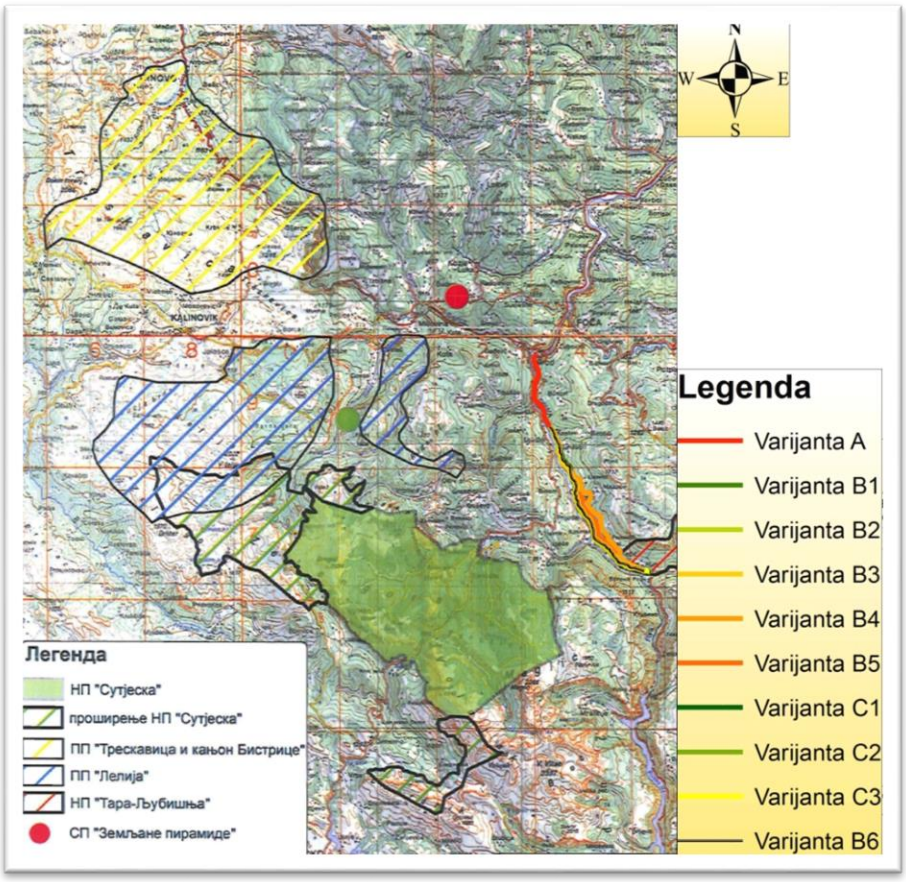


Figure 4: Map of protected natural areas and areas envisaged for protection under a spatial plan of the Republika Srpska to 2025[12]

Drina and Tara rivers

The merging of the Montenegrin rivers Tara and Piva in Scepan Polje creates the river Drina and not long after its origin in Scepan Polje, the Drina enters Bosnia and Herzegovina. In Bosnia and Herzegovina, only Sava river is bigger. Drina has 340 km, in its length, and passes through numerous places in Bosnia and Herzegovina. This river often plays an important role in lives of local population – as a critical source of livelihood, ether as a supplementary source of food, or recreation, as basis of economic development or other, as a significant landscape with historical and cultural, even spiritual significance. In the lower Podrinje, the Drina along its entire course forms the border between Bosnia and Herzegovina and Serbia. The Drina flows into the Sava River near the town of Srijemska Raca. Historically, the Drina River here was full of rapids and passed through canyons and gorges. However, its unique nature was changed by the construction of hydropower plants in Visegrad, Bajina Basta and Zvornik.

Tara is a river in Montenegro and Bosnia and Herzegovina. It originates from two rivers, Opasanica and Verusa, under the mountain Komovi. The last 40 km of the course of the Tara River forms the border between the two countries. Near the Montenegrin settlement Scepan polje, in the territory of the municipality of Foca, together with the river Piva form the river Drina. The Tara Canyon, 82 kilometers long and 1,300 meters high in places, ranks right behind the Grand Canyon of the

[12] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

Colorado River in the USA, and the biggest in Europe. It has a course of 146 kilometers and is the longest Montenegrin river. Among the many distinctive and valuable features of Tara, a special place is occupied by its beech trees. In 1977, Tara was included in the "Man and the Biosphere" program and registered in the ecological reserve of the biosphere of the world, which is why it is protected by an internationally adopted convention. A large part of the canyon is overgrown with individual conifer trees, and black pine occupies a special place among them. The canyon massifs provide extraordinary conditions for chamois to live. Tara is also rich in fish. In the last decade or so, there has been development of sports tourism, especially rafting and kayaking. The most attractive part for rafting, rafting is the last 25 km of the river.

The extended baseline for the selected sub-project location is available in the Annex 11.

3.3 Project relevant environmental baseline information

This section provides an overview of key environmental features for Project environmental aspects on the territory of RS, which is the overall Project scope. **The complete overview of environmental baseline is available in the Annex 11, while key nature and environmental features for the sub-component 1.1 are given in the Chapter 3.2.**

3.3.1 Geology

Republika Srpska (RS) is situated at the meeting point of two large natural-geographic and socio-economic regional entities: the Pannonian and Mediterranean regions. Like the rest of Bosnia and Herzegovina, RS is divided into a Bosnian region in the north and a Herzegovinian region in the far south. The Dinarides dominate the geology and landscape, with complex sub-units including the karstified Outer Dinarides and sedimentary Inner Dinarides. The northeast features fertile plains, while the east has notable limestone formations. The area is also characterized by landslides, distributed quite unevenly on the territory, with significant occurrences in specific geological areas. Additionally, the RS experiences relatively frequent earthquakes due to tectonic characteristics of the area, with the highest epicenter concentration in the area of Herzegovina and the wider area of Banja Luka. The strongest earthquake in the modern times in RS, took place in Banja Luka in 1969. Its strength was 6 according to Richter Scale and 8 according to Mercalli. The area remained seismically active.

3.3.2 Climate and climate change

Republika Srpska (RS) exhibits diverse climates and weather patterns due to its varied geographical, geological and hydrogeological features. The climate of RS is influenced by factors such as its geographical position, relief, proximity to the Adriatic Sea, and flora cover. According to the research conducted for Adjustable and Competitive Agriculture Project, the region experiences a temperate continental climate in the north, mountainous and sub-mediterranean in the south with average annual temperatures around +10 °C. Further, summer temperatures can exceed 40 °C, while winter temperatures may drop to -30 °C. Republika Srpska is rich in surface and underground hydrological networks, with the major river flows belonging to Drina, Danube and consequently, Black Sea basin. The relative humidity is influenced by characteristic winds such as bura (north), jugo (south), and fen (north warm wind) wind in different parts of the entity.

Strategy for Adopting to Climate Change of Low-Emission Development for BiH adopted in June 2013 indicates a noticeable increase in average temperatures, with the highest recorded increase of 0.7 °C in the spring and winter months in Banja Luka for the period 1981-2010. Over the last decade, there has been a consistent rise in temperatures, as reported by the Republika Srpska Hydrometeorological Institute. By the period 2031-2060, temperatures in certain areas are estimated to increase by 1 °C to 3 °C, with the maximum summer temperature potentially rising by 5 °C. Additionally, changes in precipitation patterns are anticipated, with a potential halving of summer precipitation levels. Forecasts indicate that increasing air temperatures and reduced rainfall during spring and summer could lead to droughts and water shortages, while heightened autumn and winter rainfall may result in flooding, soil erosion and landslides. Furthermore, these climatic shifts could lead to water quality deterioration, stressing aquatic ecosystems and impacting biodiversity.

3.3.3 Water quality and management

The hydrographic network in the Republika Srpska (RS) consists of two main river basins: the Black Sea basin (the Sava river basin) and the Mediterranean Sea basin. The Sava River Basin covers 20,455 km2, including sub-basins such as Una, Vrbas, Ukrina, Bosna, and Drina. The Trebisnjica river basin district covers a total area of 4,058 km2. The area has numerous watercourses, with 565 watercourses larger than 10 km2 in the Sava RBD and 47 in the Trebisnjica RBD13. The Drina River Basin spreads over 20,320 km2 5. It is almost evenly distributed between Montenegro (32% of the river basin), the east of Bosnia and Herzegovina (36% of the river basin), and Serbia (31% of the river basin). A very small part of the basin is located in Albania (less than 1%)[14]. in Bosnia and Herzegovina is rich in water resources and is crucial for the eastern part of BiH. However, the water quality in this basin can vary due to industrial and agricultural activities, urban wastewater, and hydrological conditions. The region faces challenges related to water scarcity, with drought affecting agricultural production almost every year from June to September. Additionally, flooding occurs due to uneven precipitation distribution. The Public Institution “Vode Srpske” in the Republika Srpska (RS) is responsible for monitoring the surface water quality in line with the EU Water Framework Directive and entity legislation made efforts to monitor and improve water quality. In 2019, monitoring was conducted on 49 water bodies according to annual reports on the classes of quality are available on the official website of the Public Institution "Vode Srpske"15. However, UNECE in 2017 reports that surface water quality monitoring of Drina River Basin is not regular and systematic while water quality data is not being sufficiently shared. The monitoring conducted showed that ecological status of Drina River Basin ranges from good to moderate, including chemical status. Having noted that, the trends show that water quality is declining in the downstream of Drina. Again, this is due mostly to organic and nutrient pollution that can be contributed to agriculture. In addition, the metal content increased recently ,correlating with works of antimony mines and exploration of mineral material such as sand and gravel. [16]

The aquifers in Drina River Basin located in vicinity of settlements and agricultural areas (e.g. Macva) face high risk of pollution caused by agriculture induced use of fertilizers. During summer, some parts of the basin experience a lowering of the groundwater table caused by filling in the adjacent hydropower reservoirs.

3.3.4 Waste and wastewater management

Only 36% of the population is connected to public sewage network in RS, and 11% of wastewaters are being treated before discharging17. Therefore, large quantities of wastewater are still not captured by the existing collection systems and is released without any treatment to the natural recipients. Data for collection and management of surface runoff water (on roads or in general) is not available.

The solid waste management in the RS is based on regional concept where several municipalities are served by one regional landfill. According to the Municipal Solid Waste Management Sector Review: Strategic Directions and Investment Planning up to 2025, there are 4 regional landfills operational in RS i.e. Bijeljina, Banja Luka, Prijedor and Zvornik servicing in total 23 municipalities including 9 municipalities from FBiH. In addition, there are 22 non-sanitary single municipal landfills in operation, and one non-sanitary regional landfill in Doboj18.

[13] Water Management Plan for Sava River Basin in RS (2016 – 2021), Water Management Plan for Trebišnjica River Basin in RS (2016 – 2021)

[14] UNECE, Assessment of the water-food-energy ecosystems nexus and benefits of transboundary cooperation in the Drina River Basin (International Sava River Basin Commission (ISRBC), Sava River Basin Analysis Report (Zagreb, ISRBC, 2009)); 2017.

[15] ESMF for BiH Water and Sanitation Services Modernization Project; 2022

[16] UNECE, Assessment of the water-food-energy ecosystems nexus and benefits of transboundary cooperation in the Drina River Basin; 2017.

[17] Republika Srpska, Strategy of integrated management of water in Republika Srpska during 2015-2024

[18] World Bank, Swedish International Development Agency, in BiH; Municipal Solid Waste Management Sector Review: Strategic Directions and Investment Planning up to 2025, 2018

Organized waste is disposed of in municipal landfills, which are mostly not meet the basic sectoral and GIIP (EU) requirements. According to the data of the aforementioned Municipal Solid Waste Management Sector Review, 43 municipal ones are used in the territory of the RS (local) landfills. Also, waste is disposed of in "wild landfills" usually near their settlements. Uncontrolled municipal landfills, as well as "wild landfills", represent a danger, both for the environment and for human health. Exact number of illegal landfills is difficult to determine. There is no hazardous waste landfill or processing available in RS. Material from excavations makes 75% of the total construction, demolition and inert waste group (including excavated soil from contaminated sites), demolition waste and construction make for 15-25%, asphalt, tar and concrete 5-10%. Most (95%) is inert waste (waste from ceramics, demolition of buildings, plaster, plaster, crushed concrete, iron, steel, other metals, wood, plastic, paper, etc.) and minor hazardous waste (e.g. binder for asphalt or waste containing asbestos, which requires special control and processing). There is no systematic monitoring of the characteristics and flows of construction waste.19

3.3.5 Biodiversity and nature protection

The great biodiversity of Republika Srpska is attributed[20] to its diverse geography. The Red List of Endangered Species of Flora of Republika Srpska includes 818 species of vascular plants, showcasing the region's richness. The area is home to a wide variety of forests, some notable such as Peruscica primeval forest inside Sutjeska National Park, sub-endemic Bosnian pine forests in Orjen Nature Park in Municipality of Trebinje[21]. Additionally, the area of Istocno Sarajevo is home to several endangered and protected plant species such as Arnika montana, Lycopodium clavatum, and Gentiana lutea.[22]

Just as plant, the fauna biodiversity in the region of Republika Srpska (RS) in Bosnia and Herzegovina is rich and diverse. The area is home to a variety of invertebrates, including 25 dragonfly species and the protected Rosalia alpina[23]. The region's surface waters host many species of fish, and also European crayfish, which are important indicators of healthy water ecosystems. Presence of invasive fish species in the rivers is a growing concern[24]. With at least 230 bird species, the region is ornithologically significant as well as attractive for birdwatchers (and related tourism development). Notable species include the golden eagle, peregrine falcon, rock partridge (endemic) and black grouse. Nesting species at IBA site Bardaca in the northern RS that are of conservation concern include purple heron, black-crowned night heron, and other. little egret, common little bittern, squacco heron, glossy ibis, Euroasian spoonbill, common tern and whiskered tern[25]. The Drina River has been confirmed as a corridor for the migration of bats.[26].
The area is also home to various mammals, such as the brown bear, Eurasian wolf, and European otter, all of which are endangered.[27] The conservation of these species is crucial, and continuous monitoring is needed to ensure their protection. Development of infrastructure especially habitat and migration routes fragmentation can further deteriorate their living and number.

Nature protection

[19] World Bank, Swedish International Development Agency, in BiH; Municipal Solid Waste Management Sector Review: Strategic Directions and Investment Planning up to 2025, 2018

[20]Nase ptice (2012). Program IBA – Medjunarodno znacajna podrucja za ptice u BiH. [IBA Programme – Important Bird Areas of International Importance in BiH]. Avaliable at: https://ptice.ba/wp-content/uploads/2018/04/Program-IBA-Medjunarodno-znacajna- podrucja-za-ptice-u-BiH.pdf [in Bosnian].

[21] As of September 2020, after proclamation of Orjen-Bijela Gora Nature Park (www.nasljedje.org)
[22] http://www.opstinasokolac.net/dokumenti/planoviprogrami/LEAP-opstinasokolac.pdf
[23] Pavlek, M., & Ozimec, R. (2009). New cave-dwelling species of the genus Troglohyphantes (Araneae, Linyphiidae) for the Croatian fauna. *Nat. Croat.*, 18*(1)*, 29-37.
[24] International Sava River Basin Commission (ISRBC) in cooperation with the Parties to the Framework Agreement on the SRB (2009). The Sava River Basin Analysis Report, Zagreb
[25] Nase ptice (2012). Program IBA – Medjunarodno znacajna podrucja za ptice u BiH. [IBA Programme – Important Bird Areas of International Importance in BiH]. Avaliable at: https://ptice.ba/wp-content/uploads/2018/04/Program-IBA-Medjunarodno-znacajna-podrucja-za-ptice-u-BiH.pdf [in Bosnian].
[26] Project *Researching bat fauna of Kozara National Park*
[27] http://www.opstinasokolac.net/dokumenti/planoviprogrami/LEAP-opstinasokolac.pdf

Systemic monitoring of surface water quality in the Republic of Srpska is carried out in accordance with the Law on waters of the Republic of Srpska, ("Official Gazette of the RS" No. 50/06 dated 31.05.2006 and 92/09 dated 16.10.2009) by the Decision on determining regional river basins and basins in the territory Republika Srpska, Regulation on Water Classification and Categorization of Watercourses, ("Official Gazette of RS" No. 42/01) Framework Directive on EU Waters and other relevant directives and by-laws.

Monitoring of water quality is carried out on an annual basis and the results are published on the website of JU Voda Srpske Water quality monitoring of watercourses in the Republika Srpska is carried out at certain locations "profiles" water bodies preliminarily defined in the Regional River Basin Management Plans of the Sava River I of the Trebišnjica river, and are necessary for:

1. Assessment of the status of water bodies of surface waters,
2. Supplement and validation of the risk assessment procedure,
3. Fulfillment of international obligations of Bosnia and Herzegovina and Republika Srpska,
4. Assessment of long-term changes in natural conditions,
5. Assessment of the pollution load caused by polluters crossing international borders.

For sharp partial extraction, the non-extraction system used in Bosnia and Herzegovina showed that the plant contained residual released chemicals, whereas the polyprecursors themselves provided the necessary controls for the analysis of plant and mineral organic matter.

Protected areas

In accordance with the current legislation, the area under protection is 48,822.63 hectares, which covers 2.96% of the RS territory[28]. In total, 27 areas are protected: two nature reserves (IUCN category Ia), three national parks (IUCN category II), 14 nature monuments (IUCN category III), two protected habitats (IUCN category IV), three nature parks (IUCN category V) and three areas with sustainable use natural resources (IUCN category VI). Protected areas in RS are shown in *Figure 10* and *Table 3*.

Spatial Plan of RS (2015-2025) envisages further establishment of a total of 310 protected areas with spatial coverage of 15-20% of the area of RS.

[28] Republic Institute for Protection of Cultural, Historical and Nature Heritage; As of September 2020, after proclamation of Orjen-Bijela Gora Nature Park (www.nasljedje.org)

Table 3: Protected Areas in RS with IUCN category and surface

No.	Name of protected area	IUCN Category	Area in hectares
1.	Lom Virgin Forest Strict Nature Reserve	I a	295,00
2.	Janj Virgin Forest Strict Nature Reserve	I a	297,82
3.	Sutjeska National Park	II	3.907,54
4.	Kozara National Park	II	16.052,34
5.	Drina National Park	II	6.315,32
6.	Ljubacevo Cave Nature Monument	III	45,45
7.	Zuta Bukva Nature Monument	III	27,01
8.	Orlovaca Cave Nature Monument	III	0,50
9.	Rastusa Cave Nature Monument	III	11,39
10.	Jama Ledana Nature Monument	III	28,26
11.	Vaganska Cave Nature Monument	III	12,00
12.	**Djatlo** Cave Nature Monument	III	43,42
13.	**Pavlova Pecina** Nature Monument	III	13,40
14.	**Girska Cave** Nature Monument	III	25,37
15.	Pecina Pod Lipom (Cave) Nature Monument	III	6,10
16.	Ledenjaca Cave Nature Monument	III	7,40
17.	**Great Cave Nature Monument**	III	820,92
18.	**Kuk Cave Nature Monument***	III	- ***
19.	**Lijevcanski Knez Nature Monument**	III	0,34
20.	Protected Habitat Gromizelj	IV	831,30
21.	Protected Habitat Tisina	IV	196,49
22.	Una Nature Park	V	2.772,60
23.	**Cicelj** Nature Park	V	330,76
24.	**Orjen** Nature Park	V	16.715,83
25.	"University City Banja Luka" Protected Area for Sustainable Use of Nature Resources	VI	27,38
26.	Slatina Forest Park	VI	35,73
27.	Jelica Brdo Forest Park	VI	2,96

*exact area has not been made official as of November 2020

Additional four protected areas in RS are envisaged by the ongoing project implemented by UNEP in BiH[29]:

1. Orjen-Bijela Gora,
2. Cave of the Mokranjska Miljacka Spring,
3. Cave system Govjestica,
4. Tisina.

There are a total of 11 Key Biodiversity Areas (KBA) in BiH out of which five are found in RS. These sites have qualified for KBA as IBA sites as a site identified in the CEPF Ecosystem Profile of the Mediterranean Hotspot[30]. Bardaca is the only IBA and Ramsar site in RS, while the other four KBA are characterized as potential biodiversity hotspots: Dabarsko and Fatnicko fields, Trebinjsko lake, Orjen-Bijela Gora and North Travunija. North Travunija covers the area of Popovo field and river Trebisnjica and part of this KBA is in FBiH.

Former Nature Protection Law of RS [31] is harmonized with the respective EU Directives on Habitats and on Birds[32].

[29] Project *Achieving Biodiversity Conservation through Creation and Effective Management of Protected Areas and Capacity Building for Protection of Nature in BiH*
[30] *Avaliable at: https://www.cepf.net/sites/default/files/mediterranean-basin-2017-ecosystem-profile-summary-english.pdf*
[31] Nature Protection Law of RS – Official Gazette of RS, No. 20/14
[32] Directive 2009/147/EC, and the Directive 92/43/EEC

Natura 2000 Network/ RS ecological network

A total of 62 potential Natura 2000 sites have been identified in RS[33]. They cover 11.96% of RS territory (Figure11 in the Annex 11). Considering the fact BiH is not part of the EU, Natura 2000 sites are still not mandatory for preservation management in RS. Nevertheless, they have been made a part of the RS ecological network[34]. With the formal processes of Natura 2000 designation in BiH and entities as the county approaches EU Candidate status, it is expected that the numbers and surface area of protected areas will increase.

Table 4: Potential Natura 2000 sites in Project municipalities

Project Municipality	*Potential Natura 2000 Area*	
	Code	*Name*
Laktasi	BA7300002	Bardaca-donji Vrbas
Istocno Sarajevo	BA7300033	Jahorina-Ravna planina
	BA7200003	Bentbasa-Miljacka
	BA7200011	Crepoljsko-Bukovik
	BA7200074	Romanija
Zvornik	BA7300096	Zvornicko jezero
Prnjavor	BA7300070	Ribnjak Prnjavor
Trebinje	BA7200076	Sozina
	BA7300054	Orjen-Bijela gora
	BA7200090	ViduSa
	BA7300062	Popovo polje-Vjetrenica

3.3.6 Cultural heritage

The cultural waves on the territory of today's RS region have interlaced and reconciled, manifesting the specific historical coexistence and resulting of great cultural diversity. The monuments and remains are present that date from Illyrian civilization, Roman Empire, Ottoman Empire and later, the Austro-Hungarian Monarchy, Kingdom of Yugoslavia and Socialist Yugoslavia. There are many cultural and historical sites in the RS including old fortresses, mosques, churches, monasteries, old towns, memorials and other sites and structures having archaeological, historical, architectural, religious significance, as well as natural sites with cultural values. According to the List of National Monuments of BiH, there are over 200 cultural heritage sites registered in RS.[35]

RS has one property inscribed on the World Heritage List which is the Mehmed-Pasha Sokolovic Bridge in Visegrad. As of 2020, BiH has recorded ten sites on the tentative list, of which one is located in RS.

Cultural heritage is identified and recorded in the List of National Monuments of BiH (available at web pages of Commission to Preserve National Monuments of BiH, List of National Monuments of BiH).

3.3.7 Soil quality

According to Soils of Republika Srpska (Kapovic Solomun, M., Markovic, M., 2022) Republika Srpska has a very heterogeneous

[33] Project Support to Implementation of the Birds and Habitats Directives in Bosnia and Herzegovina

[34] Amendments to Spatial Plan of RS by 2025

[35] Commission to Preserve National Monuments of BiH, List of National Monuments of BiH

land cover, different in the way of formation, depth, physical, chemical and biological characteristics, fertility, classification, but also in production capacity. In RS, the basic soil types are brown soils, litisol, alluvial soils and black soils.

Soil pollution may be affected by inappropriate agricultural practices, including the uncontrolled and inadequate use of fertilisers and pesticides, as well as the lack of quality control of water used for irrigation. The sporadic occurrence of heavy metals in the soil is the result of untreated leachate from landfills and mining and energy facilities. Soil pollution is present in areas of intensive industrial activity, inadequate landfills, mines, as well as in places of various accidents. The application of mineral fertilisers and pesticides in RS is constantly increasing, and lands in areas of intensive agricultural production are at the highest risk of this type of pollution. Land degradation that occurs under the influence of mineral exploitation and disposal of industrial waste. There is also the occurrence of natural soil acidification, as well as the one caused by emissions, which negatively affects the properties of the soil and the green cover. An additional source of pollution is the deposition of pollutants from the exhaust gases of motor vehicles along roads, especially motorways and main roads.

3.3.8 Climate change

In 2010, BiH declared climate change a threat[36]. Climate change in BiH, as well as RS, brings more extreme weather conditions, changes in weather patterns, and higher temperatures consequently causing increased incidents of floods, droughts, soil erosion and landslides, forest fires and other catastrophes, therefore they have a direct impact on the population, infrastructure and economy of BiH. As solving this problem is strategically important to BiH, but also to RS as an integral part thereof, the Strategy for Adaptation to Climate Change and Low Emission Development for BiH was first adopted in June 2013, and its updated version for the period 2020-2030 was adopted in December 2022.

3.3.9 Air quality

The air quality in the Republic of Srpska is influenced by urbanization, industrialization, traffic, geography, climate, and meteorology. It is categorized based on pollution levels according to the Regulation on Air Quality Limits and measured results. The main sources of air pollution are thermal energy facilities, oil refineries, chemical industry facilities, fuel combustion, traffic, construction, inadequate storage of raw materials, and landfills. The air quality is mostly in the 1st category, but in larger urban areas and near industrial sources, it can fall into the II category, especially in winter. This is due to factors such as low-quality heating fuels, adverse weather conditions, and outdated technologies.[37]

3.3.10 Mineral resources extraction

The extraction of minerals in Republika Srpska is a significant sector that contributes to the region's economy. The area is rich in a variety of minerals , including bauxite, quartz sand, as well as metals such as lead, and zinc[38], which are extracted from its diverse geological formations. The mining industry in Republika Srpska has a long history, with some mines dating back to the period of the Austro-Hungarian Empire. Reportedly, in Republika Srpska there are over 50 mines, however, data is largely not available to the public. Typically, the sand is sourced from riverbeds and alluvial deposits, where natural erosion processes have created fine grains suitable for diverse applications, including construction. The stone quarrying and sand production industries are vital to the economy of Republika Srpska, providing employment opportunities and contributing to the local and national economy through the sale of raw materials. According to the Law on Mining (OG 62/18), exploitation of raw mineral materials is possible exclusively with valid concession obtained. However, reports on exploitation without concession are frequent. The same law also mandates expert monitoring and technical management, a requirement that is reportedly increasingly difficult to fulfill due to a lack of experts.

36 Causevic et all, Bosnia and Herzegovina Climate Change Impacts and Risk, 2020
37 Agriculture Resilience and Competitiveness project ESMF, 2021
38 Boin, U., Schwartz, A., Brief Study: Mining and the Chemical Industry in Bosnia and Herzegovina, 2001

3.4 Project relevant socioeconomic baseline information

This section provides an overview of key socio-economic features for Project environmental aspects on the territory of RS, which is the overall Project scope. **The complete overview of environmental baseline is available in the Annex 3, including key nature and environmental features for the sub-component.**

3.4.1 Population and demographics

According to the official results of the census published by the BiH Agency for Statistics, in 2013 (which is also the last conducted census), the Federation BiH had 2,219,220 inhabitants (62.8% of the total population), Republika Srpska had 1,228,423 (34.8%), while Brcko District had 83,516 inhabitants (2.4%). Bosnia and Herzegovina, with 64 inhabitants per square kilometer in 2021[39], belongs to the group of countries with a low population density. RS accounts for 35% of population of BiH. As in many countries of developed world, BiH is experiencing aging of population, migrations and decline in birthrates resulting in decrease in population. However, according to the data of the Republic Institute of Statistics, the population of Republika Srpska is increasing.

Republika Srpska consists of 62 municipalities and two cities, Banja Luka and East Sarajevo (it consists of municipalities: East Stari Grad, East Ilidža, East Novo Sarajevo, Pale, Sokolac and Trnovo. The city of Brcko (with 38,479 inhabitants) is located in the Brcko District, which is under the joint administration of the Republika Srpska and the Federation of Bosnia and Herzegovina.

3.4.2 Education

According to Institute of Statistics, 50% of all employed persons in Republika Srpska work in the sections Manufacturing, Wholesale and retail trade; repair of motor vehicles and motorcycles and Public administration and defense; compulsory social security. Every second employed person has completed secondary education, and every fourth has completed a higher education school or has a university degree.

3.4.3 Production and employment

The labor market in Bosnia is facing challenges due to low employment levels and aging population. In 2022, the employment rate for people aged 15-64 was 44.7%, with significant differences between men (55%) and women (35%). This makes Bosnia one of the Balkan countries with the lowest female employment and labor force participation rates. [40]

The economy of Republika Srpska relies on agriculture, forestry, mining, and energy but lacks flexibility. Despite a decline in industrial production, the GDP saw a 3.9% increase in 2022, driven by growth in services such as wholesale and retail trade, arts, entertainment, transportation, and administration support.[41] The labor market also improved, with a decreased unemployment rate of 11.2% in 2022. The nominal net wages showed strong growth. In 2022, the structure of employed persons was: agricultural 13.4%, industrial (non-agricultural) 32.5%, and services 54.2%. In terms of employment type, 82.0% were wage employees, 15.5% were self-employed, and 2.5% were unpaid supporting family members. 42

Bosnia is relatively small country that exchange goods mostly with countries in the Region and the EU, which amplifies importance of good road connectivity for further economic viability and development. According to the European Commission Report for Bosnia and Hercegovina for 2023, the main export destinations for the BiH are still EU countries (predominantly Germany, Italy, and Croatia), but also CEFTA countries, such as Serbia. Between 2018 and 2023, trade moved towards the

39 World Bank population data pages (https://data.worldbank.org/indicator/EN.POP.DNST?view=chart-NA&locations=BA)
[40] ILO 2024 (https://www.ilo.org/ilo-bosnia-and herzegovina#:~:text=The%20share%20of%20informal%20employment,cent%20(ILO%2C%202024).)
[41] Institute for Statistics of Republika Srpska; This is Republika Srpska, 2023
[42] Ibid

neighboring region, especially Croatia and Serbia. Share of exports in EU in the total export of goods increased from some 71.4% in 2017 to 73.5% in 2022. Exports to CEFTA countries also increased their share of total exports, from 16.1% in 2017 to 18.3% in 2022. In addition, according to RS Institute for Statistics, tourism traits are rapidly increasing especially in the realm of sports tourism (rafting and kayaking, skiing), and again, large proportion of tourist are coming from the Region – Serbia, Montenegro and Croatia, as well as the resto of the EU.

Although the need for communication and the transportation of goods and people can, in general, be fulfilled by other means of transport, such as railways and river transport, the topography and hydrogeology in most of RS do not support these alternatives. Steep terrains, shallow rivers with karst features, and other landscape characteristics significantly increase the costs of such investment endeavors, making them realistically unattainable. This points to road transport as the most economically viable option for transportation in this region.

3.4.3.1 Transport sector

The road infrastructure of the Republic of Srpska and Bosnia and Herzegovina is crucial for the flow of goods at both the republic and regional levels. However, due to war and administrative changes, traffic flows have been rerouted, leading to an inadequate road network. The road network in the region is among the least developed in Europe, evident from its low density and technical shortcomings. Although significant efforts have been made to modernize the roads, the current condition does not meet the increased demand. The poor construction of roads and limited connections with neighboring countries further contribute to the network's unfavorable functionality. Additionally, certain local roads gained traffic importance with a new administrative division but have not been recategorized. The road network in the Republic of Srpska consists of highways, main roads, regional roads, and local roads, with a total length of approximately 10,100 kilometers.

3.4.3.2 Tourism

In 2022, tourism made a strong recovery after the COVID-19 pandemic was finally declared over. According to Institute of Statistics of RS, a new record in overnights was se: over one million tourist overnight stays in RS was recorded in 2022, for the first time (since the data collection commencement in 1997); 53% of overnight stays were by domestic tourists, while 47% were by foreign tourists. The number of tourist arrivals increased by 49.1% compared to 2021, and the number of overnight stays increased by 38.5%; however, overnight stays by foreign tourists were a bit more modest and increased by approximately 11% compared to 2021. Republika Srpska continued to provide support for the tourism sector by offering tourist vouchers for its citizens and introducing various aid and support measures. Serbian tourists accounted for the highest number of stays, followed by tourists from Croatia, Slovenia, Montenegro, Germany, Turkey, Austria, and Italy.[43]

3.4.4 Poverty

According to the 2017 Social Inclusion Report, a large share of BiH population is affected by poverty. Children, people with low education, elderly and weak, as well as rural population are the ones who are most likely to live below poverty line. As production declines in the agricultural (hence rural) sector where educational levels are traditionally lower, and with the aging population and decline in population, consequently the risk of poverty is likely to increase in the rural areas of RS. Therefore, enhancing connectivity of such areas to urban settlements and larger markets (than the reachable local ones) especially in the areas where alternatives are not available (e.g. for infrastructure investments are too costly) that is expected to take place under this Project is of great importance. Connectivity can present a boost to economy (either as passive or active expansion of markets), increased earning and an important tool for poverty reduction.

[43] Institute for Statistics of Republika Srpska; This is Republika Srpska, 2023

Unemployment rates show that in 2022 % total unemployment was 11.2%, male 9.0%, and 14.3%, meaning that women unemployment is 50% higher than men. By sector, the employment distribution in 2022 includes employed in agriculture that amount to 13.4%, in industry (non-agricultural) 32.5% and services 54.2%. By type of employment, employed persons working for a wage (employees) created 82.0% of all employed, self-employed persons 15.5% and unpaid supporting family members 2.5%.[44]

3.4.5 Labor and Occupational Health and Safety (OHS) issues

Breaches of labor legislation and occupational health and safety legislation are fairly common in BiH, and RS. About 20% of total employment in BiH is informal[45], with young, old, unskilled workers, and those in the agricultural sector being most affected. The RS Administration for Inspection Affairs' report for the first half of 2019 revealed that 32% of inspected organizations violated labor laws. This led to 198 workers being found without proper employment contracts and social insurance, and 42 serious work-related injuries, including 5 deaths. Common breaches included payment issues, contract terminations, excessive working hours, absence of employment contracts, and holiday entitlements. The under-declaration of wages and unregistered wages, mainly in construction and cash-intensive sectors, is also a concern. Furthermore, the informal economy, accounting for about 35% of BiH's total GDP[46], is a significant issue, especially for vulnerable groups like Roma, women, and the elderly. Informal employment is substantial, with informal work accounting for a substantial share of the GDP, indicating a high prevalence of informal employment as well.

According to the Employment Office of Republika Srpska, 2,034 work visas were issued for foreign nationals in the first ten months of the 2023, and most of these permits were issued to citizens of Turkey, Serbia, and Bangladesh.

Work permits are usually issued for a period of one year, but there are also those that are issued for a period of up to 90 days when it comes to temporary and casual jobs.

The annual quota of work permits for foreign citizens for 2013 in the Republic of Srpska is 1,400, of which 1,000 are new and 400 are extended work permits. In the middle of last month, the Management Board of the Employment Office of the Republic of Srpska made a decision on changes to the decision on establishing work permit quotas for the employment of foreigners and stateless persons.

[44] Ibid

[45] ILO 2024 (https://www.ilo.org/ilo-bosnia-and herzegovina#:~:text=The%20share%20of%20informal%20employment,cent%20(ILO%2C%202024).)

[46] Regional Cooperation Council, Policy Brief on Undeclared Work in Bosnia and Herzegovina, 2018

3.4.6 Gender-based Violence, Sexual Harassment, Sexual Exploitation and Abuse

According to the findings from the research conducted by OSCE55 in 2018, the issue of violence against women is a fairly widespread concern in BiH. This study emphasizes that just under half (48%) of women in BiH have experienced some form of abuse, sexual harassment since the age of 15. More specifically, nearly four in ten (38%) say they have experienced psychological, physical or sexual violence since the age of 15 at the hands of a partner or non-partner (RS: 39%)[47].

Based on the OSCE research on Gender-based violence in 2019 men are cited as the main perpetrators of sexual harassment. Women who reported experiencing sexual harassment they most often point to unknown perpetrators (62%), followed by friends, acquaintances or neighbors (29%), or some other person they know, who not listed in the available categories (23%). Someone from work (colleague or boss) stated 17% of women who were exposed to sexual harassment. According to the employment status victims of sexual harassment are mostly self-employed (43.2% had such experience), students (40.3) and housewives (38.2), while amongst on-salary employed 24% experience sexual harassment. Temporary employed (e.g. in bakeries) and poor are in greater danger of this type of violence. More than one third (32.5%) of women affected by very severe due to lack of income stated that they experienced sexual harassment, in compared to 26.5% of women who said they were comfortably off their current ones of income[48].

BiH has ratified or inherited a number of international commitments on gender equality and GBV prevention, including the UN Convention on the Elimination of All Forms of Discrimination against Women (1980) and the Council of Europe's Istanbul Convention on Preventing and Combating Violence against Women (ratified in 2014).

However, so far the term 'femicide' has not entered RS legislation; There is no definition of femicide as such in the criminal of the RS. The murder of women, because she is a woman is considered "aggravated murder" and is punishable with the maximum sentence defined by the law. , At the same time, the RS Criminal Law includes an article stating that a hate crime is one that is committed, among other things, because of the "gender identity of a person".

3.4.7 Vulnerable Groups

Disadvantaged / vulnerable individuals or groups are potentially disproportionally affected and less able to benefit from opportunities offered by the project due to specific difficulties to access and/or understand information about the project and its environmental and social impacts and mitigation strategies. Such groups are also more likely to be excluded from the consultation process. It also includes groups who may be difficult to reach due to communication barriers (language, illiteracy) and those who are in the informal housing market or informal economy and those who are very poor and may find it hard to pay regular tariffs.

Disadvantaged / vulnerable individuals or groups in the project area include low-income households[49]; women; youth; women-headed households; elder-headed households (≥ pension age) without any other household member bringing in income; persons with limited mobility; or persons with disabilities; women in rural communities, low-educated and illiterates, Roma groups, individuals and habitat communities. Low income households standard or tresholds are not defined in the regulatory framework of RS, therefore, it will be defined in the site specific instruments for each subproject. Various types of barriers may influence the capacity of such groups to articulate their concerns and priorities about project impacts.

The Roma community (assessed to number 3000 in RS) is generally categorized among the most vulnerable social groups in Bosnia and Hercegovina, and Roma women, in particular, as they are less educated than Roma men, consequently with less choices for employment, to earn a living or live independently. They are often employed informally, if at all.[50] Illiteracy is substantial amongst this population thus communication, citizen engagement and consultations require culturally

[47] OSCE-led Survey on Violence Against Women, BiH Results Report, 2019

[48] Ibid.

49 Low-income household is a household with total earnings of all its members that is lower than a certain standard and cannot meet their basic household needs; usually the standard is set as average, median, percentage of average or median, or measured against a consumer basket.

[50] ROMED Country Assessment - BiH

appropriate methods. However, Roma is not homogeneous population in Bosnia and further site-specific social analysis will be needed to establish the level of vulnerability, ways the Project will impact Roma population, and if at all. The same apply for the language of engagement - Roma Population in the RS predominantly speak Bosnian language.

Two alphabets are used in Republika Srpska and Bosnia and Herzegovina and all documents require version in Cyrillic and Latin.

Vulnerable groups within the communities affected by the project, and site-specific sub-projects, will be further confirmed and consulted through dedicated means, as appropriate. Description of the methods of engagement that will be undertaken by the project is provided in the SEP developed for this Project.

4 Regulatory, Policy and Institutional Framework

4.1 Policy overview

4.1.1 Waste management

The Waste Management Strategy of Republika Srpska was prepared for the period 2017-2026. This strategy is a fundamental document used to assess the current status of waste management, set long-term goals, and establish conditions for rational and sustainable waste management in Republika Srpska. Although Bosnia and Herzegovina (BiH), and consequently Republika Srpska (RS), are not yet obligated to apply the objectives from the European directives regarding waste management, the Strategy recommends gradually incorporating the requirements and standards of the EU into the legislation of the Republic concerning this area.

The Waste Management Strategy for Republika Srpska:

- Establishes a framework for sustainable handling of waste, aiming to reduce the amount of waste produced and promote sustainable waste management practices,
- Directs efforts toward adopting legal regulations and by-laws aligned with EU legislation,
- Specifies responsibilities for waste management,
- Sets short-term and long-term goals for waste management, along with measures and guidelines to achieve these goals,
- Determines the financing of measures for establishing a waste management system.

The Waste Management Plan (WMP) of the Republic of Srpska is a document that outlines and steers the waste management activities, based on an analysis of the current state and the goals of waste management as determined by the Waste Management Strategy of the Republic of Srpska 2017-2026. The Ministry of Spatial Planning, Construction, and Ecology of the Republic of Srpska (MPUGE RS), in collaboration with local self-government units (LGUs), prepared the Republic Plan, to be adopted by the Republika Srpska, and subsequently approved by the National Assembly of the Republic of Srpska. The MPUGE RS prepares a report on the implementation of the WMP every three years and submits it to the Council of Peoples for adoption. This Republic Plan is prepared in accordance with Article 18 of the Waste Management Law ("Official Gazette of the Republic of Srpska", no. 111/13, 106/15, and 16/18) and is fully compliant with European Union regulations. It is valid for the period 2019-2029. According to the Law, waste management is based on several principles: choosing the most suitable options for the environment, proximity and a common approach to waste management, hierarchy of waste management, responsibility, and the "polluter pays" principle. Further, the Law requires from the waste management system to ensure minimal risk to the life, health of people, and the environment. In addition to the waste management activities in the narrow sense, WMP includes control and protection measures focused on water quality, air, and land pollution, as well as avoiding and mitigating potential dangers to flora, fauna, accidents, explosions, fires, and negative impact on areas and natural assets of special value, along with noise and unpleasant odors.

Waste management is considered an activity of general interest. It includes measures for waste collection, transport, storage, treatment, and disposal, as well as supervision of these activities and the care of waste management facilities after closure.

Waste management is organized in 8 regions. According to WMP There are currently 5 regional landfills in operation in the Republic of Srpska: Banja Luka, Bijeljina, Zvornik, Prijedor and Doboj, which covers a total of 36 municipalities. Sanitary landfills are in Banja Luka, Zvornik and Bijeljina. The landfills in Doboj and Prijedor are not sanitary, but they are an approved program of measures with adjustment dynamics that will improve these landfills in sanitary. Regional landfill receives municipal waste and non-hazardous industrial waste (5% in Banja Luka).. Biodegradable waste is not segregated at landfills. In the Republic of Srpska, there are only two sorting plants for pre-separated secondary raw materials, that in Doboj, as well as a simpler line with a small capacity (1.5 t/h) at the landfill in Banja Luka. The sorting plant in Doboj has (temporarily) stopped working due to high costs.

4.2 Overview of Regulatory Framework

The applicable and relevant legislation regulating the field of environmental protection, physical planning, occupational health and safety, labor rights and cultural heritage is fairly developed. However, it is to the large extent outdated (some date from the 1980s, passed by the Socialist Federative Republic of Yugoslavia), not EU harmonized, and still does not cover all environmental and social aspects of the Project (e.g. removal, management and transport of special wastes such as asbestos, public consultation requirements, and more). This is why reliance on Borrower's framework is not recommended. The table 5 provides overview of the E&S regulatory requirements relevant for the Project.

Table 5: Overview of key E&S regulation requirements

Aspect	Name of the regulation	Relevant regulatory E&S requirement
Environmental and Construction Regulation		
Roads construction, rehabilitation, etc.	Law on Spatial Planning and Construction Republic of Srpska (OG 40/13, 2/15, decision 106/15, 3/16, 104/18, 84/19)), Law on Public Roads Republic of Srpska (OG 89/13), Law on Survey and Cadaster Republic of Srpska (OG 6/12),	For construction or reconstruction of roads, it is **necessary to obtain Site Requirements, Construction Permit and Use Permit**, which are issued by the Ministry of Spatial Planning, Civil Engineering and Ecology RS. Within the procedure of obtaining Site Requirements, it is necessary to design a planning document called Urban-technical Conditions with a Subdivision Plan. The Subdivision Plan prescribes the conditions under which land expropriation will be carried out in accordance with the Law on Survey and Cadaster Republic of Srpska. Rehabilitation of the roads does not require these permits since the geometry of the route is not changed.
	Environmental Protection Act (OG 71/2012, 79/2015 and 70/2020)	**The law applies to the protection and improvement of the environment and outlines the scope of activities that require environmental impact assessment (EIA).** It applies to all elements of the environment including air, water, land, flora, fauna, landscape, and built environment. This law requires protection and improvement of the environment by the Republic, local self-government units, companies, entrepreneurs, associations, foundations, legal and natural persons, professional organizations, and public services. It mandates that EIA is determined, described, and evaluated appropriately considering the direct and indirect significant impact of the project on identified elements and factors. The law also defines the applicability and exclusions to EIA and requires a safety risk assessment for projects that may cause significant accidents. The EIA procedure consists of two phases: a preliminary phase to determine if an assessment is needed and to define the scope of the assessment, and a mandatory phase for certain types of

		investments, such as the construction of motorways, hazardous waste infrastructure, non-hazardous waste infrastructure, and other specified projects. The law also empowers the RS Ministry of Physical Planning, Civil Engineering and Ecology to determine whether an EIA is needed and the scope of EIA for specific projects. It also outlines the types of projects for which an EIA is mandatory and those for which the Ministry determines the necessity of an EIA. Additionally, the law specifies that the RS MPPCEE may require EIA for projects such as construction of roads, ports, dams, viaducts, erosion prevention works in coastal areas, waste management facilities, quarries, mining operations, and activities in areas regulated by legal acts concerning nature protection, cultural and historical heritage protection, and water protection.
Environmental Impact Assessment (EIA)	Environmental Protection Act (OG 71/2012, 79/2015 and 70/2020); Rulebook on projects for which environmental impact assessment is carried out and criteria for deciding on the obligation to carry out and scope of environmental impact assessment (OG 124/12) Instructions on the content of the environmental impact study (OG 108/13)	The Law defines projects for which an EIA is mandatory, projects for which the RS Ministry of Physical Planning, Civil Engineering and Ecology (RS MPPCEE) determines whether an EIA is needed, and the criteria based on which RS MPPCEE determines in individual cases whether EIA is needed and the scope of EIA. **Mandatory EIA for investments relevant to the Project include:** - construction of motorways and fast roads, - construction of motorways and roads with four or more lanes, or reconstruction and/or expansion of an existing road with two lanes or less, with the aim of construct a road with four or more lanes, in the event that such a new road or reconstructed and/or expanded section has a continuous length of more than 10 km or more, including associated facilities, except for the accompanying contents of the main road, - hazardous waste infrastructure: plant for burning hazardous waste, the facility where the chemical treatment is carried out, hazardous waste landfills (relevant for compliance of service suppliers), - Non-hazardous waste infrastructure: incinerator capacity 50t/day or more, facility for biologically, physically and/or chemical treatment not so much that it falls off, capacity 50t/day or more, landfills with disposal capacity of 50t/day or more, co-incinerating facility (relevant for compliance of service suppliers). **The RS MPPCEE may also require EIA for:** - construction of roads, ports and port facilities, including the fisherman's docks, - dams and other objects for long term water retention or accumulation, - construction of viaducts of significant length, - works to prevent erosion in the coastal areas and works on the coast, which is changing the shape of the coast due to construction (embankments, quays, harbor embankments

		and other defenses - non-objective), excluding maintenance activities and reconstruction of such facilities, - construction of regional roads and priority (magistral) roads over 10 km of length, - waste management facilities such as landfills and warehouses of hazardous waste (capacity up to 10 t per day), landfills and warehouses for non-hazardous waste (capacity up to 50 t per day), treatment of non-hazardous waste (all but included in the List 1), municipal waste landfills (capacity up to 10 t per day, waste treatment by mechanical and/or biological procedures (all projects), installations for animal waste (carcasses or byproducts) incinerating, landfilling or processing (relevant for compliance of service providers), - quarries, surface mining and peat bogs exploitation (relevant for service providers compliance), - operations in areas regulated by legal acts which regulate the protection of nature, the protection of cultural and historical heritage and water protection (natural protection of areas, national parks, natural monuments, protected landscapes, protected European networks, and protected habitats of wild plant and animal species, water catchment protected areas, locations of historical, cultural and archaeological importance.
Environmental permitting	The Regulation on Plants and Facilities that May be Constructed and Operated Only with a Valid Ecological permit[67] (the RS Regulation on permitting).	**Defines projects for which ecological permit is mandatory.** Ecological permit is not mandatory for any of the infrastructure or activities that will be supported under this Project; However, significant suppliers may be subjects to Environmental Permitting. Therefore, valid Environmental Permit (if required under this Regulation) is a precondition for contracting (it also includes other permits such as waster, concessions for mineral extraction, etc.). All suppliers who deliver concrete, asphalt base or stone must have an environmental permit and a waste management plan.
Waste management	Law on Waste Management (OG 111/13, 16/1870/20, 63/21)	Waste management must be carried out in a manner that minimizes the risk of endangering people's lives, health, and the environment. This involves monitoring and implementing measures to reduce: a) water, air, and soil pollution b) harm to plant and animal life c) risks of accidents, explosions, or fires d) negative impacts on special natural areas and assets e) levels of noise and odors.

		The Law requires that waste should be categorized and collected separately according to the waste catalog, which is a comprehensive list of non-hazardous and hazardous waste based on its place of origin, source, and intended handling method. Hazardous waste is classified based on its origin, properties, and composition that make it hazardous. If necessary, the waste owner must conduct an examination to determine the composition and hazardous properties of the waste. The manufacturer or importer of a product that becomes hazardous waste after use is responsible for taking over that waste at no cost and managing it in accordance with the law and other regulation. **The waste producer is obligated to**: a) develop a waste management plan through authorized entities that comply with environmental protection requirements and oversee its implementation b) adhere to waste management hierarchy principles c) separate waste collection for future processing d) store waste in a manner that minimizes its impact on human health and the environment e) transfer waste to an authorized waste manager if unable to organize its disposal f) maintain records of generated waste g) appoint a person responsible for waste management h) allow inspectors to monitor the site, facilities, plants, and documentation. The individual responsible for waste management must: a) organize the implementation and updates of the waste management plan b) propose measures for waste prevention, reduction, reuse, and recycling c) monitor compliance with waste management laws and regulations and report to relevant authorities. The ownership of the waste is transferred when it is handed over to the waste contractor, and a waste manifest document is received in line with the law. **The costs of waste management rest entirely with the waste owner.** Waste carriers are required to: a) transport waste in accordance with the waste transport permit and regulations such as ADR/RID/ADN b) maintain records of each waste transport, including for hazardous waste c) allow inspectors to monitor vehicles, cargo, and accompanying documentation. If there is no other suitable solution, waste is disposed of at a landfill following the waste management hierarchy principle, and in compliance with technical, technological, and other requirements, approved by a permit issued under the law. Ownership of waste ends when it is handed over to the waste proprietor. The waste carrier must transport waste in accordance with permits and keep detailed records of each waste transport. Waste disposal at landfills is permitted

		only if no other suitable solution exists, and it must comply with specific conditions and requirements. The movement of waste must be accompanied by a special document on the movement of waste, except for household waste. Before the waste movement begins, the waste producer or owner must sort the waste. The producer or owner should retain copies of the waste dispatch document until a copy of the completed waste transfer document is received from the recipient, confirming receipt of the waste. If the producer or owner does not receive a copy of the completed waste movement document within 15 days, they must initiate a procedure for checking the movement of waste and inform the Ministry. This law places the responsibility for waste management costs entirely on the waste owner. Additionally, Bosnia and Herzegovina, including RS, is a signatory of the Basel Convention. . The producer or owner should keep the completed waste movement document for at least two years. **Only subjects to obtaining an ecological permit must prepare and adopt a Waste Management Plan.**
Nature Protection	Nature Protection Act (OG 20/14, 22)	The law requires that everyone undertake activities or the performance of activities contributes to the protection and improvement of nature, biological, geological and landscape diversity, preservation of generally useful functions of nature and natural balance Competent authority is RS MPPCE who prescribes norms, general objectives and goals for nature protection, protection of geological formations, nature, landscapes and other environmental and nature components. The Law also requires application of precautionary principle. The project holder, that is, a legal entity, an entrepreneur and a natural person who uses natural resources, performs construction and other works, activities and interventions in nature is obliged to act in accordance with the measures and conditions of nature protection established in the plans, foundations and programs and in accordance with the project-technical documentation, in such a way as to avoid or reduce/mitigate risk to damage to nature. Legal entity, entrepreneur and natural person after the termination of works activity is obliged to carry out remediation, i.e. recultivation in accordance with this law and other regulation. If in the process of issuing conditions for nature protection (including EIA) it is established that there is a probability that plans, bases, programs, projects, works and activities can have a significant impact on the conservation goals and integrity of the ecologically significant area, the Ministry (RS

		MPPCE) that is, the department of the local self,-government unit responsible for environmental protection affairs, conducts the acceptability assessment. In the event that, based on the acceptability assessment, it is determined that plans, bases, programs, projects, works and activities may have a significant impact on the conservation goals and the integrity of the ecologically significant area, the competent authority will refuse to grant consent. In the case when, based on the acceptability assessment, it is determined that the plans, foundations, programs, projects, works and activity can have a significant impact on conservation goals and integrity ecologically significant area, however, the public interest is prevailing - the competent authority will grant the consent. Public roads and other types of roads, telecommunications and electric power systems, hydro-construction and other facilities, the construction of which intersects the usual corridors day-night and seasonal migrations of wild animals, or cause habitat fragmentation, or in any other way interferes with their normal life cycle, will build in a way that diminishes the negative effects and the application of special structural and technical-technological solutions on the buildings themselves and in their surroundings, during construction and in the period of exploitation. The Minister, with the consent of the ministry responsible for traffic and communications, the ministry responsible for industry, energy and mining affairs and the ministry responsible for affairs of agriculture, forestry and water management, issues a rulebook prescribing special technical-technological solutions that enable unhindered and safe communication of wild animals (ecological bridges, constructed passages and crossings, tunnels, permeable pipes, ditches, safety and guiding facilities, fishing lanes and elevators and others), as well as protection measures and method maintenance of technical and technological solutions. For technical solutions for construction of ecological/green bridges, passages and other infrastructure that enable unhindered and safe movement of animals, Putevi RS uses Guidelines for Design, Construction, Maintenance and Supervision of Roads, Book 1: Design, Section 1: Design of roads, Chapter 6: Rad and Environment (used by both entities). For these the facilities (roads), the administrative authority responsible for construction issues location permits conditions, taking into account special technical-technological solutions to address nature and biodiversity protection issues.

		The law also establishes Ecological Network of Republika Srpska as contribution to the future Natura 2000 EU network and protected areas.
Water management	Water Protection Act (OG 50/06,92/09,121/12 and 74/17)	In RS, the Law on Water of RS prescribes that in case of a project which includes e.g. construction of flood protection facilities, as well as any other activity which may affect volume and quality of water, the following water management acts must be obtained: Water Guidelines, which prescribes the terms and conditions under which the responsible Ministry will allow use of water (issued in the stage of Urban Permit and Site Requirements in RS, respectively). Water Approval, which confirms that the documentation attached to the Application for Water Approval is in compliance with the Preliminary Water Approval and Water Guidelines in RS respectively, water regulations and planning documents (issued before the Construction Permit in RS). Water Permit, which confirms that all the requirements set in the Water Approval are met (issued before the Use Permit in RS). The Water Permit defines purpose, terms and conditions of water use, facility and plant operating regime, terms and conditions of wastewater discharge, terms and condition of solid waste and liquid waste disposal and other terms and conditions. It also defines the applicant's obligations related to wastewater measurement, measurement frequency, quality control and records keeping on used water, as well as obligations related to water fees accounting and payment. In relation to suppliers, the Law on Waters of the Republika Srpska stipulates that the extraction and dislocation of material from the riverbed and water land is allowed only to the extent and in the manner in which the riverbed and water land are regulated or if it serves the implementation of protection measures, and in accordance with and on the basis of special studies and projects issued water legal acts in a way that does not significantly change natural processes, does not disturb the natural balance of the ecosystem or does not promote the harmful effects of water sedimentation on certain sections of the river and safer conveyance of water to recipients. The rulebook on conditions and methods of maintaining riverbeds, dislocation and extraction of material from watercourses was adopted by the Minister of Agriculture, Forestry and Water Management in 2022. According to this rulebook, the extraction and dislocation of materials from watercourses is carried out on the basis of the annual plan adopted by "Vode Srpska".
Geological research	Law on Geological Research (OG 64/22)	This law regulates the types of geological surveys, the conditions and methods of conducting geological surveys of mineral and other geological resources, as well as geological surveys for the purpose of drafting spatial planning documents, designing, construction of facilities, rehabilitation

		and reclamation of terrain, drafting and revision of programs and projects of geological surveys, professional examination, research area, preparation and revision of reports on reserves and reports on conducted research, cadastre of research areas, updating Geological Information System, Fund of professional documentation, Bank of cores of research wells and other related to the field of geological research. Investigative works and geomechanical studies are also carried out in accordance with this law. The implementation of geological research in the Republic is based on the following principles: 1) continuous supply of sufficient quantities of mineral raw materials necessary for the strengthening and sustainability of the market economy in the RS, 2) respecting the rules of the profession and applying the best methods and means in geological research in order to improve the sustainability of projects and general safety, 3) prevention of danger, damage or pollution of the environment, 4) guaranteeing the safety and compliance of investigative rights.
Social Regulation		
Occupational health and safety	Occupational Health and Safety Law	This law oversees the protection and health of employees while at work. The law mandates that it is the responsibility of those in charge to ensure safety and health improvements at work, as well as to define the rights, obligations, and responsibilities of employees. The law prescribes the responsibility of the employer to provide the worker with safe workplace and in the working environment. Other aspects covered by this Law include preventive measures, regulations for working safely in construction, with machinery, chemicals, and more. Under the Law, employers are required to conduct risk assessments for all workplaces and to determine methods and prescribe measures to eliminate risks. The rights regarding Occupational Health and Safety (OHS) extend to all employees and volunteers. The employer is obliged to ensure that the work process is adapted to the physical and psychological capabilities of the worker, and the work environment, means of work and means and equipment for personal protection at work be arranged, that is produced and ensured that they do not endanger the protection and health of workers and other persons. Exceptionally, the employer is not found responsible if the worker's injury occurred due to negligence or the end of careless handling of workers personal protective equipment or if the consequences are working oof the force majeure and could not be avoided despite all the protection and health measures taken.

		Elaborate/Study on Construction Site Management includes prescribed OHS measures which is Employer obliged to implement. The Law does prescribe mandatory OHS and fire safety trainings or expertise for employees and for Companies, but the Employer decides how OHS will be organized based on the size, shifts, technologies, etc. Minimal number of OHS experts e.g. per size of the company or types of processing is not defined. Reporting significant injuries and fatalities to the State Inspectorate is mandatory.
Fire safety	Law on Fire Safety 94/19	Fire protection includes a set of measures and actions of an administrative, organizational, material-technical, educational and propaganda nature, which are undertaken to prevent the outbreak and spread of fire, its detection and extinguishing, and the rescue of people, property and the environment threatened by fire. Fire protection is organized and carried out in all places and on all buildings that are exposed to the dangers of fire outbreak and spread. On the basis of this law, all constructions must have fire protection approval on the design documentation and fire protection approval after the construction of the building. The director of a business company or other legal entity, and designated employees are responsible for organizing and implementing fire protection measures, e.g. 1) inform all workers who are exposed to the risk of fire or may be exposed to the risk of fire, about the measures and actions that are taken, which relate to fire protection, 2) give instructions for workers to stop working in the event of a fire hazard and to go to a safe place. 3) In the event of a fire, workers may not be required to continue working in a situation where there is a danger to their life and health. 4) Fire protection entities allow workers to take measures and actions in accordance with their knowledge and available technical means in order to avoid the consequences of fire danger, in the case when there is a serious danger to their health or the health of other persons due to fire, and the immediate manager is not possible to contact. Businesses and other legal entities, as well as natural persons who prepare technical documentation, investors and construction contractors apply the prescribed fire protection measures and standards in the preparation of technical documentation and construction. Evidence of their fire resistance and fire characteristics shall be provided for building materials, elements, equipment and other materials that are installed in the building, and which are of special importance for preventing the occurrence or spread of fire in that building/construction.

		For the installed building materials and equipment and other elements, the contractor is obliged to obtain evidence of their fire resistance and fire characteristics and to submit them to the Ministry for inspection before issuing the consent. The fire protection plan is adopted by companies and other legal entities, administrative bodies, in accordance with this law, decisions and fire protection plans of local self-government units and other regulations that regulate matters related to the fire protection system. The fire protection plan is drawn up by a company or other legal entity that is authorized to prepare fire protection studies. Along with the application for the issuance of a construction permit, a decision on the Ministry's audit of fire protection measures and standards specified in the technical documentation is attached. **The Ministry at the headquarters audits project documentation for the construction of tunnels longer than 1,000m, highways and expressways, road facilities and traffic connections to those roads and border crossings and other facilities of special importance for the Republic of Srpska.** **Competent organizational units of the Ministry audit project documentation for the construction of tunnels less than 1,000 m long, main, regional, local and uncategorized roads, road facilities and traffic connections to those roads.** Fire and rescue units perform individual professional supervision tasks related to timeliness and increasing the efficiency of fire and rescue interventions, the functionality and correctness of water intakes, hydrants, fire extinguishers, chimneys, disposal of flammable liquids and gases and other flammable materials in basements, on attics and other places that pose a danger, ensure clear fire roads and approaches to electrical switchboards, hydrants, appliances, blocking valves of gas installations and installations with flammable liquids, prohibition of using open flames and smoking in areas at risk of fire.
Cultural Heritage	Cultural Heritage Act (OG 38/22)	Purpose of the law: This law regulates the types of cultural property, protection activities and the use of cultural goods and goods that enjoy prior protection, and others issues of importance for the activity of cultural property protection.

		Definition of cultural property: Cultural property, in the sense of this law, is any immovable, movable and an intangible asset that, in accordance with this law, has been determined to be permanent historical, artistic, ethnographic, anthropological, archaeological, architectural, naturalistic, scientific, technical or other significance. Prior protection: Things and creations, tangible and intangible cultural heritage, for which assumes that they have properties of special importance for culture, art and history, they enjoy the protection established by this law, defined as the prior protection. **If, during the execution of construction and other works, archaeological sites are encountered sites or finds, the contractor is obliged to stop immediately, without delay works and inform the Institute, and to take measures to ensure that the site or find is not destroyed and not to damage it and to preserve it in the place and position in which it was discovered. Archaeological finds or archaeological remains found on the surface of the earth, in the land or in the water are owned by the Republika Srpska.** If there is an immediate danger of damage to archaeological and other things findings, the Institute will temporarily suspend work until an inspection of the site is carried out and until, on the basis of this law, he issues permission for further excavation and research archaeological site. Searching for archaeological remains is not permitted without the approval of the Institute the help of metal detectors and other technical means that enable finding of archaeological findings and structures below the earth's surface, that is, research is permitted exclusively within the scope of archaeological research for which the Institute has given permission. Decision on the declaration of cultural property of exceptional importance and of great importance significance is published in the "Official Gazette of the Republic of Srpska". Declaration is also shared with the owner of the cultural property, the local self-governing unit where the property is located, and the administrative body ,managing the Register of cultural property , who is obliged to register the status record of immovable cultural property. The Institute runs the Central Register of Cultural Property and Register of Immovable Cultural Property.
Labor law	Labor Law of Republika Srpska (OG 01/16, 66/18, 91/21, 119/21)	Labor law allows and regulates collective bargaining and contracting. It also defines and regulates relationship between the employer and employee. It requires the employer to: - register the worker in the Unified System and hand it over to him a copy of the application,

		hand over the worker's identification document to the worker upon starting work, - pay the worker for the work performed, in accordance with the law, general act and employment contract, - provides the worker with working conditions and organizes the work for safety and protection of life and health at work in accordance with the relevant legislation - inform workers, within 15 days from the day of starting work, on obligations arising from labor regulations and regulations on safety and protection of life and health on work, - provide the worker with the performance of established tasks employment contract, - collectively insure all workers in the event of an accident at work and - request the opinion of the trade union in cases determined by law, and with an employer where a trade union has not been established since advice of the workers or a representative appointed by the workers, - prescribes and regulates breaks, vacation and leaves - prohibits discrimination on basis of of race, ethnic or national affiliation, skin color, sex, language, religion, political or other opinion and belief, social origin, property status, membership or non-membership in a trade union or political organization, physical and mental health and other characteristics that are not in directly related to the nature of the employment relationship. The Law prescribes 40 hours working week, regulates distribution of hours. Overtime is allowed only in the event of an unplanned increase in the scope of work, elimination of the consequences of weather disasters, damage to work equipment, fires, earthquakes, epidemics and other accidents, the worker is obliged, upon written request of employer, works longer than full-time. In the case of overtime is longer than 3 weeks, the employer must notify the State Inspector. In total the employee can work 12 hours a day and 48 hours a week, including the overtime work.
Expropriation	Law on Survey and Cadaster Republic of Srpska (OG 6/12), Expropriation Law (OG 112/06, 37/07, 66/08, 110/08, 106/10)	Expropriation can be carried out for the needs of the Republika Srpska and local self-government units, unless otherwise specified by law (beneficiary of expropriation). The user will transfer the expropriated real estate to investors for the purpose of carrying out works for the construction of roads for which the general interest has been determined, with the contract regulating the mutual rights and obligations of the contracting parties arising from the expropriation of real estate and the construction of facilities. The Decision to determine the General Interest in the execution of works based on the submitted proposal of the user of expropriation is made by the Government of the Republic of Srpska, after previously obtaining the opinion of the assembly of the local self-government unit on whose

		territory it is intended to build or carry out the works, in accordance with the appropriate planning act. Before submitting a proposal for the determination of General interest, the user of expropriation is obliged to prepare an Expropriation Plan in accordance with the Spatial Plan. The Expropriation Plan is presented for public inspection at the headquarters of the local self-government unit on whose territory it is intended to build a facility or carry out works of General Interest.

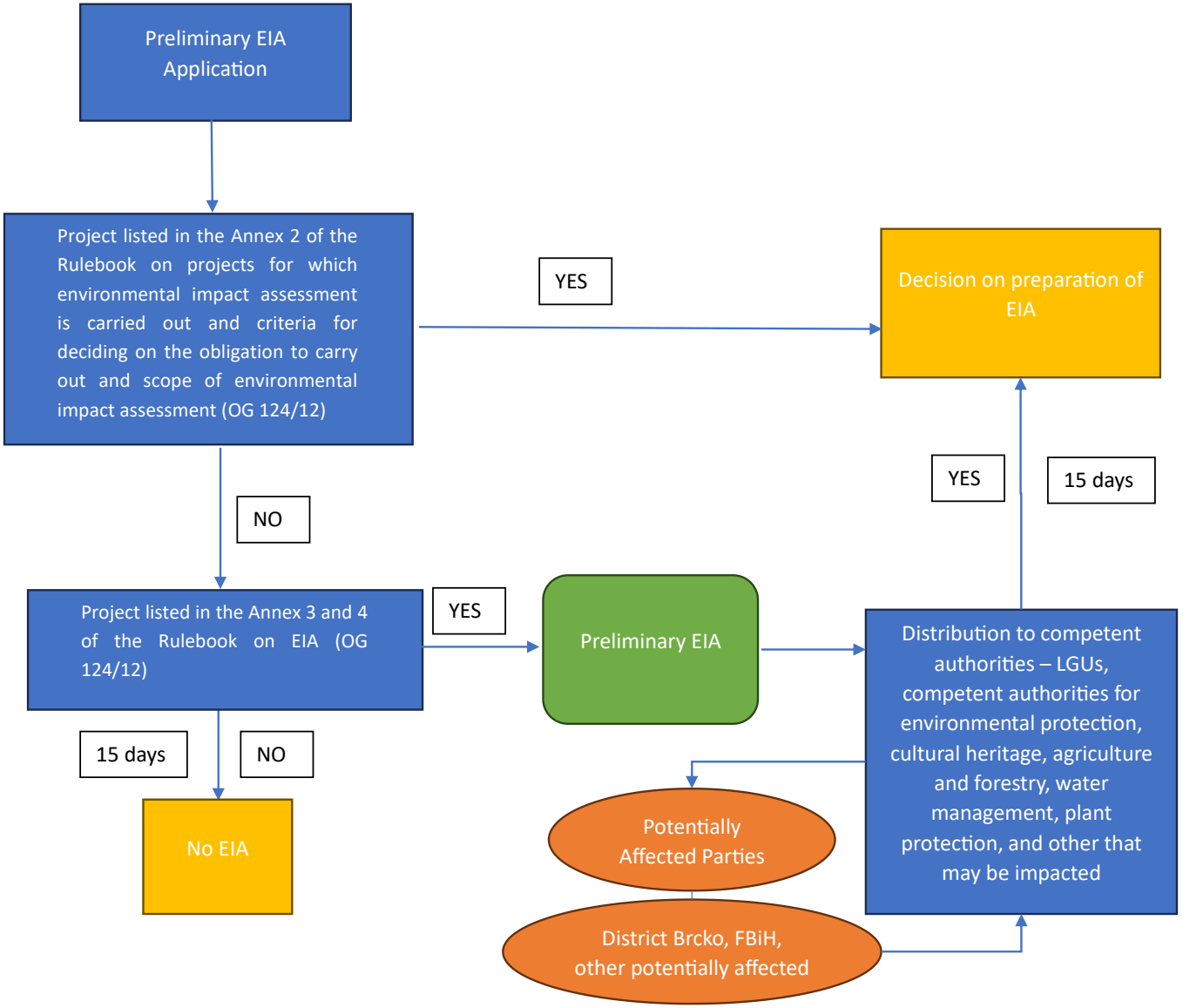


Figure 5 National procedure for EIA Screening

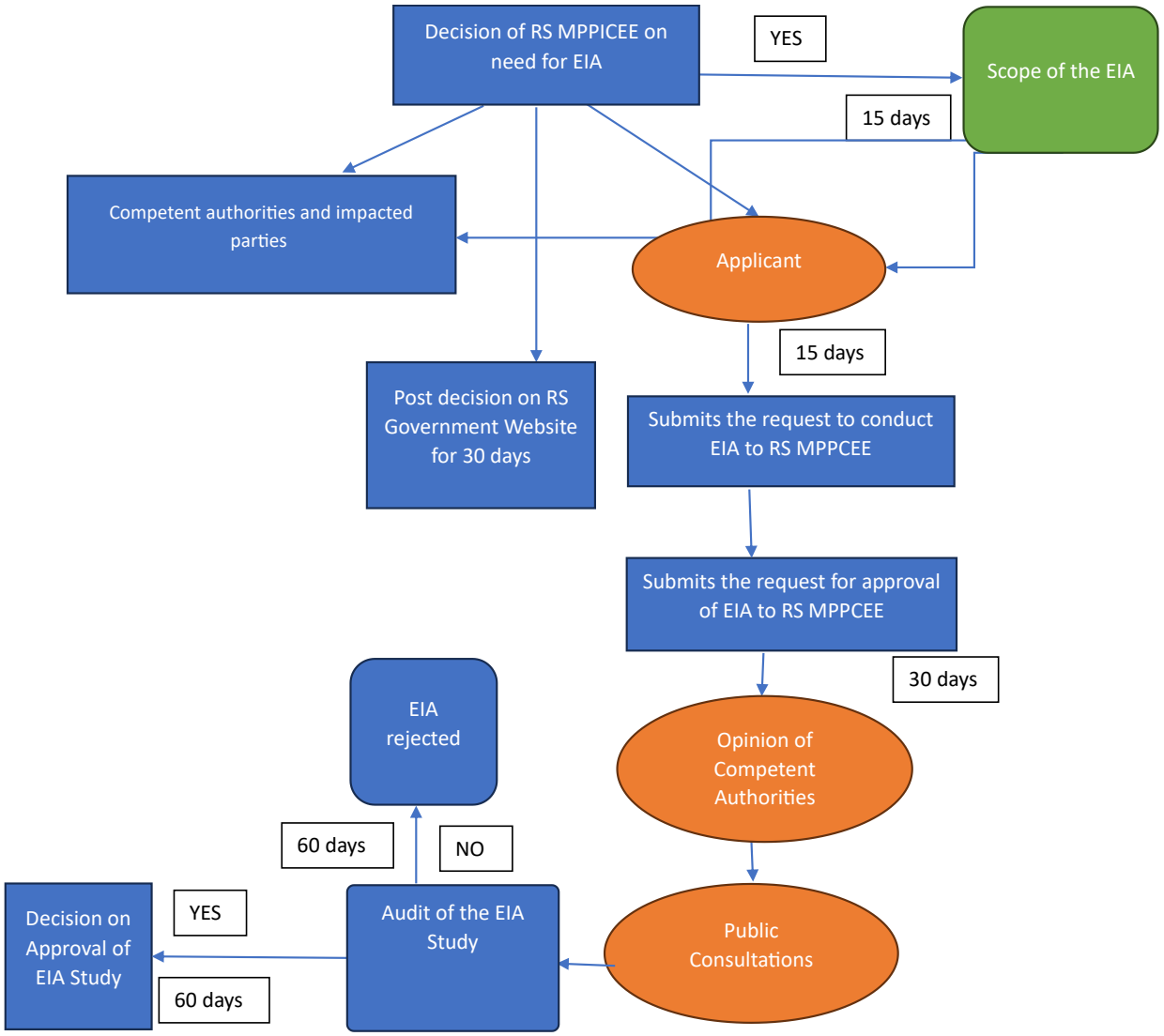


Figure 6 National EIA approval procedure

4.3 Institutional Framework

Table 6: E&S relevant Institutional Framework of RS

Institution	Responsibilities
Public Enterprise Putevi Republike Srpske	The Public Enterprise "Putevi Republike Srpske" is a publicly-owned entity tasked with the development and maintenance of road infrastructure in Republika Srpska. The organization's responsibilities encompass the construction, rehabilitation, and preservation of roads and highways, ensuring they meet safety and quality standards. It is also charged with the strategic planning of road network expansion to support economic growth, improve connectivity, and facilitate mobility for citizens and goods. Additionally, "Putevi Republike Srpske" implements traffic management systems and road safety initiatives to minimize accidents and enhance the driving experience. The enterprise's work is crucial for fostering regional development, boosting trade, and improving access to services and opportunities for the population. While the internal organization includes positions and employees for positions of environmental specialist and OHS specialist, there are no separate environmental protection, OHS, social or community issues departments. However, thre are departments for construction of roads, maintenance, traffic safety and other technical aspects. .
Ministry of Physical Planning, Construction and Ecology of Republika Srpska	The Ministry of Spatial Planning, Construction and Ecology of Republika Srpska is a body responsible for a range of critical functions related to urban and rural development. Its responsibilities include the formulation and implementation of policies for spatial planning, overseeing construction standards, and ensuring sustainable development practices. The ministry is tasked with the development of spatial plans at various levels, including regional and municipal, and it works to ensure that construction activities comply with legal and safety standards. Additionally, it plays a crucial role in environmental protection, managing natural resources, and addressing ecological challenges. Environmental protection and nature conservation are integral parts of Ministry's jurisdiction. It formulates policies to safeguard natural resources and biodiversity, ensuring sustainable use and management of land and water. The ministry is responsible for regulating environmental impact assessments, enforcing ecological regulations, and overseeing the preservation of protected areas. It also addresses pollution control, waste management, and promotes environmental awareness among the public and industry stakeholders. It collaborates with other public agencies, stakeholders, and the public to achieve its objectives. On international level, the ministry aims to align its practices with global environmental standards and contribute to climate change mitigation efforts.
Ministry of Transport and Communications	The Ministry of Transport of Republika Srpska is a key public body tasked with overseeing and developing the transport infrastructure and services within Republika Srpska. This ministry is responsible for formulating

	transport policy, planning and implementing transport projects, and ensuring the maintenance and safety of the transport system, which includes road, rail, air, and waterways. It also regulates the transport sector to ensure compliance with national and international laws and standards. The Ministry's work is vital for economic development, as it enhances mobility, facilitates trade, and improves access to markets and services. By investing in and improving transport infrastructure and services, the ministry aims to boost the region's economic competitiveness and quality of life for its citizens.
Republic Administration for Inspection Works Inspectorate of the Republika Srpske - Urban-construction and environmental inspection	The Inspectorate of Republika Srpska, particularly the Urban-Construction and Environmental Inspection division, is a pivotal regulatory body tasked with enforcing laws and regulations pertaining to urban development, construction, and environmental protection. This inspectorate is responsible for conducting thorough inspections to ensure that construction projects adhere to approved plans and comply with established legal frameworks. It plays a critical role in preventing unauthorized construction and preserving the public interest. On the environmental front, the inspectorate is charged with implementing and upholding environmental legislation, managing pollution control, and conserving natural habitats. Its activities are essential in promoting sustainable development practices and maintaining the ecological balance by ensuring that business and industrial operations meet environmental standards. The inspectorate's work is vital in safeguarding the urban and natural landscapes of Republika Srpska.
Republic Administration for Inspection Works Inspectorate of the Republika Srpske - Veterinary Inspection	The Inspectorate of Republika Srpska's Veterinary Inspection is responsible for monitoring and managing issues related to animal health and safety, including the handling of roadkill and animal waste. They enforce regulations to ensure that animals killed on roads are disposed of properly, reducing the risk of disease transmission and environmental contamination. The inspectors collaborate with municipal services to promptly remove such carcasses.
Ministry of Agriculture, Forestry and Water Management of RS	Administrative, professional and other tasks in the field of water management, management of two river basins (Sava River Basin and Trebisnjica River Basin). This Ministry is responsible for development and adoption of plans in water management sector, balance water, enforcement of protection from harmful water, determining conditions and issuing water permits, implementation and organization of quality control of water, monitoring, hydro melioration, establishment and maintenance of information systems, keeping registers; preparation of strategies, programs, monitoring and coordination of the work of other organizations in the field of water management and other activities determined by law.
Public Institution “Vode Srpske“	Organizes hydrological monitoring and water quality monitoring, monitoring of the ecological status of surface waters, monitoring of ground water quality. Prepares reports on the status of water quality and recommends measures necessary for achievement of goals related to water protection of waters, regulation of waters, protection from adverse effects of waters, and its use.

[78] Official Gazette of RS, No. 21/92 – revised text, 28/94, 8/96, 13/96, 15/96, 16/96, 21/96, 21/02, 26/02, 30/02, 31/02, 69/02, 31/03, 98/03, 115/05, 117/05, 48/11.

Institution	Responsibilities
	waters. Issues water-related acts and orders measures which entities must observe in the period of validity of these acts. Establishes and manages the water information system.
Ministry of Labor, War Veterans and Disabled Persons' Protection	The Ministry of Labor, War Veterans and Disabled Persons' Protection of Republika Srpska is a public institution focused on social welfare, labor issues, and the rights of specific social groups within Republika Srpska. It is responsible for creating and enforcing policies related to employment, labor relations, and social security. The ministry also provides support to disabled persons, ensuring they have access to benefits, rehabilitation services, and pensions. It plays a pivotal role in promoting employment opportunities, addressing unemployment, and advocating for inclusive work environments. The ministry's work is essential for the social and economic stability of the region, as it seeks to protect vulnerable groups and integrate them into society.
Ministry of Education and Culture	The Ministry of Education and Culture of Republika Srpska is an essential competent authority responsible for shaping and implementing policies in the realms of education and culture within Republika Srpska, a constitutional entity of Bosnia and Herzegovina. It oversees the functioning and development of educational institutions, from primary schools to higher education, ensuring they deliver quality education. The ministry also plays a significant role in fostering cultural development, preserving historical and cultural heritage, and promoting the arts.
Ministry of Finance of RS	System of financing general social needs, system of taxes, contributions and other fees, system of financing and formation of development funds, cash flow management, daily monitoring of funds, supervision over the intended use of funds of the Republic and social income activities determined by law.
Republic Administration for Geodetic and Property Legal Affairs	The Republic Administration for Geodetic and Property Legal Affairs plays a key role in land acquisition and expropriation in the Republic of Srpska. This institution is involved in managing land registration, property rights, and facilitating the legal processes required for expropriation, especially for public infrastructure projects like road construction. The process is governed by laws on expropriation, which outline the procedures for acquiring land for public purposes. The Republic Administration for Geodetic and Property Legal Affairs is accountable to the Government of the Republic of Srpska. This institution operates under the jurisdiction of the Ministry of Spatial Planning, Construction, and Ecology. Their work involves coordinating with other institutions and authorities, as well as implementing laws and regulations related to geodetic and property legal matters.

5 Key World Bank ESSs Requirements

The World Bank has established an Environmental and Social Framework (ESF) to uphold the goal of eradicating extreme poverty and promoting shared prosperity through sustainable development and ensuring health planet. ESF includes the Bank's Environmental and Social Policy and a set of Environmental and Social Standards intended to support sustainability Borrowers' projects. The framework emphasizes anticipating and avoiding risks and impacts, minimizing or reducing risks and impacts, mitigating risks and impacts, and compensating for or offsetting significant residual impacts where feasible. As part of the ESF implementation, the World Bank Group mandates the adoption of WB Environmental, Health, and Safety Guidelines (EHSG) and Good International Industry Practice (GIIP) to all site-specific E&S management plans.

The WB EHSG serve as technical reference documents, offering general and industry-specific examples as well as limit values. They encompass information on environmental, health, and safety issues across various industry sectors and should be utilized alongside the relevant Industry Sector Guidelines. The GIIP includes WB Technical Notes for Borrowers, EU Best Available Techniques (BAT) referent documents (especially for EU accession and candidate countries) along with sector-specific or regulatory recommended limit values, techniques and methodologies. The Environmental and Social Standards (ESS) outline mandatory requirements for Borrowers and projects, aiming to identify and mitigate potentially adverse environmental and social impacts. The ESS are reinforced by the compulsory WB Group Environmental, Health, and Safety Guidelines and are implemented alongside national policies, with the stricter regulations taking precedence. The EHS Guidelines define performance levels and measures achievable in new facilities by existing technology at reasonable costs. They should be applied based on the hazards and risk types determined for each project, considering site-specific variables and other project factors. There are ten WB ESS, each outlining objectives for achieving specific outcomes in environmental and social impact management, as follows:

ESS1 - Assessment and Management of Environmental and Social Risks and Impacts

ESS2 - Labor and Working Conditions

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS4 Community Health and Safety

ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

ESS8: Cultural Heritage

ESS9: Financial Intermediaries

ESS10: Stakeholder Engagement and Information Disclosure.

In certain circumstances, risks and impacts not covered in the ESSs must be addressed in line with the mitigation hierarchy and the objectives of ESS1. Standards ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, and ESS10 are pertinent to the current project. A detailed overview of the World Bank's Environmental and Social Standards is accessible in the Annex 16 and on the World Bank's website https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards).

5.1 Overview of WB Standards' requirements applicable to the Project

Table 7: Overview of WB ESS requirements applicable to the Project

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
ESS1 Assessment and Management of Environmental and Social Risks and Impacts The ESS1 standard applies to all projects supported by the World Bank through Investment Project Financing (IPF) and to which OP/BP10.00 applies. ESS1 sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through IPF, in order to achieve environmental and social outcomes consistent with the ESSs. Projects (and sub-porjects during implementation) are classified based on risk level, with the "Sustainable, Integrated and Safe Road Infrastructure Project" falling into the substantial risk category. The project involves construction and upgrade of roads, as well as various interventions with environmental and social implications. Under Component 1, typical risks for construction and demolition works include noise and dust emissions, vibrations, waste management, and potential impacts on cultural heritage and nature. The Borrower is obligated to conduct environmental and social assessments, stakeholder engagement, in line with objectives of Environmental and Social Commitment Plan to ensure compliance with the ESSs and monitor and report on environmental and social performance. Various instruments can be used to satisfy the Bank's Environmental and	- Law on Spatial Planning and Construction (OG 40/13) - Environmental Protection Act (OG 71/2012, 79/2015 and 70/2020) - Rulebook on projects for which environmental impact assessment is carried out and criteria for deciding on the obligation to carry out and scope of environmental impact assessment (OG 124/12) - Instructions on the content of the environmental impact study (OG 108/13) - Law on Waste Management (OG 111/13, 16/1870/20, 63/21) - Law on Air Quality (OG 124/11, 46/17) - Law on Spatial Planning and Construction (OG 40/13) - Law on National Parks (OG 21/96 and 74/05) - Nature Protection Act (OG	According to ESS1 Borrower must conduct environmental and social assessment of all projects proposed for Bank financing to help ensure that projects are environmentally and socially sound and sustainable. Legislation in Republika Srpska (RS) defines different mechanisms for environmental and social assessment of projects. The environmental regulatory and policy framework in RS is ensured through the following main instruments: Environment Impact Assessment, Location and Building permitting process (opinion of competed authorities for meeting environmental conditions has to be issued as a part of permitting procedure, e.g. for water protection, protections of cultural heritage, etc.), Physical Planning (preparation of physical plan is subject of strategic environmental assessment) and Environmental Permit. Although **for certain projects/interventions legally is not specifically required to conduct procedure of environmental assessment,** assessment is ensured by application of these mechanisms (elimination and/or mitigation of possible negative environmental and social impact from a planned project is ensured). However, there are two major differences**: (i) the national EIA is to the great extent missing the important social component of WB ESIA. Stakeholder engagement is missing, and consultations as a rule are carried out just once, towards the end of the EIA procedures; (ii) instruments for projects and activities under thresholds set by the national EIA legislation (which is also not fully EU harmonized) such as ESMP and ESMP Checklists are not required under the national E&S system.** Therefore, national EIA and WB E&S instruments cannot be directly compared and alignment, appropriateness, risk proportionality and application of these instruments have to be checked for every project/sub-project using the instrument of E&S screening. ESS1 is risk-based, unlike the **national EIA Regulation that is largely process based** and triggered predominantly by thresholds and types of interventions.

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
Social Assessment requirement, based on the specific project needs and nature and magnitude of the risk – ESIA, ESMP, ESMP Checklist.	20/14) - Water Protection Act (OG 50/06)	**Social impact assessment is to the large extent not part of the EIA or other types of environmental assessment.**
ESS2 Labor and Working Conditions Main objectives of this standard are to promote safety and health at work; to promote the fair treatment, non-discrimination and equal opportunity of project workers; to protect project workers, including vulnerable workers and migrant workers, contracted workers, community workers and primary supply workers, as appropriate; to prevent the use of all forms of forced labor and child labor; to support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law; to provide project workers with accessible means to raise workplace concerns.	- Labor Act (OG 1/16, 66/18, 119/21, 112/23, 39/24) - Law on Mediation (OG 91/16) - Law on Strike (OG 111/08) - Law on Labor Councils (26/01) - Law on Employment of Foreign Citizens and Stateless Persons (OG 24/09, 117/11, 56/22) - Law on Retirement and Disabled Persons Insurance (OG 134/11, 82/13, 103/15, 111/21, 15/22) - Law on Occupational Health and Safety (OG 1/08, 13/10) - Law on Protection from Harassment at Work (OG 90/21)	ESS2 sets out specific requirements to promote safety, health, and fair treatment of project workers. It aims to prevent forced labor, child labor, and discrimination, and supports freedom of association and collective bargaining. The ESS applies during the environmental and social assessment, and implementation, and depends on the type of employment relationship between the Borrower and the project workers. It requires the Borrower to engage with stakeholders throughout the project lifecycle, establish a systematic approach to stakeholder engagement, and provide accessible means for stakeholders to raise issues and grievances. The Borrower must also monitor and measure the environmental and social performance of the project against legal and regulatory requirements, manage proposed project changes, and ensure that third parties, including contractors, comply with ESS2 requirements. The ESS is informed by International Labor Organization (ILO) and United Nations (UN) Conventions. **There are no major gaps between the objectives of the national regulation and the ESS2 in the area of labor conditions and management, as well as the OHS. Although, the national EIA usually does not include labor regulation and OHS, the national regulation is well developed and historically well applied in the part of labor management (paying compensations, retirement schemes, health insurance, breaks and vacation, etc.) while less successful in implementation of OHS framework. Though number of fatalities at work in 2018 (per number of employees) was well above EU average, in 2020 that number halved according to Strategy on Safety at Work in The Republic of Srpska for the Period From 2021 to 2024. This was the first such strategy in RS which indicates commitment of the public administration for grea ter oversight and improvements.** Both ESS2 and labor and OHS law promote non-discrimination at work, freedom of association, prescribe mandatory breaks, insurance, working conditions, right to the safe working environment, etc. The

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		Labor Law sets minimal age for employment at 14, while the ESS2 allows 14. In addition, youth below age of 18 needs a written permission of parents and employment is not allowed if the work present risk for health. Overtime is prohibited for vulnerable workers such as those younger than 18 years, pregnant women and mothers with toddlers up to 3 years of age and single parents of children up to 6 years of age. Regulation of Republika Srpska also regulates employment of foreign citizens and stateless persons, mediation, sets minimum salary, protection from harassment employment of disabled persons, and more. **In the other hand, the minimal standards for accommodation of workers, being domestic or foreign are not defined.** While the regulatory system also generally organizes OHS, technical requirements for specific circumstances e.g. asbestos waste management, and hazardous waste management are missing.
ESS3 Resource Efficiency and Pollution Prevention and Management	- Environmental Protection Act (OG 71/2012, 79/2015 and 70/2020) - Law on Waste Management (OG 111/13, 16/1870/20, 63/21) - Water Protection Act (OG 50/06) Law on Chemicals (OG 21/18) Law on Substances used for Plant Protection (OG 52/10) Law on Air Quality (OG 124/11, 46/17) Law on Mining (OG 62/18) - Rulebook of conditions to discharge waste waters into surface waters (OG 44/01), - Decree on waters classification and watercourses categorization (OG 42/01) - Rulebook on categories, testing and classification of waste (OG 39/21),	ESS3 Resource Efficiency and Pollution Prevention and Management aims to promote sustainable resource use and minimize pollution from project activities. It requires borrowers to consider ambient conditions and apply feasible resource efficiency and pollution prevention measures. The standard emphasizes efficient consumption of energy, water, and raw materials, integrating cleaner production principles and benchmarking data where available. Borrowers must also avoid or minimize project-related emissions of short and long-lived climate pollutants and generation of hazardous and non-hazardous waste. Additionally, for projects with significant water and materials use, measures to avoid adverse impacts on communities and the environment are required, including maintaining a detailed water balance. The standard also addresses historical pollution, air pollution, and the efficient use of raw materials, with a focus on eliminating, substituting, or reducing raw material use. Regulation of Republika Srpska mostly corresponds to ESS3 objectives to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities (both being requirement of the e.g. Waste Management Law), to avoid or minimize project-related emissions of short and long-lived climate pollutants (addressed in the rulebooks on discharge of waters, pollution of soil, air pollution and ozone layer harming

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
	- Rulebook on conditions and methods of maintaining riverbeds, dislocation and extraction of material from watercourses (OG 15/22), - Rulebook on limit values of noise intensity (OG 2/23) - Rulebook on measures to prevent and reduce air pollution and improve air quality (OG 3/15, 51/15, 47/16, 16/19) - Rulebook on limit and remediation values of polluting, harmful and dangerous substances in the soil (OG 82/21) - Regulation on dealing with substances that damage the ozone layer and substitute substances (OG 66/20) - Rulebook on the emission of volatile organic compounds (OG 39/05)	substances), to avoid or minimize generation of hazardous and non-hazardous waste, track movement of waste, carry out transport of hazardous waste in accordance with international rules and treaties, etc. However, **there are also gaps in the area of use of resources, management of chemicals and pesticides.** The Water Permit defines purpose, terms and conditions of water use, facility and plant operating regime, terms and conditions of wastewater discharge, terms and condition of solid waste and liquid waste disposal and other terms and conditions. It also defines the applicant's obligations related to wastewater measurement, measurement frequency, quality control and records keeping on used water, as well as obligations related to water fees accounting and payment. However, **in the area of the sustainable use of resources, including energy and raw materials, the legislation seems to fall short**; The ESF requirement that the Borrower implement technically and financially feasible measures for improving efficient consumption of energy, water and raw materials, as well as other resources is not integrated to relevant regulation (e.g. Law on Mining). The ESF requires that the Borrower will avoid the manufacture, trade and use of chemicals and hazardous materials subject to international bans, restrictions or phaseouts. RS Rulebook on restrictions and prohibitions of chemicals (OG 79/19) has been updated in 2023 to integrate changes in REACH and Persistent Organic Pollutants EU Directives making registration and inventory of chemicals mandatory. However, some inconsistencies are still present, e.g. Manufacturer or importer of plant protection products, is not required to register in the Register of Manufacturers and Importers of Chemicals, write regular reports, register import or export and keeping records on sales and production. Also appointing a chemical advisor is mandatory. However, **pesticides do not need to be registered in the Inventory of Chemicals.** Waste management regulation of RS require that it is to be carried out in a way that ensures the least risk of endangering people's lives and health and the environment, monitoring and measures to reduce: a) water, air and soil pollution, b) danger to plant and animal life, c)

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		dangers of accidents, explosions or fires, g) negative impacts on areas and natural assets of special value, i) levels of noise and odours. It recognizes polluters pay principle as well as waste hierarchy. Hazardous waste transport prescribes use of requirements prescribed by special (internatonal) regulations on transport (ADR/RID/ADN etc.), b) keep records of each waste transport, and the report includes the transportation of hazardous waste, c) enables the competent inspector to supervise the vehicle, cargo and accompanying documentation. Bosnia and Herzegovina, and therefore RS, is a signatory of Basel Convention.
ESS4 Community Health and Safety		ESS4 Community Health and Safety requirements aim to anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle. The requirements include promoting quality and safety in the design and construction of infrastructure, avoiding or minimizing community exposure to project-related traffic and road safety risks, diseases, and hazardous materials, and having effective measures to address emergency events. The Borrower is required to evaluate the risks and impacts of the project on the health and safety of the affected communities, including vulnerable groups, and propose mitigation measures in accordance with the mitigation hierarchy. This includes conducting a health impact assessment as part of the environmental and social assessment and designing, constructing, operating, and decommissioning structural elements of the project in accordance with national legislation and other relevant guidelines. While the regulation addresses some of the community risks, e.g. those related to waste related pollution, noise, traffic and air quality, water pollution, community exposure to hazardous materials (rulebook on protection measures during the use of explosives in mining, legislation on registration and management of chemicals) it **does not clearly mandates to considers particular issues of vulnerable groups (e.g. women, poor, low income citizens) when developing or assessing a project.** Waste management regulation defines measures to control the safe delivery, storage, transportation, and disposal of hazardous materials

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		and waste. **The economic subject will identify risks and impacts and propose mitigation measures in accordance with the mitigation hierarchy for waste management (as prescribed in the Law), but not other risks.** Minimization of the transmission of communicable diseases associated with the influx of temporary or permanent labor, is organized in Law on Protection of Population from Infectious Diseases (OG 90/19). The requirements also emphasize the importance of addressing the risks and impacts of the project on the health and safety of affected communities, particularly vulnerable groups, and promoting universal access in environmental design to increase safety and security for project actors and beneficiaries. **Climate change considerations are not taken into account in the structural and other design based on RS legislation.** The similar situation is with the operational accidents or natural hazards, including extreme weather events. Similarly, the related Emergency Preparedness Plan is not prescribed. However, Eurocode 8 that prescribes measures in design and construction addressing risks from seismic activities is mandatory regulation requirements on the territory of BiH, including ES as its entity. Law on agencies for security of persons and property and private detective activity and Law on Police and Internal Affairs of Republika Srpska regulate direct and contracted workers to provide security to safeguard its personnel and property.
ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement		ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement aims to avoid or minimize involuntary resettlement and forced eviction by exploring project design alternatives. It requires timely compensation for loss of assets at replacement cost and assistance to improve or restore livelihoods to pre-displacement levels. The standard applies to various types of land acquisition, including outright purchase, expropriation, and acquisition of access rights, as well as restrictions on land use that lead to physical or economic displacement. It also emphasizes the importance of gender considerations in resettlement planning and implementation, ensuring women's perspectives are obtained, and their interests are

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		factored into all aspects of the process. Additionally, it mandates transparent, consistent, and equitable provision of entitlements to affected persons and communities, with particular attention to gender aspects and the needs of vulnerable segments of communities. Although physical relocation or resettlement is not expected under the Project it cannot be excluded during the Preparation due to the fact that footprints of subprojects are not known, especially in relation to upgrade of Brod na Drini – Hum road under sub-component 1.1. Impacts on livelihood are possible for agriculture land owners/users and owners of small businesses located next to the road. In general, the legislation of RS provides an adequate framework to carry out resettlement and compensation activities in line with WB requirements. The main gaps between local legislation and WB requirements include: - **While under ESS5 land acquisition or restrictions on land use (whether permanent or temporary) the RS Law on Expropriation does not specifically pursue avoidance of involuntary resettlement. However, the authorities as the beneficiaries of expropriation have the legal obligation to seek to achieve negotiated settlements under the Law.** **- ESS5 requires a socio-economic survey to be conducted, whereas the local law does not. However, the law provides the possibility to include vulnerability into consideration when offering compensation, but this is not mandatory.** - Under ESS5 Particular attention must be paid to gender aspects and the needs of the poor and the vulnerable, in considering alternatives to the project activity (and resettlement). **The Law however, stipulates no specific provisions in the Law on Expropriation which require consultations with and providing assistance to vulnerable groups in the expropriation process.** - In the case of projects affecting livelihoods or income generation, the ESS5 requires that Borrower implements measures to allow affected persons to improve, or at least restore, their incomes or livelihoods. **Law on Expropriation has no explicit requirements**

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		related to socio-economic surveys or development of resettlement plans. However, the Law requires the development of an expropriation study which includes a geodetic/cadastral plan of the area identified for expropriation, list of affected owners and properties, evaluation of the property value, and other related information. **The scope of the expropriation study is not identical to the baseline assessment as required by ESS5.** - When land acquisition or restrictions on land use cannot be avoided, the Borrower must offer affected persons compensation at replacement cost, and other assistance as may be necessary to help them improve or at least restore their standards of living or livelihoods, subject to the Compensation standards for categories of land and fixed assets will be disclosed and applied consistently. This is addressed in the Law on Expropriation of RS which defines the conditions and procedure for expropriation of property for construction of facilities in public interest, compensation eligibility and amounts, handling of grievances and disputes handling and other issues pertaining to the expropriation process. However, unlike the ESS5, the Law recognizes only formal owners or users of the land, and even in this case does not recognize the right of (formal) owners to compensation of lost profit or foresee compensation for economic displacement. **Also, ESS5 requires compensation at replacement cost, whereas the Law requires compensation at market value of property.** In certain cases there may be significant difficulties related to the payment of compensation to particular affected persons (e.g. compensation is rejected or owner is absent). In this case, ESS5 prescribes that the Borrower may deposit compensation funds as required by the plan (plus a reasonable additional amount for contingencies) into an interest-bearing escrow or other deposit account and proceed with the relevant project activities. This requirement is not defined in the national law, as follows: Under the Law on Expropriation, if the owner of the immovable property to be expropriated does not accept another suitable immovable property as compensation, or if the user of the expropriation cannot provide

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		security for the immovable property, the right compensation in money is determined, which cannot be lower than the market value of the immovable property to be expropriated at the time of the first-instance decision on expropriation, that is, at the time of signing the agreement. If an agreement on compensation is not reached within two months from the date of finality of the expropriation decision, the administrative body shall without delay submit the final decision on expropriation with all documents to the competent court on whose territory the expropriated real estate is located, in order to determine the compensation in a non-litigation procedure. ESS5 requires the Borrower to engage with affected communities, including host communities, through the process of stakeholder engagement and also establishing mandatory grievance mechanisms. Restoration will include options and alternatives from which affected persons may choose. On the other hand, the Law on Expropriation does envisage the right of affected population to file complaints in various phases of the expropriation procedure, **but there is no requirement for establishment of an independent grievance mechanism to process complaints related to specific projects**. In addition, there is also no requirement to ensure involvement of all affected population from the earliest phase of the resettlement.
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources		ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources aims to protect and conserve biodiversity and habitats, promote sustainable management of living natural resources, and support local communities and vulnerable populations. It applies to all projects potentially affecting biodiversity or habitats, directly or indirectly. The environmental and social assessment considers direct, indirect, and cumulative impacts on habitats and biodiversity, including threats such as habitat loss, degradation, invasive alien species, and climate change. The mitigation hierarchy and precautionary approach must be applied in project design and implementation. Additionally, the significance of biodiversity and habitats is determined based on their vulnerability and irreplaceability at global, regional, or national levels. Where significant risks and adverse impacts on biodiversity are identified, a

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		Biodiversity Management Plan should be developed and implemented. The ESS6 requires that the environmental and social assessment will consider direct, indirect and cumulative project-related impacts on habitats and the biodiversity they support. It will determine the significance of biodiversity or habitats based on their vulnerability and irreplaceability at a global, regional or national level and will also take into account the differing values attached to biodiversity and habitats by project-affected parties and other interested parties. The regulatory framework is compliant to the is requirement through application of Law on Nature Protection and Law on Nature Parks. Assessing impact to nature and biodiversity is a part of EIA procedures. The Law on nature protection prescribes the principle of applying nature protection measures and conditions - in the use of natural values and principles, measures and conditions are applied to the planning and arrangement of protected natural assets and nature protection. Further, the Law requires application of precautionary principle in nature protection. The Borrower will avoid adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in ESS1 and with the requirements of ESS6. The Law integrated polluter pay principle, sustainable use principle and high nature protection principle while also stipulates that the Legal entity, entrepreneur and natural person after the termination of works activity is obliged to carry out remediation, i.e. recultivation in accordance with this law and other regulation. -Specifically for the roads, Law requires that public roads and other types of roads, and other infrastructure, the construction of which intersects the usual corridors day-night and seasonal migrations of wild animals are caused by habitat fragmentation or in any other way interferes with their normal life cycle, are built in a way that diminishes the negative effects and the application of special structural and technical-technological solutions on the buildings themselves and in their surroundings, during

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		construction and in the period of exploitation. RS compiled a Red List of flora and fauna species. Under ESS6, in accordance with the mitigation hierarchy, the Borrower is required **to make the initial assessment of project risks and impacts without taking into account the possibility of biodiversity offsets**. This is complementary to the Law that envisages compensatory measures only in specific cases where the environmental assessment established significant impact, however, the project has imperative reasons of prevailing public interests while there are no alternative solutions available. In the E&S assessment, ESS6 considers protected areas and habitats potentially affected, potential risks to and impacts on the ecological function of the habitats as well as potential biodiversity importance that may be affected by the project, whether or not they are protected under national law. **The Law on Nature Protection in RS however, does not consider habitats outside the identified protection (national and international) nor functionality of ecosystem services.** The ESS6 prohibits introduction of any new alien species unless this is carried out in accordance with the existing regulatory framework for such introduction. **There is a legislative gap here as there is no list of invasive flora and fauna species in the RS nor prohibited plants that are allowed for regreening.**
ESS8 Cultural Heritage		ESS8 Cultural Heritage aims to protect cultural heritage from adverse impacts, promote its preservation, and ensure meaningful consultation with stakeholders. It covers tangible and intangible cultural heritage, including natural areas with cultural or spiritual value, archaeological sites, built heritage, and movable cultural heritage. The requirements apply to projects likely to have risks or impacts on cultural heritage, such as those involving excavations, demolition, or located within legally protected areas. The ESS emphasizes the need for equitable sharing of benefits from the use of cultural heritage and the establishment of culturally appropriate grievance mechanisms.

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		There are no gaps in Cultural Heritage legislation of RS and ESS8, apart from the obligations reflected also in the ESS10. Although the national EIA does not include assessment of risks and impacts to CH, the Law on Cultural Heritage identifies the competent authorities that will assess risks and prescribe protective measures in a separate process. However, the law is not as specific in considering direct, indirect and cumulative project-specific risks and impacts on cultural heritage. The Law identifies tangible and intangible cultural heritage and in detail defines types of cultural heritage goods. Mitigation measures, as required by the ESS6, are prescribed by the Republic Institute for the Protection of Cultural, Historical and Natural Heritage, and Achives of Republika Srpska, or the competent protection institution, based on the procedure for determining the category of cultural property. They also propose the adoption of an act on the declaration of cultural property. The Archives provides expert instructions on conditions and methods of storage, use and maintenance of movable and immaterial cultural assets and takes care of their implementation, as well as security against fire, physical-chemical and biological damage and theft. In addition, it supervises the state of movable and immaterial cultural assets and undertakes measures related to their protection and use, i.e. performs expert supervision. Chance finds procedures are included in the Law on Cultural Heritage. The Law stipulates that if during the execution of construction and other works, archaeological sites are encountered sites or finds, the contractor is obliged to stop immediately, without delay works and inform the Institute, and to take measures to ensure that the site or find is not destroyed and not to damage it and to preserve it in the place and position in which it was discovered. Archaeological finds or archaeological remains found on the surface of the earth, in the land or in the water are owned by the Republika Srpska. The gap is identified in identification and engagement of stakeholders relevant for the cultural heritage that is known to exist or is likely to be encountered during the project life cycle. **The Law does not require involvement of interested of affected parties when it comes**

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		to Cultural Heritage nor consultations of cultural heritage protection measures. Application o GIIP and international norms and standards is also not prescribed. Meaningful consultations are not envisaged in this process.
ESS10 Stakeholder Engagement and Information Disclosure		ESS10 Stakeholder Engagement and Information Disclosure is a crucial aspect of World Bank projects, aiming to establish a systematic approach to engaging with stakeholders and ensuring the disclosure of project information in a timely, understandable, accessible, and culturally appropriate manner. The objectives include identifying stakeholders, assessing their level of interest and support, promoting inclusive engagement, and providing means for stakeholders to raise issues and grievances. The process involves stakeholder identification and analysis, planning engagement, information disclosure, consultation, addressing grievances, and reporting. Borrowers are required to maintain a documented record of stakeholder engagement, including stakeholder consultation, feedback, and how it was considered in project design. The engagement should be ongoing throughout the project lifecycle, and the documentation should be published in relevant local languages and accessible channels. The Borrower is also encouraged to ensure that appropriate project information on climate and disaster risks and impacts is disclosed to stakeholders. ESS10 underscores the need for inclusive engagement, especially with vulnerable groups, in order to incorporate environmental and social (E&S) principles. The Borrower is expected to engage with stakeholders throughout the project life cycle and provide them with relevant, understandable, and accessible information. The stakeholder engagement should be proportionate to the nature and scale of the project, and the Borrower must maintain a documented record of the engagement process. Additionally, the Borrower is required to identify disadvantaged or vulnerable parties who may be more adversely affected by the project impacts and may require specific assistance to participate in the consultation process. Furthermore, the Borrower must develop and implement a Stakeholder Engagement Plan (SEP) with the support of the Bank, which is proportionate to the project's risks and impacts. The Borrower must also disclose project information to stakeholders,

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
		including the purpose, nature, scale, duration, potential risks and impacts, stakeholder engagement process, and grievance mechanisms. The information should be provided in relevant local languages and in a culturally appropriate manner. Overall, the text highlights the necessity of meaningful, transparent, and inclusive stakeholder engagement throughout the project cycle, with a particular focus on addressing the needs of vulnerable and disadvantaged groups. **According to national legislation, preparation of SEP is not required.** Although the procedures related to public information disclosure and grievance mechanism in the process of EIA are covered by national legislation and in line with ESS10 requirements, the preparation of programme like SEP for specific project is not required by national legislation. As it is mentioned, public consultation and engagement is covered in national legislation, including the right of the public to access information and participate in EIA procedures, request access to records, to request information on projects carried by public bodies. However, the processes for reaching potentially impacted persons and communities also can be improved to incorporate WB principles, by engaging actively with these persons/groups, especially with vulnerable groups where such situations will surface. **No consultation of neighbors and communities is envisaged, nor early consultations.** Public consultations of other E&S instruments (except ESIA and SESA) are not regulated or required. **The Law differs between public and interested public, the later being only foundations and associations for environmental protection**. E.g. only interested public can submit remarks, suggestions or opinions that the competent authority will consider when making a decision. BiH is a signatory of UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (so called Aarhus convention). Thus (at least formally), access to environmental information, accountability, transparency and responsiveness. is guaranteed of government in the realm of environment and nature protection required through application of this international treaty. Further details on grievance mechanisms are set out in the Chapter 9.

WB E&S Standard (ESSs) description	National Legislation	Requirements/Gaps
OP/BP 7.50 Projects on International Waterways		The World Bank's Operational Policy (OP) 7.50 and Bank Procedures (BP) 7.50 apply to different kinds of projects that involve the use or potential pollution of international waterways. These projects include hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects that affect relations between the Bank and its borrowers and between states. The rules also apply to detailed design and engineering studies of these projects, which the Bank may carry out itself or in any other capacity. The policy outlines notification requirements for projects on international waterways. It advises the state proposing the project to formally notify the other riparians of the proposed project, providing available details. If the prospective borrower indicates to the Bank that it does not wish to give notification, normally the Bank itself does so. If the beneficiary state also objects to the Bank's doing so, the Bank discontinues processing of the project. However, there are exceptions to the notification requirement for ongoing schemes, water resource surveys and feasibility studies, and projects related to a tributary of an international waterway under certain conditions. In cases where differences remain unresolved between the beneficiary state and the other riparians, the Bank normally urges the beneficiary state to offer to negotiate in good faith with the other riparians to reach appropriate agreements or arrangements. If the other riparians raise objections to the proposed project, the Bank may appoint independent experts to examine the issues, and if the Bank decides to proceed with the project despite the objections of the other riparians, it informs them of its decision. The Bank also ensures that the notification requirements under OP/BP 7.50 related to the activity are met and may rely on any such notification being undertaken by a WB Group Entity if found acceptable to the Bank. **There is no matching procedures in the national or RS law.**

5.2 Use of Borrower's Framework and use of other systems

5.2.1 EBRD E&S Policies

The European Bank for Reconstruction and Development (EBRD) places a strong emphasis on environmental and social sustainability in its operations. In fact, the Environmental and Social Policy is one of the EBRD's three 'good governance' policies. The EBRD Environmental and Social Policy (the Policy) presents the key document that guides commitment to promoting "environmentally sound and sustainable development" of its investment and technical cooperation activities. Further, the Policy outlines the bank's commitment to promoting environmentally sound and sustainable development, fostering transition towards open market-oriented economies, and supporting the communities where it operates. This policy is implemented through a framework of Performance Requirements that clients must meet as a condition for EBRD financing.

The E&SP is based on four (4) core principles:

- Sustainability: Ensuring that projects are environmentally sustainable and socially inclusive.
- Accountability and Transparency: Maintaining transparency in its activities and decision-making processes.
- Stakeholder Engagement: Actively engaging with stakeholders, including affected communities and other relevant parties, throughout the project lifecycle.
- Risk Management: Identifying and managing environmental and social risks and impacts associated with its projects.

Performance Requirements

The EBRD has established ten specific Performance Requirements that projects must comply with:

1. Assessment and Management of Environmental and Social Risks and Impacts: Comprehensive evaluation and management of environmental and social risks.
2. Labor and Working Conditions: Protection of worker rights and ensuring fair labor practices.
3. Resource Efficiency and Pollution Prevention and Control: Efficient use of resources and reduction of pollution.
4. Health, Safety, and Security: Safeguarding the health, safety, and security of workers and affected communities.
5. Land Acquisition, Involuntary Resettlement, and Economic Displacement: Managing risks related to land acquisition and displacement.
6. Biodiversity Conservation and Sustainable Management of Living Natural Resources: Protecting biodiversity and promoting sustainable natural resource management.
7. Indigenous Peoples: Respecting the rights and interests of indigenous peoples.
8. Cultural Heritage: Preserving cultural heritage and respecting the rights of communities to their cultural resources.
9. Financial Intermediaries: Ensuring that financial intermediaries also adhere to the EBRD's environmental and social standards.
10. Information Disclosure and Stakeholder Engagement: Promoting transparency and stakeholder engagement throughout project implementation.

The EBRD requires clients to integrate these Performance Requirements into their business operations, ensuring continuous monitoring and reporting on environmental and social performance. Additionally, the EBRD has a grievance mechanism that allows stakeholders to raise concerns about the environmental and social impacts of EBRD-financed projects.

The preliminary assessment indicates similarities of EBRD's E&S Policy and WB ESF: the Policy nature and scope follows WB standards so 10 Performance Requirements correspond with 10 WB ESSs, including ESS9 – financial

intermediaries (FI). There are requirements for monitoring and reporting. EBRD also monitors and evaluates both directly financed and FI projects. The extent of monitoring will be commensurate with the environmental and social risks associated with the project. Significant difference can be noticed in EBRD E&S Policy approach to climate change; while the WB addresses climate change though corporate commitment, the EBRD recognizes the importance of addressing both the causes and the consequences of climate change in its countries of operations though the E&S Policy. So, the Policy stipulates that EBRD will engage, whenever appropriate, in innovative investments and technical assistance to support no/low-carbon investments and climate change mitigation and adaptation opportunities, as well as identify opportunities to avoid, minimize or reduce greenhouse gas emissions in projects. Further, EBRD requires its clients to assess risks caused by climate change to the projects as well as support its clients in developing climate adaptation measures and climate resilient investments as well as in managing risks caused by climate change. The use of EBRD E&S framework (the Policy) and the common approach at this point requires further, in depth, analysis; however, it should not be excluded in the future.

5.2.2 EU Taxonomy

The European Union Taxonomy for Sustainable Activities (hereinafter EU taxonomy) is a classification system that defines criteria for distinguishing economic activities that are aligned with a net zero trajectory by 2050 and the broader environmental protection and enhancement EU goals. It presents a basis for directing investments to the economic activities most needed for the green transition, in line with the European Green Deal objectives. Developed as part of the EU's broader action plan on financing sustainable growth, the EU Taxonomy is a critical tool to help investors, companies, and policymakers transition towards a more sustainable and low-carbon economy. It defines, through alignment with its core principles, the alignment with the EU environmental goals, directives and action plans. The Taxonomy is in application for all type of investments from EU funds, including EBRD.

Core Objectives

The EU Taxonomy is designed with several core objectives in mind:

1. **Climate Change Mitigation**: Activities must contribute substantially to the reduction of greenhouse gas emissions or enhance carbon sinks. This includes renewable energy generation, improvements in energy efficiency, and the adoption of clean technology.
2. **Climate Change Adaptation**: Activities should enhance resilience to the impacts of climate change. This encompasses infrastructure designed to withstand extreme weather events and modifications in agricultural practices to cope with changing climate conditions.
3. **Sustainable Use and Protection of Water and Marine Resources**: This objective focuses on activities that promote water efficiency, ensure sustainable water use, and protect aquatic ecosystems. Examples include water treatment facilities and sustainable fishing practices.
4. **Transition to a Circular Economy**: Activities must contribute to resource efficiency, recycling, and waste reduction. This includes the design and production of goods that reduce material use and facilitate recycling and reuse.
5. **Pollution Prevention and Control**: Activities should minimize the release of pollutants into the air, water, and soil. This involves adopting cleaner technologies, reducing emissions, and implementing better waste management practices.
6. **Protection and Restoration of Biodiversity and Ecosystems**: Activities must support the conservation of biodiversity and the restoration of natural habitats. This includes sustainable forestry, conservation projects, and ecological restoration activities.

The implementation of EU Taxonomy lays on the DNSH principle which mandates that an investment in an economic activity (or a project), contributes substantially to at least one ecological core objective, and in the same time does not significantly harm any other core environmental objective. None of the core objectives are

social in nature, however, DHNS mandates meeting the **minimum social safeguards (MSS)**. In the case the aforementioned requirements are met, the investment (a project) or economic activity can be considered Taonomy aligned.

In addition to obvious benefits from improvements in E&S performance of economic activities and investments, the benefits the Taxonomy also provides a framework for identifying sustainable activities, reducing greenwashing and enhancing market confidence in green investments. By embedding the Taxonomy within EU regulations, the EU institutions are striving to ensure a standardized approach to sustainability across member states, as well as countries that use EU funds.

While the preliminary assessment indicates that there is no significant difference between the nature of requirements of the EU Taxonomy and WB ESF, two systems differ in scope of application (Taxonomy is applicable to companies not only projects), approach (Taxonomy focuses in greening the financial streams, not only safeguards), required content, maturity (EU taxonomy is relatively new and rather unknown framework outside the EU) and especially monitoring and reporting requirements. In conclusion, the common approach cannot be included in the future, however, there is a need for further and detailed comparative analysis before that decision is made

6 Key risks and potential impacts

6.1 Environmental and Social Aspects

Environmental and social aspects of the Project include all activities supported by the project that can have E&S risks and can produce positive or negative E&S impacts to society and people.

This project includes the following E&S Aspects:

Sub-component	Aspect
1.1 Upgrade of Route 2b between Brod na Drini (Foca) and Hum (Scepan Polje)	Upgrade and improvement of Route 2b of the TEN-T network, sections and supporting infrastructure between settlements Brod na Drini and Hum
	Widening the road
	Road surface rehabilitation
	Road reconstruction (changes in alignment)
	New alignment at critical sections, including construction of bypasses (approximately 3km)
	Construction and reconstruction of viaducts, bridges, interchanges and tunnels (approx. 1.5km)
	Construction and rehabilitation of retention walls
	Geotechnical investigation
	Redesign to address issues of flooding, landslides and other climate resilience requirements
	Road safety audit (again to inform design)
1.2 Investments in a program of rehabilitation of priority national roads (about 150km)	TA relevant for the road safety and climate resilience resistance design, road safety audits, technical control, designs and site supervision of the sections to be financed under the subcomponent.
	Reconstruction and rehabilitation of priority magistral roads withing the existing alignment – resurfacing, partial pavement widening, traffic signalization improvements, structure renewal, road safety improvements, rehabilitation of bridges and tunnels, ancillary connections e.g. crossroads, access roads, drainage systems, etc. (all targeting lower operating and life cycle cost)
	Maintenance of magistral roads
	Blackspot improvements
	Enhancing climate resilience
	Reconstruction/rehabilitation of Drnjaca River for climate resilience and safety enhancement
	Reconstruction/rehabilitation of Tatinjac River for climate resilience and safety enhancement
	Update of RS guidelines for design, construction, supervision and maintenance and related rulebooks to allow modern practices
2.1 Improved safety and resilience	TA, procurement of goods and services, training and operating costs for implementation of elements of road safety ecosystem including: (i) screening and prioritization of blackspot locations, design and implementation of interventions, and (ii) Stability monitoring.

	Ad i) Road Safety Inspection will be performed on 1200km road network across BiH. Focus will be made on RS where there was no prior screening. As a result, rehabilitation measures will be proposed.
	Ad ii) Stability monitoring: Slope management system, including landslides and facilities monitoring will be developed. The activity will include: procurement of monitoring equipment, organizing patrols, support with planned road closures, signing, periodic maintenance and minor rebuilding to reduce vulnerability.
2.2 Enhanced operational management	Technical assistance and procurement of goods and services to enhance operational management of the road sector. This includes (i) asset management system (purchasing and installation of equipment for road condition monitoring, weather station),
	(ii) Purchase of Weight-in-Motion system (purchase of equipment necessary for mobile weight control systems and weight-in-motion systems)
	(iii) Intelligent Transport System (ITS) for tunnel management – purchase of equipment and establishment for centralized monitoring of iTS systems in tunnels.
	TA to support drafting necessary legislation to facilitate the operations and enforcement of mobile weight control systems and weight-in-motion systems
	Multiyear maintenance plans development
2.3 Project Management and Capacity Building	30 paid internships out of which 60% will be women. Subsequent employment of at least 5 women.

6.2 Environmental Risk Rating

The proposed Project is, at this stage assessed as Substantial risk with respect to environmental management. The Project will finance a program of multiple road sections (altogether about 13 km long) in a corridor that spans 100 kilometers from Sarajevo to the border crossing with Montenegro at Scepan polje. The proposed Project is focused on road rehabilitation works that would include works in sensitive terrain requiring bridges, extensive slope protection works and need for cut and fill, and some new construction. The locations although multiple, include the largest component at Scepan polje that is located in the proximity of two international waterways, and protected areas of NP Sutjeska and the Tara UNESCO Biosphere. The project activities will generate dust and noise, use of natural resources including sourcing of materials and fill, with possible excavations and management of excavated material and waste, use of heavy machinery, use of asphalt and paints, impacts on traffic and possible impacts on surrounding sensitive environments. Nonetheless, all impacts can be mitigated through the implementation of sound practices that will be integrated into the site specific ESIA. The RS Roads PIU has a full time environmental specialist in house and a hired consultant that is supporting revision of the already developed EIA for the Scepan polje road section. Although the overall risk assessed for Scepan polje, as the most complex segment is between Substantial and High, the sound project ownership and capacity of RS Roads, along with an already prepared EIA report have led to the environmental risk being assessed as Substantial.

6.3 Social Risk Rating

The social risks rating of the Project is substantial. The proposed Project will benefit the wider population of the country by improving the overall road condition in the country while focusing on road safety and climate resilience.

However, a portion of the planned investments, mostly related to infrastructure activities under component 1, are likely to adversely affect communities that are hosting Project activities, as well as a wide range of road users. The preliminary identified most important social issues, that the Project might be facing, are: (i) pushback from road users in case of traffic stoppages or changes in traffic regimes and lack of adequate stakeholder engagement (ii) risks related to labor and working conditions including OHS issues due to civil works, inter alia, on rehabilitations of tunnels and bridges (working at height); (iii) community health and safety risks that are standard for infrastructure works (noise, dust, construction traffic increase) as well as potential labor influx due to high volume infrastructure work; (iv) potential land acquisition and involuntary resettlement; and (v) failure to ensure inclusion of members of vulnerable groups (including persons with disabilities). Since specific locations of Project interventions under component 1b will not be identified prior to the start of project implementation, the Project will use a framework approach to identify at the extent possible potential environmental and social risks and impacts related to the project. Prior to appraisal the implementing agencies have prepred for each entity an Environmental and Social Management Framework (ESMF), a Resettlement Policy framework (RPF), a Stakeholder Engagement Plan (SEP), Labor Management Procedures (LMP) and the Environmental and Social Commitment Plan (ESCP).

6.4 Environmental and Social Risks and key mitigation measures in the design phase

During the design and pre-construction phase of the project, technical assistance (TA) primarily involves the redesign or updating of the existing plans for road rehabilitation, reconstruction, and the construction of bypasses, viaducts, drainage systems, and other road elements of the 2b magistral road (M18) Sarajevo – Podgorica, specifically the section between Brod na Drini and Hum. This is aimed at addressing issues related to poor maintenance, unfavorable alignments, inadequate drainage, flood damage, landslides, and other climate resilience requirements.

TA will also focus on road safety and climate resilience, including road safety audits, technical control, design updates, and site supervision for the sections financed under this subcomponent. These efforts will be undertaken prior to the identification and selection of roads for Blackspot improvements, climate change resilience enhancements, and magistral road maintenance.

6.4.1 Occupational Health and Safety and Community Health and Safety

Geotechnical investigation (a part of the sub-project preparation 2b magistral road (M18) Sarajevo – Podgorica, the section between Brod na Drini and Hum) is a TA activity that, however, includes site activities such as climbing the natural and built structures some in risk from sliding, drilling rocks, installation of equipment and activities near operating roads, and testing stability of existing infrastructures. While these works are small-scale and impact to nature is negligible, there can be significant Occupational Health and Safety risks for experts and supporting staff as well as Community Health and Safety (CHS) risk related to traffic such as falling rocks, landslides, slowing down traffic or temporarily closing traffic. The same risks apply to safety audits of roads.

The risk is assessed as moderate.

6.4.1.1 OHS and CHS measures

Mitigation measures will include all OHS and CHS measures typical for small civil works – mandatory wearing of personal protective equipment including harnesses when working in heights, ear and eye protection, masks, gloves, and other equipment; further, the surrounding settlements and nature will be protected from noise and dust, traffic disturbance will be minimized, worksites fenced off and/or clearly marked, etc.

During safety audits of roads, any terrain works will be carried out in attested and registered vehicles, and attested machinery (if any will be used), wearing protective equipment (including reflective vests), using warning signage and lights when needed, and/or organize temporary traffic regulation, etc. All activities will be reported in advance to the local police stations. Instructions of the traffic police will be diligently followed.

6.4.2 Risk to water quality and abundance

Projects involving international waterways, such as the design of the bridge over the Tatinac River (a tributary to the Neretva River, within the Adriatic Sea Basin) and the Drinjaca River bridge (a tributary to the Drina River, part of the Black Sea Basin), pose a risk related to potential changes in water quality, velocity, and subsequent impacts on wildlife and water abundance and availability, especially if the design does not account for extreme weather events associated with climate change. Therefore, iIt is important to consider the weather patterns of the areas, as well as the effects of climate change already experienced. Additionally, the reconstruction of bridges can modify the base and foundation, potentially leading to long-term changes in river water velocity, currents, temperature, and other features.

Risk is assessed as low to moderate.

6.4.2.1 Water quality measures

The design must ensure that these alterations do not have adverse effects on waste abundance, quality, and other important characteristics. To ensure that, although the design is TA, it will be a subject to E&S assessment for potential downstream (in temporal meaning) risks and potential impacts, based on which, the sub-project will be also processed following requirements of the WB OP/BP 7.50 Projects on International Waterways.

Risk is assessed as low to moderate.

6.4.3 Risks form natural hazards and climate change

Republika Srpska (RS), like the rest of Bosnia and Herzegovina (BiH), is prone to natural disasters and the effects of climate change. Earthquakes are relatively common in RS. One of the most significant earthquakes in the former Yugoslavia took place in Banja Luka in 1969. The earthquake was a series of strong seismic shakes, with the strongest being 6.1 on the Richter scale and 8 on the Mercalli scale. This resulted in the death of 15 people, injuries to over 1,000, and damage to thousands of residential and other buildings. The wider area, especially sites under sub-component 1.1, is also prone to landslides and soil erosion. In the recent decade, RS suffered a series of floods, likely at least partially caused by changes in precipitation patterns due to climate change. Particularly damaging were the floods in 2014 and most recently in May 2023. As a consequence of the floods, there is substantial damage to infrastructure as well as water pollution due to the overflow of wastewater and contact of water with various wastes and materials. Furthermore, parts of Republika Srpska are also prone to other natural hazards induced by climate change, such as droughts, earthquakes, and wildfires, which can have a significant impact on people and infrastructure. Consideration of these aspects must be made a part of every design.

Risk is assessed as moderate to substantial.

6.4.3.1 Natural hazardous and climate change key mitigation measures

The infrastructure financed under the project will integrate climate change and natural disaster resilience into its design. The upgrade and improvement of the Route 2b network, specifically the sections between Brod na Drini and Hum, as well as the reconstruction and rehabilitation of approximately 150 km of main roads, will be guided by the Global Facility for Disaster Reduction and Recovery (GFDRR) ongoing Nature-Based Solutions and Network Vulnerability Assessment, along with other existing knowledge on climate change-related risks for the roads in RS.

Even though Bosnia and Herzegovina and Republika Srpska have not yet adopted EU seismic resistance standards, as an EU candidate country, they regularly apply EU Eurocode 8: Design of Structures for Earthquake Resistance. Additionally, the application of Eurocode 8 is mandatory under the project as part of Good International Industry Practice (GIIP) requirements.

During project preparation, careful consideration will be given to environmental and social risks, potential impacts, and key mitigation measures with a focus on site-specific exposure to climate change and natural disasters. Further, to efficiently identify and prevent potential hazards, the project activities will create a register

of vulnerable sites (as part of the identification of blackspots), taking into account vulnerability including not only traffic safety but also soil erosion, landslides, localized flooding, etc. It will also introduce conditions to implement slope management systems, including stability monitoring, and a register of vulnerable sites. Process of creating the register and identification of vulnerable sites will facilitate preparation of guidelines for vulnerability screening and climate-proof designs that is currently missing.

6.4.4 Biodiversity and nature related risks

As the roads, subject to this Project are mostly existing and new construction is limited to sub-component 1.1 where up to 2.5 km of bypass is planned, and also keeping in mind the type of the road (regional, not motorway), further habitat fragmentation that could hinder communication and movement of animals significant impact to biodiversity is not expected. The same can be applied to road rehabilitation/reconstruction works planned under the sub-component 1.2 (150km). However, the reconstruction, upgrade and new construction of the roads planned under Projects could be used for improving ecological features of the road that was largely neglected in the times of its design.

Lighting in the use phase can disturb behavior of insects and consequently negatively impact or even increase mortality of insects, birds and bats. Therefore, the design and selection of lighting will be to minimize the lighting pollution use light of less harmful spectrum.

6.4.4.1 Improving ecological features of the road

Design of roads under the sub-components 1.1 and 1.2 will look for the opportunities to improve ecological features of the existing roads. This will be done based on the technical solutions for construction of ecological/green bridges, passages and other infrastructure that enable unhindered and safe movement of animals prescribed in (i) Guidelines for Design, Construction, Maintenance and Supervision of Roads, Book 1: Design, Section 1: Design of roads, Chapter 6: Rad and Environment (used by both entities); and Wildlife and Traffic: A European Handbook for Identifying Conflicts and Designing Solutions.

6.4.5 Land acquisition, restriction on land use and involuntary resettlement risks

The need to obtain land for the project will be low to moderate, limited to land for extension of road width and construction of small number of short bypasses (up to 2.5 km, mostly under the Project sub-component 1.1), and possibly for works on prevention of landslides. Temporary land use restrictions may be caused under the Project by right of way and construction/use/dismantling temporary access roads. Though the exact routes are not known in the Project preparation, it is expected that the land will mainly consist of land owned by other RS institutions (ministries and agencies such as Public enterprise Forests of Republika Srpska, Water of Srpska, etc.), and privately owned agricultural land.

The project does not anticipate having facilities on the land, but it is still uncertain if there will be any negative impacts on revenue sources or economic displacement or land acquisition (as the road alignment is unknown for M18), however, significant economic displacement is not expected. The potential impacts mentioned are based on current project documentation and plans, as well as outdated site-specific impact assessments from previous designs and information.

At this point, as project locations are largely unknown and alignment at the M18 road Foca – Scepan Polje undefined, it is uncertain whether there will be any physical displacement, to what extent and whether the impacts will pose risks related to the livelihood of the affected persons. The assessment tools will be based on current and reliable information regarding:

(a) the proposed sub-project and its potential impacts on the displaced persons and other adversely affected groups,
(b) land ownership and rights,

(c) appropriate and feasible mitigation measures,
(d) the national regulatory and institutional framework, and arrangements needed for effective implementation of resettlement measures,
(e) adequate mitigation measures following mitigation hierarchy and effectively enabling for the restoration of livelihood (when one is lost), and
(f) a long-term monitoring and evaluation plan outlined in the RPF to track implementation progress, address design gaps, and ensure positive restoration outcomes. Additionally, the assessment will identify vulnerable households in the context of resettlement and include specific measures to ensure these groups are adequately supported.

As per the ESS5 the RAP needs to implemented and all compensation paid, i.e. the land acquisition process complete prior to any civil works. Also impacts to livelihood need to be mitigated. That is why these two impacts belongs in the previous chapter.

The Environmental and Social Standard (ESS) 5 applies also to permanent or temporary physical and economic displacement resulting from land acquisition or restrictions on land use undertaken or imposed in connection with project implementation prior to the project, but which were undertaken or initiated in anticipation of, or in preparation for, the project. If such cases are identified through the social analysis of sub-projects, an audit will be undertaken by the Putevi Republike Srpske's Project Implementing Unit (PIU) to: (a) document and assess the adequacy of prior mitigation measures to address the environmental and social impacts of the past resettlement; (b) assess compliance with national legislation; (c) identify gaps in meeting the requirements of ESS 5, including identification of vulnerable households in the context of resettlement and adequacy of support provided; (d) identify any complaints, grievances, or other outstanding issues; and (e) determine measures to close identified gaps and address complaints.

This due diligence is undertaken within an agreed-upon time frame that considers the project's context. It may not be possible to retroactively satisfy certain aspects of ESS 5, such as consultation and disclosure. The due diligence may include a review of relevant documents, field visits, interviews, and consultations held with affected persons and other key stakeholders. If activities resulting in displacement are ongoing at the time of project identification, they would continue guided by the principles of the Resettlement Policy Framework (RPF) applicable to the Project.

Risk is moderate to significant.

6.4.5.1 Mitigation of potential impacts related to land acquisition, Restriction on land use and involuntary resettlement

The social impact assessment for the proposed sub-projects, including land acquisition, will involve various methods and tools such as scoping, social analyses, investigations, audits, surveys, and studies. These tools will be tailored to the specific nature and scale of the land acquisition and resettlement impacts. The process, referred to as social analysis in the Resettlement Policy Framework, will be conducted in advance to determine the type and content of resettlement instruments.

The findings of the social analysis process, along with proposed mitigation measures, will be documented as part of the project/subproject package. The selection, design, and implementation of operations financed under the project will adhere to specific guidelines, codes of practice, and requirements. Putevi Republike Srpske PIU will carry out the social screening of activities as part of the site-specific E&S due diligence described in the Chapter

7, and the screening reports will be endorsed by the Head of the Putevi Republike Srpske and submitted to the World Bank.

The screening will rely on the following criteria and will aim to faithfully identify whether the proposed sub-projects will have adverse impacts on:

- loss of shelter, physical displacement.
- assets/resources or access to assets/resources
- loss of income sources or means of livelihood.
- land, and require land acquisition.
- business and economic displacement.
- access to education and health of the community.
- vulnerable persons and households.

The social analysis will identify individuals who have formal rights to land and assets, including customary and traditional rights recognized under the laws of the country. It will also identify individuals who do not have formal rights to land but have a claim to such land and assets. The analysis will not only rely on the use and analysis of readily available secondary data but will also require a walk-over survey to validate that the secondary data provides a true, reliable, and accurate understanding of the social environment. If the walkover survey does not provide conclusive decisions, further efforts will be made to acquire and verify information through key informant interviews, focus group discussions, and other adequate methodologies.

If the analysis finds that such impacts as described above is likely, to assess and manage these potential impacts, specialized methods and tools such as a Resettlement Plan, Livelihood Restoration Plan, and Resettlement Audit will be developed as part of site-specific E&S Assessments. However, avoidance is the first and favorable approach and the sub-project design will consider this option and anyway possible. The level of detail and scope of the resettlement plan will be proportional to the magnitude and complexity of the resettlement and will be guided by the Resettlement Policy Framework (RPF) adopted for the Project.

As per the ESS5 the RAP needs to implemented and all compensation paid, i.e. the land acquisition process complete prior to any civil works, mitigation of livelihood, etc.

When land has been acquired in anticipation of the project, an audit of appropriate scope will be conducted, in line with the RPF, to assess compliance of the resettlement and compensation process against the requirements of the ESS5.

6.5 General overview of risks in the construction phase

While there may be construction of new road sections under sub-component 1.1 as part of investments in the Brod na Drini - Hum (2b corridor) road, these will only improve road alignment and bypass urban settlements that significantly slow down the road. Since the design is not yet completed and the sections are unknown, the total length of the new sections is also unknown. However, the 2017 ESIA envisioned an upgrade of 13.5 km of the M18 road between Brod na Drini – Hum, where only a fragment (up to 2.5 km) of which will be new road. Due to their size and planned location, it is not expected that these will have a significant environment and social impact on the overall project risks. Construction of larger sections of the road will not be financed. The rest of the investments will take place on the existing road network.

In general, project activities can be divided into two types: civil works (construction, reconstruction, and rehabilitation of road sections and road ancillary elements such as bridges, viaducts, tunnels, culverts, drainage, and similar), maintenance works, purchase of equipment, and Technical Assistance (TA) in the form of design, road safety inspections, and other ‘soft’ activities. In addition to construction of small sections of the road (including bypasses), the works may include rehabilitation of road sections, reconstruction and upgrade, widening of road sections, construction or/and rehabilitation of bridges and viaducts, construction or/and rehabilitation of retention walls and tunnels, ancillary connections, drainage, procurement of equipment, safety

inspections, installation of equipment, etc. Temporary access or bypass roads construction and subsequent dismantling cannot be excluded.

These activities trigger a wide range of risks and potential impacts mostly typical for civil and road works. More significant risks and potential impacts will occur during larger construction, rehabilitation, and reconstruction works including dust, noise, and vibrations emissions during drilling, loading and unloading of materials and parts, transport, impact on soil and water from operations on bridges, viaducts, tunnels and from leaking fuel, lubricants, and similar. It is not realistic to assume that for this type of operations no fuel or hazardous chemicals will not be present at the site. The contractor may also decide to set up an asphalt base on the site where significant works will be carried out (e.g. under component 1.1) in the case one is not available in the vicinity, though this si unlikely. Significant use of hazardous agents (fuel, oils, lubricants, possibly small amounts of other chemicals), raw water, and mineral materials (crushed stone, sand, cement) will be used in the project. Furthermore, potential long-term water disturbance may occur during works on bridges, for example when the base of the bridge is altered, potentially impacting water quality and velocity, and with the new road infrastructure such as drainage and culverts. Soil disturbance can occur with a change in road alignment and construction of bypasses where there would be significant earthworks, possibly even mining. Civil works related to retention walls can also include landslides and erosion.

All civil works will create some level of risks related occupational health and safety; most commonly, the risks relate to injuries and fatalities due to falling of objects and materials when unloading, tripping and falling, working on heights, working with heavy transport and heavy machinery, working with chemicals and wastes. Some works may be carried out while the road or part of the road is in operation, e.g. works on signage and signaling, installation of equipment such as weigh-in-motion systems. In these cases, risks from car accidents and hit are significant. In addition, climate change effects of which are already very visible in Balkans, with long periods of droughts, heatwaves, but also strong unexpected storms increase OHS risks adding risks from heat stroke, dehydration, flooding related risks, falling, and/or risks form flying objects due to strong winds, risks from fires and lighting. OHS risk also include risks performing road safety inspections, screening of blackspots, e.g. traffic accidents, dehydration, heat strokes, etc.

Community Health and Safety (CHS) risks relate mostly to disturbance of traffic and traffic accidents. Traffic routes may be temporarily closed which can cause additional costs in transport of people and goods, personal transport. It may also increase risk of traffic accidents due to changes of routs or special traffic regulation. Human health may be also at risk from dust, noise and vibrations typical for civil works. While this is not likely to the scarce populated section of Brod na Drini to Hum road, it may be the case for reconstruction and rehabilitation of 150km of road sections planned under sub-component 1.2.

It is expected that the project will generate a large quantity of waste. Primarily, it will be construction waste from earthworks (mixed mineral waste including soil and stone materials), construction materials packaging, waste metal, oil and fuel contaminated cloths, containers and other materials, waste chemicals and containers, and more. There may be a significant amount of biodegradable waste from cleaning project-sites. Re-greening whether for landscaping purposes or soil stability can have undesirable effects if invasive species would be used (especially given there is no list or limitations in the legislation in that sense).

Apart from the road Brod na Drini – Hum where route is approximately known as mostly follows the existing road, the exact routes and roads subject of this Project are yet to be selected. Therefore, it is quite possible that some of them will be located in the nature protected areas and in vicinity to archeological and cultural heritage facilities and sites. Though currently protected surface includes only 3% of the total territory, there is a larger area planned to be protected in the current RS Spatial Plan (2015-2025) as well as a part of the future Natura 2000 network (11.96% of RS territory). The impact to nature protected and sensitivity areas, habitats and protected species includes disturbance of animals by noise, vibrations, presence of humans, disturbance of water and soil, especially in the sensitive periods for species such as breeding, denning, and growing young. As the routes are existing and differing form them will be slight, risk from fragmentation of habitats is low.

In the use phase the significant impacts include safety related to traffic (pedestrians and traffic accidents), waste from car wrecks, contamination of water and soil from badly managed roadkill, localized flooding, salt

contaminated water in the winter, fire safety in tunnels and on the road, access to emergency vehicles, safety from forest fires .

In the long run the Project will create may positive impacts including increased resistance of roads to natural disasters and climate change effects, quicker and easier access to markets for RS economic subjects, easier movement of goods and services, improved safety in traffic, and more. However, adverse impacts will also take place most of which will be short term. Long-term adverse impacts are possible; however, their occurrence is unlikely providing mitigation measures are timely and correctly applied.

6.5.1 General overview of key measures

The provided overview of measures is informative only and if they differ from WB ESF and WB EHSG requirements, the stricter one will prevail. The final set of mandatory mitigation measures for site-specific projects and activities will be defined in the specific Environmental and Social Assessment (ESA) and ESA reports (ESIA, ESMP, ESMP Checklists, E&S Audits) for a particular sub-project or activity.

Table 8: Overview of measures for the key risks in the construction phase

Potential Impact	Prescribed Measures
OHS	▪ Assess risks for each workplace and prescribe particular safety measures accordingly, ▪ Workers will wear required PPE at all times, ▪ Appointing/employing trained OHS person responsible of workers' safety in adequate numbers (follow GIIP), ▪ Evacuation and emergency procedures are in place, ▪ Climatic conditions are taken into account when organizing works – provide sufficient potable water and isotonic, protection from rain and strong winds, etc. ▪ Ensure GRM for workers is fully functional
Traffic safety	▪ Prepare Traffic management plan subject to traffic police approval, ▪ Ensure there are safety passages for pedestrians if needed, ▪ Use traffic lights, signaling and other appropriate means to regulate traffic, ▪ Avoid conducting works in operating roads, but when necessary provide safety barriers, signaling, reflective vests, etc. ▪ Avoid working during night.
Noise emission	▪ Organise works mindful of sensitivity of the location, ▪ Install noise screens if necessary, ▪ Upon complaints or negative inspection findings organize regular monitoring, ▪ Conduct meaningful consultation and early warning/informing the local community of noisy works, ▪ Avoid nightworks.
Air pollution	▪ Install dust screens, ▪ Water the dust prone materials, ▪ Transport materials in covered trucks, ▪ Clean roads regularly, ▪ Upon complaints or negative inspection findings organize regular monitoring,
Water and soil pollution	▪ Prepare Waste Management Plan for all sub-projects, ▪ Adhere to waste hierarchy, ▪ For all hazardous liquids are kept in leak-proof containers of with bunds of 110% capacity ▪ Illegal dumping is strictly prohibited
Access to livelihoods	▪ Limit access to land, water and other means only when this cannot be avoided, ▪ Avoid closing roads for local population, ▪ Provide alternative routes and access, ▪ Timely carry out census and surveys to establish economic and social baselines for compensations ▪ Enable anonymous complaints within GRM system
	▪

Cultural heritage (CH)	If, during the execution of construction and other works, archaeological sites are encountered sites or finds, the contractor is obliged to stop immediately, without delay works and inform the competent authorities for CH (the State Institute for the Protection of Cultural, Historical and Natural Heritage), and to take measures to ensure that the site or find is not destroyed and not to damage it and to preserve it in the place and position in which it was discovered. Works can only recommence with the written approval of the Institute.

6.5.2 Waste management risks, potential impacts and mitigation

Key waste risk will evolve around large amounts of demolition and construction waste. This includes mineral waste, such as excavated mineral material in earthworks carried out for new or existing roads, viaducts as well as mining in tunnels. Mineral waste will also be generated from interventions in riverbeds during reconstruction and/or construction of bridges and digging in culverts. As the works are mostly on the existing roads, generation of waste asphalt and concrete other road elements (e.g. waste from dismantling protected rails, waste concrete from old culverts, dismantled embankments and gabions, old signage, etc.). that will be generated during rehabilitation and reconstruction is likely to be significant.

Biodegradable waste from clearing greenery on project sites will be generated (e.g. new section construction, widening of roads, stabilization of landslides, etc.). the quantity of this waste will depend on the terrain and natural cover at the site. There may be some waste wood from the wooden parts of bridges, wooden plans for foundations, etc.

Other waste risks will include waste debris and other waste form cleaning the roads (car wrecks and car parts, tires, batteries, etc.), municipal and administrative waste, packaging waste (pet bottles, containers, paper and plastic and other packaging from materials), other plastics, small quantities of electronic waste (cables, monitoring equipment in tunnels, monitoring of landslides, signaling, weight-in-motion systems), small quantities of hazardous waste (asbestos in removed pipes and objects, oil and fuel contaminated cloths, packaging, residual liquids, paint, mastic, varnish, sprays, solvents, etc.). Generation of significant quantities of hazardous and special types of wastes is not expected.

Although most of the roads will be operating (at least partially) during the works implementation, roadkill and car wrecks will be considered in the section providing overview of adverse environmental and social impacts in the use phase.

Risk is considered to be significant.

6.5.2.1 Waste management key measures

Waste management at sites shall be addressed through the implementation of provisions and requirements on management of all types of wastes, including management of hazardous wastes, defined in the Environmental and Social Assessment instruments (ESAs) prepared for the site-specific projects and activities. These provisions will be defined in line with the national legislation and applicable WB Environmental, Health and Safety Guidelines (EHSG; for waste management, OHS, roads, and other applicable) and Good International Industry Practices (GIIP). Given BiH candidate status in EU, the latter will include mandatory application of EU Construction and Demolition Waste Management Protocol. The Protocol consists of 5 components, all of which contribute to the overall aim. The first three are based on the construction and demolition waste management chain and two are of a horizontal nature: (i) Waste identification, source separation and collection; (ii) Waste logistics; (iii) Waste processing; (iv) Quality management; (v) Policy and framework conditions.

Implementation of waste related mitigation measures and monitoring is an obligation of each Contractor and Sub-Contractor. The waste producer, i.e. any Contractor/sub-contractor, must:

- Develop a site-specific Waste Management Plan (based on ESA requirements) and ensure its implementation.
- Obtain a waste testing report and update it in case of any changes, keeping such a report for at least five years.

- Apply the waste management hierarchy principle.
- Collect and classify waste according to national legislation.
- Store waste in a manner that does not affect human health or the environment and prevent the mixing of different types of waste.
- For waste soil and mineral materials consider recycling and reuse (if confirmed harmless). If disposal is the only option, the waste cannot be disposed on the private land, but only on publicly owned and with written approval for depositing by all competent authorities including the land owner.
- Hand over waste to an authorized waste management entity if unable to handle waste in compliance with the Law.
- Maintain records on produced, handed over, or disposed waste.
- Appoint a person responsible for waste management.
- Allow competent inspectors to inspect sites, facilities, plants, and documentation.

In accordance with EU protocols, as well as local legislation and WB EHSG, the ESAs will include waste hierarchy in the management requirements. When planning waste management for sub-project specific activities, contractors (including service contractors) must consider the following:
- Identifying waste streams, waste types, assessing quantities, and need for temporary storage during planning, siting, and design activities. Also, reflecting envisaged waste streams (and waste management plan - WMP) in demolition plans.
- Paying attention to hazardous waste streams and segregating them from other types. Adequate testing should be applied to classify waste if necessary, separating materials for recycling or reuse from the remaining waste, and storing them properly.
- Covering all aspects of waste management, including implementation of practice standards such as waste hierarchy. Specifying final disposal routes for all waste and demonstrating compliance with national legislation and best practice procedures on waste management.

The waste transport requirements of WMP is similar to the waste regulation in RS; the WMP will include details of temporary waste storage, waste transfer, and pretreatment prior to final disposal or recycling. Licensed/approved facilities for solid and liquid waste disposal must be used, including a duty of care and chain of custody for all waste leaving the site. Contractors will be expected to produce waste handling forms for chain of custody, which will be used to control waste leaving the site. The waste controller will keep a copy of the form and the driver will always carry a copy and ensure that the load is signed for at the final disposal site. All records (waste manifests) must be kept by the Contractor for reporting and audit purposes. This is to ensure compliance with best practice and applicable legislation, including collection of data and information about the process and waste streams in existing facilities, characterization of waste streams by type, quantities, and potential use/disposition.

Other considerations include, and are aligned with the RS regulation and GIIP:
- Establishment of priorities based on a risk analysis that takes into account potential EHS risks during the waste cycle.
- Definition of Occupational Health and safety procedures for staff managing waste.
- Separate collection organization: Containers should be set up for specific types of waste during construction, with predetermined and adequate locations for storing waste collected from the site before transport to dumpsites.
- Definition of procedures and operational controls for onsite and temporary storage.
- Definition of transport protocols and identification of transportation options.
- Definition of options/procedures/operational controls for recycling and reuse, treatment, and disposal, with sanitary landfills as the preferred option for disposal. Disposal to illegal dumping sites is prohibited.
- Separately collecting the main fraction of wastes.

- Segregating hazardous wastes from nonhazardous wastes at the source, without mixing different types of hazardous waste.
- Prevention of harm to health, safety, and the environment in the management of hazardous waste, understanding potential impacts and risks associated with its complete life cycle.
- Ensuring that contractor's classification, handling, treating, and/or disposing of hazardous waste are reputable and legitimate enterprises, licensed by relevant regulatory agencies, in line with the WB EHSG for waste and national regulation.
- Ensuring compliance with applicable national regulation and international treaties.
- Burning of waste at site or anyplace else is strictly prohibited. So is dumping of waste to watercourses, or anywhere apart from designated landfills.
- Safely storing hazardous waste to prevent access by unauthorized persons, protect it from weather conditions, and prevent leakages to control accidental releases to air, soil, and water resources.
- Providing adequate ventilation where volatile wastes are stored, with hazardous waste management and storage activities subject to special management actions conducted by employees who have received specific training in handling and storage of hazardous wastes.
- Provision of readily available information on chemical compatibility to employees, including labeling each container and ensuring required Personal Protection Equipment (PPE).
- Clearly identifying and labeling waste, and demarcating the storage area, including documentation of its location on a facility map or site plan.
- Conducting periodic inspections of waste storage areas and documenting the findings, preparing and implementing spill response and emergency plans to address accidental releases, and avoiding underground storage tanks.

On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public.
In addition to the recommendations for treatment and disposal applicable to general wastes, the following considerations are specific to hazardous wastes:
1. Asbestos waste should not be removed until an approved Asbestos Removal and Management Plan is in place. This plan should ensure proper removal, packaging, and sealing of asbestos-containing waste to prevent dispersion of asbestos fiber and dust into the environment.
2. Inert construction waste can be reused if proven harmless, while unusable and contaminated fractions must be disposed of or treated at licensed facilities. Contaminated fractions may not be reused or placed on the market.

In addition to bitumen, coal tar was added to asphalt mixtures in the past, usually before 80s. While bitumen is inert, coal tar contains elevated levels of PAH's (Polycyclic Aromatic Hydrocarbons) some of which are extremely carcinogenic, and which tends to be released when damaged, including when broken for removal. While the RS Law on Waste Management and its bylaws including Waste Catalogue do not recognize this waste as hazardous,, Directive 2008/98/EC of the European Parliament and of the Council on Waste defines any waste that is cancerogenic as hazardous, and Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals - REACH Directive limits the concentration of PAHs. One of the mostly represented in coal tar is benzo(a)pyrene limited at /kg maximum concentration by weight in homogeneous materials. Therefore, it is required from the Contractor, in the case records show asphalt dates before 1980 or the year of the application cannot be established, to test the random 1mg samples of the road before deciding on the waste type and further processing.

6.5.3 Soil and water pollution

Contamination of soil and water under this project is likely to come from (but are not limited to) inadequate temporary storage of waste, especially hazardous wastes, use of contaminated mineral materials, waste dumping, use of contaminated water and inadequate keeping and handling hazardous liquids such as petrol, oils, lubricants, excavation of soil, dredging, works in the river beds, on foundations of bridges, and other works on bridges, watering working-site,. Soil pollution is not only contained to the soil matter, it can easily further produce contamination to groundwater, surface water and environmental components in other sites. Also, where contaminated subsurface include volatile substances, soil vapor may also present contaminate of indoor air spaces of buildings. Since the project does not envisage construction of indoor spaces, the risk for this is negligible; however, if the contaminated soil is reused, it can cause secondary pollution.

In the implementation phase, soil pollution is possible, but it is likely to me small-scale, and localized e.g. from oil and petrol spills from wrecked or broken vehicles, service units if any would be built (e.g. petrol stations, though they are not planned under this project), winter road maintenance from technical salt. Though there would be a significant soil disturbance in upgrading, reconstruction earthworks, changes in composition or soil quality are not expected as a result, unless contaminated mineral materials are used or contaminated water (for cleaning machinery, transport vehicles, reducing dust, etc. or in the process of construction) or possibly from damaged utilities/pipelines (e.g. when near settlements or businesses). The project will support upgrade of sections of the existing road or construct bypasses. It is currently (during Project preparation) unclear whether larger quantities of fuel will be stored at the site, but it is highly unlikely. It is also not decided yet if an asphalt base will be installed at the site, however, there is an existing asphalt base in Brod na Drini (approximately 5km from the site) which will most probably be used for asphalt supply. As a result, only smaller quantities of oil, mast, lubricants, detergents, wastes and other hazardous liquids that can present a risk to soil quality in the case of leaking, will be present at the site. Soil can also be contaminated from use of contaminated mineral materials in construction of road, or use of contaminated water in production of cement and general construction activities.

In the construction phase, all removal of greens will be done manually. No pesticides will be applied.

Water pollution form activities under the Project is likely to be caused by secondary contamination form the contaminated soil or water, and illegal waste dumping. Uncontrolled surface runoff can also cause turbidity in adjacent streams. Rainwater and wastewater from roadways are often contaminated with organic pollutants (likaly PAHs) and heavy metals (including lead, cadmium). In case traffic accidents, the said pollution is stronger and can affect all groups of animals which are related to the aquatic environment (fish, crustaceans, shellfish, etc.). Works in the base of bridges, especially if there is reconstruction (and changes in the design of foundation) or new construction can cause turbidity, but also long-term changes in water quality, velocity and, consequently, availability.

Risk for soil pollution is considered low and for water pollution, moderate.

6.5.3.1 Soil and waste pollution avoidance and mitigation

Contamination of land and soil should be prevented and controlled by implementing appropriate measures. Adequate management of materials is essential. In that sense, key mitigation will requre that all hazardous liquids and chemicals kept and used on the site should be handled by trained personnel and in accordance with Material Safety Data Sheets (MSDS); Hazardous chemicals and substances must be protected from weather conditions and stored securely as per the requirements outlined in the MSDS; Liquids must be stored in double-bunded containers or in storage areas equipped for the collection and retention of liquids at a capacity of 110%. This requirement also applies to generators with diesel tanks.

Site-specific Environmental Site Assessments (ESAs) will include an evaluation of the risk of soil and water contamination at the site. This assessment will consider three risk factors: contaminants, receptors, and exposure pathways. Contaminants refer to hazardous materials, waste, or oil in the environment at potentially hazardous concentrations. Receptors are humans, wildlife, plants, and other living organisms that could come into contact with the contaminants of concern. Exposure pathways indicate the route of migration of the contaminant from

its point of release and the routes of exposure that allow receptors to come into contact with contaminants, such as ingestion or transdermal absorption.

Procedures for preventing and remedying spills will be developed before commencement of works and communicated to relevant staff. At very least they will mandate that in the event of spills or potential contamination at a site, the contaminant will be contained and spread controlled as soon as possible followed by actions taken to eliminate the contamination at its source. If the contaminated material is identifiable, it should be tested for contaminants and concentrations. When the contamination is confirmed, the contaminated soil should be removed and treated as hazardous waste. The removed contaminated materials will be handled, temporarily stored, managed and disposed/processed as hazardous materials, following precautionary principles.

Other soil protection measures include preventing landslides and erosion through geotechnical inspections and measures, such as concrete injecting, gabions, fences, and geomembranes. Illegal dumping and littering will be strictly prohibited.

To prevent indirect impacts to soil from suppliers, mineral materials should only be obtained from licensed quarries and sand/gravel producers.

If a temporary asphalt base is to be installed at the site, a separate Environmental and Social Management Plan (ESMP) will be developed for this activity.

Dumping waste into watercourses (or anywhere in the nature) is strictly prohibited and may result in contract termination. During works, particularly earthworks, the selected site will be (i) publicly owned (keeping mineral materials is not allowed on private land); (ii) approved by the local administration; (iii) away from sensitive recipients (businesses, playgrounds, etc.), and (iv) will be protected from surface runoff. When works are conducted in riverbeds, water streams should be redirected, works protected, and turbidity minimized. In case of water contamination, the same principles and steps apply, from identifying the contaminant, receptors, and pathways, to containing the water and treating it as hazardous waste. In the case of dredging in particular (but also other earthworks), ESA will also assess potential for biodiversity improvements and results will guide selection of deposition location. Collection of surface runoff and treatment though grease and oil separators and sedimentation tanks, will contribute to prevent water pollution.

6.5.4 Noise and vibrations

Noise and vibration risks are significant concerns in the construction of roads. These risks can have several adverse effects on both the workers involved in the construction and nearby residents. It is crucial to address these risks effectively to ensure the safety and well-being of all those affected.

Construction activities such as ground excavation, blasting, and the operation of heavy machinery generate high levels of noise. Prolonged exposure to this noise can lead to hearing damage and other related health issues for the workers on the construction site as well as local population that resides around the site. Additionally, the noise can also cause disturbance to local wildlife. Under sub-component 1.1, the road sections undergoing reconstruction and repair will mostly not be situated near settlements (that are sparse along the road). However, there still will be construction to avoid settlements, as well as the fact that noise from this activity can still create a significant disturbance to wildlife and pose serious occupational health and safety (OHS) issues for workers. On the other hand, sub-component 1.2 involves the rehabilitation or reconstruction of 150km of roads, for which locations are unknown and which is likely to have some adverse impacts on community health and safety (CHS).

Vibration, another byproduct of road construction activities, can also pose risks to both workers, population, and nearby structures. The operation of heavy machinery and the use of construction equipment, use of pneumatic drills, blasting, drilling tunnels, and other road-related works can create ground-borne vibrations that may impact the stability of nearby buildings and infrastructure. Furthermore, workers who are consistently exposed to these vibrations are at risk of developing conditions such as hand-arm vibration syndrome, which can have long-term health implications.

The RS Rulebook on Precautionary Measures for Safe and Healthy Work When Exposed to Noise (56/15) defines the daily limit value of exposure and the daily action value of exposure to noise at

1) limit value of noise exposure: LEX,8h = 85 dB(A) and peak = 140 Pa (137 dB), and

2) action value of noise exposure: LEX,8h = 80 dB(A) and peak = 112 Pa (135 dB).

The same Rulebook also requires employers are required to assess the risk of injury and health damage to workers in all workplaces where they may be exposed to noise; When assessing the risk of noise exposure, the following factors should be considered: 1) The level, type, and duration of noise exposure, including impulse noise. 2) The limit and action value of noise exposure as determined by regulations. 3) Any impact on the safety and health of workers who are particularly sensitive, such as workers under 18, persons with disabilities, pregnant or breastfeeding women, mothers with a child under one year of age, workers with occupational diseases and other health issues, and workers with reduced working capacity or at risk of disability. 4) Impacts on safety and health resulting from the interaction between noise and ototoxic substances (certain medication) and vibrations. 5) Indirect impacts on safety and health resulting from the interaction between noise and important sounds that workers need to hear to reduce the risk of injury or health damage. 6) Noise emission data from work equipment manufacturers in accordance with regulations. 7) The possibility of replacing equipment with quieter alternatives. 8) Noise exposure for workers working longer than full-time. 9) Information from medical examinations of workers based on health status monitoring. 10) Availability of hearing protection equipment with appropriate noise reduction.

The RS Rulebook on limit values of noise intensity (OG 2/23) defines limit values for noise in different space use and activity zones (defined in the spatial acts and Law on Nature), as follows in the table:

Table 9: Noise limits per category of areas according to RS Rulebook on limit values of noise intensity (OG 2/23)

Zone	Use of space	The highest noise levels L_{RaeqT}/dB(A)			
		L_{day}	$L_{evening}$	L_{night}	L_{den}
1	Areas used for relaxation, recovery, medical treatment, quiet spaces outside settlements, including all categories of protected areas in RS	50	34	40	50
2	Residential areas (exclusively) or quiet areas within settlements (pre-school and school zones)	55	55	40	56
3	Areas for mixed purpose, predominantly residential	55	55	45	57
4	Areas for mixed purpose or areas predominantly for business use (mixed business and residential areas, mixed commercial and residential areas) and areas next to magistral and main city roads	65	65	50	66
5	Areas exclusively used for artisan, service, commercial, recreational, sport and hospitality purpose	65	65	55	67
6	Industrial, storage and service area and transport terminals	Noise at the border of this zone mut not exceed limit values of te bordered zone.			

Risk is assessed as moderate to significant.

6.5.4.1 Noise and Vibrations Mitigation

To mitigate these risks, road construction companies should implement effective control measures. This may include the use of quieter machinery and equipment, implementation of sound barriers around the construction site, and scheduling construction activities to minimize disturbances during sensitive times or periods for people as well as animals. E.g. works shall be organized to avoid breeding, denning and other significant periods for protected birds and other animals in the working area. Additionally, monitoring and regular assessment of noise and vibration levels can help identify potential issues and allow for timely intervention.

Furthermore, providing workers with appropriate personal protective equipment (PPE) such as earplugs and earmuffs, regular attesting of equipment and vehicles, keeping engines contained, and other maintenance activities. Educating workers about the risks associated with noise and vibration exposure and promoting regular health check-ups can also contribute to a safer work environment.

The national legislation, in particular, RS Rulebook on Precautionary Measures for Safe and Healthy Work When Exposed to Noise, also prescribes sets of measures for reduction of noise, including: 1) Using modern technical solutions and available measures to eliminate or minimize noise at its source. 2) Applying preventive measures such as alternative work methods to reduce noise exposure. 3) Selecting appropriate equipment emitting minimal noise for the tasks being performed. 4) Designing and arranging workplaces and workrooms to minimize noise exposure. 5) Providing information and training to workers on safe and healthy work practices, including

the proper use of work equipment to minimize noise exposure. 6) Using technical means such as shields, fences, sound-absorbing covers, damping, or isolation to reduce noise emission. 7) Implementing appropriate maintenance programs for the workplace and work equipment. 8) Applying organizational measures such as limiting the duration and intensity of noise exposure and scheduling appropriate rest time.

If noise exposure exceeds the specified action value, implementing technical and/or organizational measures to reduce workers' exposure to noise is necessary. Ensuring that rest rooms provided by the employer have suitable noise levels for their purpose. Marking workplaces where the action value of noise exposure may be exceeded with occupational safety and health signs, and securing those areas from access by workers not assigned to those workplaces is also important. Adapting measures to reduce noise exposure to the specific needs of workers who are particularly sensitive to safety and health risks in the workplace is crucial. Identifying and specifying jobs that may pose risks for particularly sensitive groups of workers in the risk assessment is also essential.

Protecting community health and safety from noise exposure may not always be possible, but it can be reduced to acceptable levels with good organizational measures. Noisy work should be limited to daytime and to times of day when the population in the area is low. For residential areas, this would be during working and school hours, and for school and commercial areas it would be the opposite. Night work is discouraged and requires special permission from local authorities, as well as extensive consultation and information dissemination to the local communities.

In conclusion, addressing noise and vibration risks in road construction is essential to protect the well-being of workers and the surrounding community. By implementing comprehensive risk management strategies, construction companies can ensure that road construction activities are carried out in a safe and responsible manner.

6.5.5 Air pollution

Air pollution impact of the Project can be roughly divided to impact from burning of fossil fuels and impacts from emission of dust. As this is the road project, consummation of large quantities of petrol and diesel is expected. Transport of people and material, use of heavy machinery, even performing road inspections will produce air emissions typical for commercial fossil fuels such as carbon dioxide and carbon monoxide (CO_2, CO), sulfur and nitrous oxides (So_x and NO_x). CO_2, and NO_x are powerful greenhouse gasses (GHG) causing global warming and climate change. Indirectly, combustion of fossil fuels generates sulfuric and nitric acids, which come back to the Earth as acid rain, impacting both natural areas and the built environment. Monuments and sculptures, and some architectural masterpieces, made from marble and limestone are particularly vulnerable, as the acids dissolve calcium carbonate. Although these impacts are not localized, and project type is energy intense and (traditionally) tied to use of fossil fuels, due to the limited size of the Project, their overall contribution to global emission form combustion of fossil fuels is negligible.

Construction activities such as earthworks, demolition, transport and unloading of mineral materials (e.g. sand and crushed stone), blasting, drilling, and building road bases can lead to the release of dust and an increase in PPM_{10} and $PPM_{2.5}$ levels in the air. These small particles consist of fine and coarse particles originating from aforementioned various construction-related processes. The specific composition of this dust varies depending on the activities and materials involved, but it commonly includes mineral particles (such as sand), metals (e.g. nickel, arsenic, chromium, copper, led, and other), silica, asbestos, and possibly other. Construction dust can cause lung irritation, inflammation, skin irritation, and eye irritation. Long-term exposure can have serious health effects, including lung cancer, silicosis, and asbestosis. Result of some studies indicated that heavy metals are found in higher concentrations in workers homes exposing their family members to additional health risks[51].

The asphalt mixture is commonly used in pavement constructions and is made up of natural raw materials such as aggregate, filler, and bitumen. Additives like adhesion agents, modifiers, and fibers can be included in the

[51] Boston University School of Public Health web pages, Feb 2022; (https://www.bu.edu/sph/news/articles/2022/construction-workers-at-risk-of-exposing-families-to-many-toxic metals/#:~:text=Published%20in%20the%20journal%20Environmental,janitorial%20and%20auto%20repair%20occupations.)

mixture to improve its performance. The most commonly used bitumen is petroleum-based, which is a high-VOC (volatile organic compound) substance. The application of asphalt emits emissions of particulate matter, asphalt fumes, and benzo[a]pyrene. Health effects from exposure to asphalt fumes include headache, skin rash, sensitization, fatigue, reduced appetite, throat and eye irritation, cough, and skin cancer.52

Risk is assessed as moderate.

6.5.5.1 Air pollution mitigation

To mitigate the emissions of dust from construction works, various measures can be implemented. These may include the use of dust control methods such as watering down construction sites, cleaning vehicles and transportation surfaces, covering loads, controlled loading and unloading of materials, materials management and temporary storage at site measures, covering materials to prevent erosion and spreading by wind, and implementing barriers to contain dust such dust screens. Furthermore, the use of modern equipment with effective dust filtration systems can help reduce the amount of dust released into the atmosphere. PEE will be available to workers to prevent inhalation of dust, VOCs and other hazardous fumes. Inspection of PPE use will be regular. To prevent secondary contamination, the workers will be equipped with sufficient and adequate working clothes, and they will have available changing rooms, as well as sanitary facilities where they can wash.

Emissions use of transport will be minimized by good housekeeping and organizational practices and include, but are not limited to maintenance and attests of vehicles and machinery, careful planning of routes and optimal loads and speed, etc. Quality of petrol can significantly impact its emissions, as well as performance of machinery and vehicles. Therefore, purchase of fuels only at licensed stations and from licensed companies.

6.5.6 Impacts to nature and biodiversity

Road construction can produce significant impact to biodiversity and nature affecting various aspects of ecosystems and wildlife though fragmentation of habitats and loss of habitats to infrastructure (which can isolate populations of plants and animals, restricting their ability to migrate, find food, and reproduce), noise and vibrations in construction and use phase, road kills mall or big, light pollution and traffic can impact insects, and more. Roads can act as barriers to wildlife movement, leading to increased rates of wildlife-vehicle collisions. These collisions not only cause direct mortality to wildlife populations but can also disrupt natural behaviors and migration patterns. Small and fragmented populations are particularly at risk, as these events can have a disproportionately large impact on their overall numbers.

Roads also contribute to habitat destruction and degradation, as the construction process often requires clearing vegetation and altering natural drainage patterns. This can lead to soil erosion, increased sedimentation in water bodies, and changes in hydrology. Furthermore, roads can introduce pollutants such as heavy metals, oil, and chemical runoff into surrounding environments, affecting the water quality and soil composition. These pollutants can be harmful to both terrestrial and aquatic species, further degrading habitats, impacting species as well as ecosystem services they provide. This is especially relevant for the upgrade and reconstruction of the 2b magistral road Brod na Drini – Hum which is located in the area of great natural and ecosystem services value: Tara River, Drina River including Tara River basin as a UNESCO Biosphere Reserve. A significant amount of reconstruction and rehabilitation is planned for sub-component 1.2 (150km) of the main roads, which includes 2 bridges. This work will be carried out in natural and potentially sensitive areas, specifically around the Drinjaca River and Tatinac River. Currently, the protected area in Republika Srpska covers only 73,038.43 hectares, or 2.96% of the territory, however expended to 11.96% by RS Ecological Network and further significant expansion is planned in the current Spatial Plan (2015-2025). The Nature Protection law establishes the Ecological Network of Republika Srpska as a contribution to the future Natura 2000 EU network as part of the process to align with EU Environmental Acquis. According to the law, the ecological network is defined as a collection of functionally connected or spatially close ecologically significant areas. These areas significantly contribute to the preservation of biological diversity and include ecologically significant areas for the European ecological network Natura 2000.

[52] US Department of Labor, Occupational Safety and Health Administration web pages

Ecosystem services can be impacted in many ways, e.g. by clearing vegetation (necessary for the road construction), which can influence natural water management (such as absorption into soil, speed of currents, and collection patterns), potentially leading to water quality issues, soil erosion and landslides; or changes in the number and health of animals, including birds and fish. As this project is primarily conducted along existing road routes, with new construction limited to bypasses of urban areas up to approximately 2.5km in total, tunnels and bridges, significant impact is not expected. Considering the following: how (i) little consideration was given to nature protection when the roads were built, and the roads largely lack green passes/bridges; and that (ii) the project aims to create better, safer, and faster roads, which, if all other conditions remain the same, could result in increased traffic (potentially leading to increased number of roadkill and a deterioration in biodiversity and nature preservation), the project has the opportunity to integrate nature preservation concerns in designs and redesigns of sections to be reconstructed e.g. adding green bridges on top of tunnels where possible, or green underpasses.

6.5.6.1 Avoiding and mitigating potential impacts to nature and biodiversity

In response to these impacts, various measures can be taken to mitigate the effects of roads on biodiversity. These can include the creation of wildlife corridors and overpasses (green or ecological bridges) to facilitate animal movement, using eco-friendly construction methods to minimize habitat disruption, implementing wildlife warning signs, reducing speed limits in sensitive areas, and fencing to reduce collisions. Using sustainable drainage and water collection and purification systems to mitigate water and soil contamination is another important feature of nature protection especially in areas where winter maintenance is mandatory. As designs are not yet finalized for any of the tentative construction/reconstruction/rehabilitation sub-projects, the site-specific ESAs will consider sensitivity of areas, identify vulnerable and protected plant and animal species (and establish sensitive periods for each), migration corridors, prescribe measures and inform the designs.

If a project is proposed in a protected area, a planned protected area, or an Ecological Network, or if it may affect critical or sensitive habitats or protected and vulnerable species, the site-specific Environmental and Social Assessments (ESAs) will include provisions to identify risks. These risks can come from activities such as right of way, clearing vegetation, human presence, noise, vibrations, lighting, and heavy transport. Measures to avoid, reduce and mitigate these risks will be outlined in the ESA. In cases where the impact on biodiversity is deemed significant during the Environmental and Social screening process, a Biodiversity Management Plan will be prepared. In other cases, measures will be defined as part of the site-specific ESA (standalone ESMP or as a part of the Environmental and Social Impact Assessment (ESIA) or ESMP Checklist). These measures include, but are not limited to:

- Avoid breeding and nesting periods for sensitive or protected species, control movement, provide expert oversight, and use rail track machinery for maintenance.
- Clear and use only the necessary surface area.
- Prohibit fires on site.
- Refrain from collecting timber, fruits, forest foods, herbs, hunting, fishing, or otherwise disturbing animals.
- Obtain permission from the relevant authorities before removing trees individually or in groups.
- Install only lighting that prevents excessive light pollution.
- Deposit waste, including mineral waste, outside of protected or sensitive areas.

In addition, it is strictly forbidden to:

- Open borrow pits and dispose of waste materials.
- Engage in illegal quarrying, excavation, or dredging.
- Temporarily or permanently dispose of hazardous substances without authorization.
- Dispose of any type of waste, including soil, without proper permission.
- Set up any kind of temporary building or materials required for railroad works.
- Park and repair machinery, pour fuel and lubricants, and so on, without proper containment measures in case of hazardous substance leakage.

- Make changes to the existing regime of surface and ground water, or conduct any exploratory drilling and hydraulic works without proper documentation and prior consent from competent institutions. This includes backfilling, rearrangement, and relocation of rivers and watercourses. Planned works causing water turbidity cannot be executed during the spawning period of protected species, and additional measures may be required from the competent authority (Ministry of Physical Planning, Construction and Ecology).
- Engage in work that may cause geological processes without taking appropriate measures to prevent soil erosion from surrounding slopes.
- Separate topsoil material during the execution of works and use it later.
- Take all necessary measures to prevent spillage of fuel, lubricants, and other harmful substances into the soil, surface water, and groundwater during works.
- Inform the relevant authorities immediately upon encountering geological and paleontological documents (fossils, minerals, crystals, etc.) along the route line, and take protective measures in accordance with environmental protection laws and regulations to prevent destruction, damage, or theft.

Specific measures will be prescribed for protection of wildlife, depending on their vulnerability on a certain area. In the case of birds and bats, these measures may include mandatory use of non-transparent nose and dust screens, use of non-reflecting materials, installation of noise screens when sensitive periods e.g. nesting cannot be avoided, avoidance of use of dispersed lights, prompt removal of contaminated liquids. By considering the ecological implications of road construction and maintenance, it is possible to minimize the negative impacts on biodiversity and support the coexistence of transportation infrastructure and natural ecosystems.

6.5.7 Climate change and natural disaster risks

The project will impact climate change and its effects in two ways during its implementation period. Firstly, it will contribute to greenhouse gas emissions due to the nature of its operations, such as construction, rehabilitation, and the use of materials like cement and fossil fuels. Secondly, it will help enhance climate change resilience in Republika Srpska by integrating climate change and natural disaster risks into the design of roads and road infrastructure. This will provide soil stability, reduce sensitivity to flooding and earthquakes, improve drainage, and enhance the stability of bridges, viaducts, and tunnels.

Road construction has significant impact to climate change in all phases of life cycle – in preconstruction it involves clearing large quantities of nature, often this includes logging and deforestation of large areas. In construction phase it burns a significant amounts of fossil fuels (and consequently produces potent greenhouse gases, GHGs) either directly – in transport of goods ad people and work of heavy machinery, or indirectly – it uses large amounts of energy for mining and producing mineral materials (stone aggregate) for construction of road sub-structure, production of asphalt as well as production of cement (for concrete elements of the road and its infrastructure).

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Bosnia and Herzegovina (BiH) and its entity, Republika Srpska, are very sensitive to extreme climate-induced hazards, particularly within their road network. This is due to the specific geomorphology and hydrogeology of the country, including steep and increasingly deforested terrain, outdated water and flood management systems that are not regularly maintained, changes weather and precipitation patterns. Deforestation in particular creates multilayer and cascading problems: it changes natural water collection and flow routes, capacity of soil to absorb water, consequently, rinses the soil causing erosion, instability, landslides and turbidity of major watercourses. Global Forest Watch reported that in 2023, it lost 3.18 kha of natural forest. Moreover, between

2001 and 2023, Bosnia and Herzegovina lost 38.9 kha (RS 19.2 kha) of tree cover, equivalent to a 1.5% decrease in tree cover since 2000.[53]

Improved asset management is essential to gradually reduce the vulnerability of the network. The country is increasingly exposed to hazards such as increased temperature and changes in rainfall and more extreme weather events, which heighten the risk of urban and river flooding, landslides, and wildfires[54]. The floods in 2014 significantly affected the road network, and ongoing issues have persisted since then. Route 2b, the focus of this project, is especially susceptible to landslides, with six separate fault areas identified that will require remedial attention.

Further, increase in temperatures is notable; according to recent climate change analysis published by the Academy of Science and Art of Republika Srpska, more pronounced climate changes, include an increase in annual temperatures by up to 5°C and a decrease in annual precipitation by up to 30%. Additionally, there could be a summer season precipitation deficit of up to 40% by the end of the 21st century.[55] These changes in climate are likely to have the following effects to construction:

- Material performance. High temperatures can affect the performance and longevity of construction materials. For example, asphalt can soften, and concrete can crack under extreme heat, leading to structural weaknesses and the need for more frequent repairs and maintenance.
- Damage to infrastructure due to extreme weather conditions such as strong winds, rains, thunderstorms, and consequent localized flooding, soil erosion, landslides, etc.
- Delays due to inability to work during extreme weather conditions and/or time required to repair weather-related damage.
- The Project can also const more due to working days lost, repair costs or design changes.

6.5.7.1 Climate change and climate change resilience measures

Mitigation of road construction to climate is rather difficult, consequently, balancing road sector need for mobility and climate change reduction goals is challenging. It is largely not in hands of construction companies, but rather global players in automobile industries, governments, fuel industries and, ultimately, consumers. The recommended use of low-carbon construction materials and fuel-efficient construction equipment (e.g. electric vehicles and machinery) may prove to be problematic or unattainable due to increased costs or unavailability of materials. However, some reduction of GHGs emissions is possible through good organization of works and transport of people and goods such as avoiding idle running of engines, regularly attesting vehicles and machinery, optimal planning of transportation routes and loads, reduced use of air condition (e.g. adjusting working and transport times in the summer), and consequently consumption of fuel.

A lot more can be done in the area of resilience to climate change effects and prevention. In the design phase, climate change and natural disaster resilience recommendations from the Global Facility for Disaster Reduction and Recovery (GFDRR) ongoing Nature-Based Solutions and Network Vulnerability Assessment will be integrated to all designs and works under sub-component 1.1 and 1.2. Recommendations should also be given considerations in all other sub-components, sub-projects and activities.

During the construction phase, the Contractor must consider and address the following:

- Workplans should anticipate climate change conditions during construction. For example, labor-intensive work should not be scheduled during peak summertime, and asphalt should be laid between 10°C and 30°C as recommended by most producers.

[53] Global Forest Watch

[54] Global Facility for Disaster Reduction and Recovery Think Hazard platform: https://thinkhazard.org

[55] Managing Production Success in the Conditions of Climate Change, Trbić G, Popov T, Mirjanić D; 2023; Academy of Science and Arts of the Republic of Srpska

- Materials may degrade due to weather conditions such as high temperatures, heavy rains, and winds. Only necessary materials in minimal quantities should be kept on site. Materials prone to dusting and spread by wind should be covered, watered, or otherwise protected. Materials, especially those susceptible to corrosion and powdery materials, should be stored in dry places and shielded from moisture.

- Work should not be conducted under unfavorable conditions, such as heavy rains, high winds, and extreme heat.

- Contingency funds should include provisions for climate change related costs.

The impact of climate change on direct and indirect workers (community workers are not expected to be involved) will be detailed in the Occupational Health and Safety (OHS) risks section.

6.5.8 Risks related to use and exploitation of raw materials

Wider range of raw materials are used in road construction, but one by far is most represented and this is minerals. Mineral materials play crucial role in construction or roads and auxiliary infrastructure presenting the essential building material. Mineral materials are used in many forms: as sand, gravel, crushed stone, lime, and various granulation of rocks, as well as a content of ready building materials such as cement and asphalt. Impacts in construction are direct and indirect. Direct impact includes used quantities, level of efficiency in use of materials and consequent depletion of resources, but also secondary contamination in the case of contaminated mineral materials. Indirect impacts include all potential impacts from extraction of mineral materials either by dredging, mining, or processing (e.g. crushing to smaller granulations). The latter includes a wide range of risks, including, but not limited to:

- Impact to nature from Illegal quarrying, such as disturbance of animals, destruction of habitats, disturbance of communities, emissions of dust, noise and vibrations, damage to roads, destruction of landscapes, impact to ground waters and waster courses;
- Illegal dredging impacts such as impact to water quality and availability, impact to biodiversity, depletion of fish stock, noise emissions and disturbance to local communities, impact to roads, and more;
- Impact form transporting materials prone to dusting;
- Impacts to existing road infrastructure form transportation of mineral materials;
- Occupational Health and Safety risks related to dust, noise, and vibrations and related health issues, as well as risks related to operating heavy machinery, working in heights, tripping and falling, falling objects, and other typical form the industry.

Considerable amounts of water are also expected to be used in the course of project implementation, being soil compaction, dust control, concrete production, and curing potable water for sanitary and hygiene purposes, waster for cleaning vehicles, machinery, tools and road.

6.5.8.1 Mitigation of use and exploitation of mineral materials

Potential impacts of extraction and use of mineral materials will be mitigated through strict adherence to national legislation and E&S standards of suppliers, and the close monitoring of implementation of the measures. The measures to mitigate will include speed limits, transport and route planning, watering dust prone materials in transport and/or covering transport, regular technical checks of vehicles and other regulated by respective national regulations and embedded in good sectoral practices.

For steady supply chains, OHS compliance will also be observed though procedures for supply workers.

Significant use of mineral resources such as sand, gravel and stone are highly likely therefore, the materials will be supplied only from companies/quarries with valid licenses, environmental permits (and approved EIA, when applies – e.g. stone quarries and surface quarries of surface larger than 10 ha), and extraction concessions. The

Contractor procuring mineral raw materials must obtain satisfactory proof of OHS and environmental compliance of the suppliers' practice (e.g. ISO 14001, 45001, 50001 certificates, positive inspection opinions and similar).

Construction of roads can present a great opportunity for recycling of construction waste. This is a preferred material, however, in applying this the Contractor must ensure that recycled materials are safe to use both form technical and environmental point of view.

Water mitigation reassures include good water management practices (e.g. closed valves when not in use, regular maintenance, clean machinery and roads with water only when necessary, spray only when necessary, cover rather than spray, etc.). There will be no water drilling on site, no new water sources or wells will be constructed, no water will be obtained from surface, ground or any other natural sources at the site. Safe technical water will be used where potable water is not necessary (e.g. cleaning machinery, dust control, sil compaction, and possibly any non-hygiene/sanitation purpose).

6.5.9 Cultural Heritage

Cultural heritage in Republika Srpska, Bosnia and Herzegovina, is characterized by its rich and diverse historical, architectural, archeological and natural assets. Archeological findings include periods of prehistoric, and medieval periods. In addition, architectural styles from various historical periods are present on the territory of Republika Srpska, such as the Ottoman Era, Austro-Hungarian Empire, the Kingdom of Yugoslavia, and the Socialist period. The Project, subject to this ESMF, does not plan works on cultural heritage building and/or sites. However, substantial earthworks re planned, therefore, chance findings are possible to take place.

Construction of roads can impact cultural heritage in two ways: (i) through chance findings and their management, and (ii) accidental damage caused by heavy machinery or during transportation of goods and people.

6.5.9.1 Cultural heritage impact mitigation

Each site-specific Environmental and Social Assessment (ESA) will include chance findings clause prescribing procedures in the case of cultural heritage and archaeological findings. The specifics of the clause will depend on the national procedure for chance findings and the practices of the World Bank, as outlined below:

- If archaeological sites or finds are encountered during the execution of construction and other works, the contractor must immediately stop work, inform the Institute for the Protection of Cultural, Historical and Natural Heritage of RS, and take measures to ensure that the site or find is not destroyed, damaged, and is preserved in its original place and position.
- Archaeological and other finds on land or in water are owned by the Republika Srpska.
- If there is an immediate danger of damage to archaeological or other findings, the Institute has the authority to temporarily suspend work until a site inspection is carried out. Further excavation and research can only be conducted with the permission of the Institute, as per the law.
- Works can only resume after receiving written permission from the Institute.
- Searching for archaeological remains using metal detectors or other technical means to locate archaeological findings and structures beneath the earth's surface is not allowed without the Institute's approval.
- Research is permitted exclusively within the scope of archaeological research for which the Institute has granted permission.

In the event that work is to be conducted near a cultural heritage monument or building, the Project Implementation Unit (PIU) will assess and incorporate the risks to cultural heritage (CH) into the Environmental and Social Assessment (ESA) as part of the comprehensive Cultural Heritage Management Plan (CHMP). This plan will involve input from the relevant authority, such as the Institute for the Protection of Cultural, Historical and Natural Heritage. If, by rare chance, a cultural heritage object or building is damaged during the transportation of people and/or goods for the Project, or by the operation of heavy machinery near a cultural heritage site, the damage will be promptly reported to the Institute for the Protection of Cultural, Historical and Natural Heritage

and to the World Bank within 24 hours. In collaboration with the Institute, the PIU will develop a CHMP, which will require a positive opinion from the Institute and approval from the World Bank.

6.5.10 Community health and safety risks

While the geographical scope of Community Health and Safety (CHS) potential impacts is much wider than the narrow area of the Project activities, the key CHS risks still relate to the location and types of works financed under the Project. One of the prominent risks is related to traffic and road safety for users of roads (as construction workers, drivers of transport vehicles, suppliers, as well as those conducting road safety inspections are participants of traffic streams increasing road traffic in vicinity but also away for the construction/working site; the risk also interlinking with OHS risks), affected communities surrounding the worksites (regardless if using the road), and communities along transport routes.

Long-term impacts will be largely positive. It is expected that road safety will improve, the number of blackspots will be addressed, there will be fewer (or no) landslides after extreme rains, and soil erosion will decrease after the Project. Due to drainage works, weight-in-motion systems, and reduced localized flooding, the longevity of roads should increase. Additionally, roads rehabilitated under sub-components 1.1 and 1.2 should provide a better experience and faster transport.

On the other hand, predominantly adverse impacts are expected during the construction phase. Communities may experience nuisances from noise, dust, and vibrations, traffic delays, fewer safe pedestrian passages, and limited access to health and social services. Public transport services may be reduced, and roads could be temporarily closed due to blasting. Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous materials, contaminated soils and other environmental media, excavations and structures which may pose falling and entrapment hazards.

Some influx of transient workers into small and often rural host communities is expected, however, it is not expected to be large-scale or in numbers that would affect the local rural communicates. Though the accommodation capacity of these settlements has not been assessed, it is more likely that the transient workers (though coming outside communities nearby) will find accommodation in the nearby cities (e.g. Foca) or in temporary accommodation (modular accommodation). In both cases, the case of modular accommodation (temporary camps) as well as private accommodation, it must meet minimal requirements of the IFC's workers accommodation standards, industry best practices as well as life and fire safety standards (e.g. but not limited to gas, coal/wood/pellets/heating oil, etc. and electrical boilers for heating and hot water supply must be regularly attested, as well as stacks).

Local communities may also experience adverse impacts from accidental situations, including but not limited to fires and forest fires, turbidity of water and changes in water velocity during bridge works (potentially disturbing water supply and irrigation), temporarily unavailable supplemental food sources, soil disturbance, landslides, and explosions. In addition, any earthworks can cause damage to utilities and cause cut in supply of water, utilities, telecommunication services, and more. Some, such as gas supply systems can cause environmental and safety incidents.

6.5.10.1 Mitigation measures for community safety

To mitigate expected transportation issues, such as delays, impeded public transport services, and consequent difficulties in accessing food, goods, health, and social services, the contractor will prepare appropriate site-specific Traffic Management Plans. They will also obtain approval from the competent local authorities (Local Administration and Traffic Police), consult the plan with communities, and widely advertise temporary traffic regulations, including on radio stations, local TV stations, and boards in the vicinity of the affected roads. The Traffic Management Plan will consider the best possible options for local communities to access health and social

services (e.g., enabling access to emergency vehicles at all times), protecting pedestrians and cyclists, ensuring safe passages where needed, organizing alternative routes and bypasses, and clearly marking them. Additionally, the plan will organize communication with the local communities, especially taking into account the needs of SMEs and other important economic stakeholders. Risks related to transport of dangerous goods will be addressed through development of specific guidelines for freight services taking account the national regulatory framework (e.g. Law on transport of dangerous goods, Law on chemicals, Law on OHS, etc.), international treaties, and best sectoral practices.

An Emergency Preparedness and Response Plan, commensurate with the risks of the facility, will be prepared for each sub-project and unplanned event when a project operation loses control or could lose control of a situation that may result in risks to human health, property, or the environment. These risks mainly stem from increased traffic on haulage routes from and to potential borrow and deposit areas to be used by the Contractors during construction works, increased risk from hazardous waste and materials, use of chemicals and their improper disposal, blasting, works on landslides, and more. Full and proper consultation with all interested parties will be conducted during the preparation of site-specific emergency plans, including institutional stakeholders that have their own emergency plans prepared in accordance with pertinent laws. The health and safety risks posed by the influx of workers or individuals providing support services into an area are considered negligible.

Risk management strategies for trespassing related incidents and exposures may include: Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high-risk areas depending on site-specific situations, including fencing, signage, and communication of risks to the local community. Where hazardous conditions on construction sites cannot be controlled effectively with site access restrictions, removal of risks through e.g. covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials will be implemented.

In addition to adoption of traffic Management Plans, best transport safety practice with the following measures, inter alia, are required:

- Minimizing pedestrian interaction with construction vehicles;
- Collaboration with local communities and responsible authorities to improve signage, visibility and overall safety; of roads, particularly along stretches located near schools or other locations where children may be present;
- Collaborating with local communities on education about traffic and pedestrian safety (e.g. school education campaigns);
- Coordination with emergency responders to ensure that appropriate first aid is provided in the event of accidents;
- Using locally sourced materials, whenever possible, to minimize transport distances;
- Employing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions;
- Introducing restrictive speed limits;
- Continuous training of construction vehicle drivers;
- Using qualified experienced construction vehicles drivers;
- Monitoring of traffic behavior and monitoring of grievances related to traffic safety.

Continuous stakeholder engagement between the project and the local population (through municipal bodies and local councils and the GRM) in line with the Project SEP and subsequent site-specific SEPs, will be a supplemental mitigation measure alongside all others.

The concept of universal access will be considered during construction of the facilities, taking into consideration the qualifying characteristics of the groups and individuals that has identified them as vulnerable though the Project SEP, subsequent sub-project specific SEPs and any other E&S Instruments/ESAs.

Presence of utility systems (electricity, gas, water, telecommunication) at the working site (especially where earthworks are necessary) will be identified before works commence. Relevant companies managing these utilities will be informed of works and requested to recommend mitigation measures and enabled monitoring is this is needed. Works will be carried out in cooperation with the utility companies. No mechanization will be used, only labor work, in the case there is a risk form damaging pipelines and cables.

6.5.11 Socio-economic risks

The development of roads has a significant socio-economic impact. Amongst other things, roads facilitate trade, job creation, and access to education, health services, and markets. This project is expected to have largely a positive socio-economic impact on various groups, including small and medium-sized enterprises (SMEs) and other companies operating in Republika Srpska and BiH, particularly exporters and rural communities along the Sarajevo – Podgorica route. The project aims to make travel and transportation of goods and people easier, more comfortable, faster, and safer. In addition, it may create better conditions for investments in the area, including tourism. In general, modernizing roads can benefit areas in two ways. It improves travel conditions, reduces costs, and enhances safety for users. It also enhances communication between underdeveloped rural areas and economically developed urban centers. However, road modernization can also change landscapes and environmental quality, potentially making an area less desirable for living. Nevertheless, the project is not expected to have a negative impact on the socio-economic development of the areas near the work sites, as no new roads will be built. Changes in urban development plans and processes may occur around of limited newly constructed sections (planned only under component 1.1, and in the length of about 2/5km). However, adverse effects like noise, vibration, and increased transit traffic are expected to be of minimal nuisance to locals, as bypasses are envisaged primarily in sparsely inhabited agricultural areas and to a minimal extent.

6.5.11.1 Mitigation of potential socio-economic impacts

During the construction phase, the risks related to socio-economic impact are mostly due to complete or partial closing of sections of roads. This could lead to difficulties in traveling to work, accessing health and social services, transporting goods to local or regional markets, or doing so with significant delays. These impacts will be short-term, occurring only during the construction period. The measures to mitigate these socio-economic impacts are outlined in the section on community health and safety, mainly related to organizing traffic during construction. Risks related to spatial planning will be addressed through national spatial planning procedures and regulations. It is important to identify local communities as interested parties in the project-related changes to spatial plans, project SEP, and site-specific SEPs, and to enable meaningful consultations and anonymous grievances at all stages of the project, including pre-construction and design.

6.5.12 Risks to vulnerable groups

Based on initial screening vulnerable groups, that could be affected by the Project in the implementation phase include: rural and other communities that live nearby roads selected for rehabilitation, elderly and people with disabilities that depend on the road transport to access health services; people with chronical diseases that need constant or frequent healthcare support and are sensitive to emissions of dust, noise, vibrations; people with low literacy and ICT knowledge; economically marginalized and disadvantaged groups; persons living below the poverty line; small entrepreneurs; women.

The project outcome will have no negative impact on vulnerable or excluded groups, quite the opposite – it is expected to increase availability of work and markets to unemployed and self-employed as well as make social services (e.g. health services) of larger cities more readily available to rural population.

The labor market in Bosnia and Herzegovina, including RS, suffers low employment rates and aging population.

In 2022, the employment rate for people aged 15-64 was 44.7%, where women make only 35% of the working community.[56] It is expected that, especially in the rural communities, that part of the income is made in informal work and using eco-system services – picking forest fruit and other food, small-scale fishing, collecting wood for personal use or to sell. Road construction and restricted access to forests and water bodies can impact livelihoods. In addition, different traffic regulation, full or partial closure of roads, and even presence of traffic police can discourage buyers and trade.

Therefore, the risk to vulnerable groups can be assessed in a range from low to moderate depending mostly on the precise works locations, source of income in communities that use a specific site where works take place, need to close roads, and impact on livelihoods. In addition, the risk for vulnerable groups can include social exclusion, especially in the case consultations, information dissemination and other communication is not tailored for vulnerable groups.

6.5.12.1 Mitigation

The exact numbers of people in vulnerable groups are unknown in the preparation phase, as the project is being implemented nationwide. However, these numbers and issues of vulnerable groups will be determined through site-specific E&S instruments, and adequately addressed. The project design integrates the addressing of needs of vulnerable groups, particularly under sub-component 2.3, where at least 60% of supported internships will be for women, and at least 5 women will be employed subsequently.

Various methods and tools, including scoping, social analyses, investigations, audits, surveys, and studies, will be used to identify and assess the potential risks and impacts of the proposed sub-projects on vulnerable groups. The environmental and social screening questionnaire is used to detect vulnerability with regards to land acquisition. If vulnerability is detected, the project will improve the living conditions of those who are physically displaced through the provision of adequate housing, access to services and facilities, and security of tenure. The Project RPF also includes additional assistance for vulnerable Project Affected Parties (PAPs), including legal aid. Further support will be determined on a case-by-case basis during socio-economic surveys where this need is identified during sub-project screening.

Additionally, the project will take special measures to ensure that disadvantaged and vulnerable groups have equal opportunity to access information, provide feedback, or submit grievances. Proactive outreach to all population groups will be ensured during E&S assessment and stakeholder engagement activities on sub-projects, in a culturally appropriate manner. Targeted consultations with vulnerable groups will also be carried out to understand concerns and needs related to accessing information, facilities, and services supported by the project, as well as other challenges they face at home, at workplaces, and in their communities.

6.5.13 Gender risks

While the Country has generally a low risk of Sexual Exploitation, Abuse (SEA) and Sexual Harassment, the Project nature is associated with significant risks from SEA/SH. Therefore, the WHO Code of Ethics and Professional Conduct for all workers is mandatory. Provision of gender sensitive infrastructure and segregate toilets shall also be imposed to the Contractors through the tender specific mitigation instruments to be incorporated into the tender documents.

The key risk factors related to SEA/SH include:

- large-scale influx of transient male workers into small and often rural host communities with low capacity to absorb the sudden increase of workers. Under the Project, there will be workers that do not belong to the local communities, however the large-scale influx is not expected;

[56] ILO 2024 (https://www.ilo.org/ilo-bosnia-and herzegovina#:~:text=The%20share%20of%20informal%20employment,cent%20(ILO%2C%202024).)

- remote locations where people have limited access to resources to report SEA/SH and receive support. The Project will remedy this with a comprehensive GRM sensitized for SEA/SH related grievances. In addition, legislative and institutional support in RS for addressing SEA/SH issues is well developed and readily available;
- presence of security personnel, who can provide protection but can also abuse their positions of power and status to perpetrate SEA/SH. Security personnel under the project will be limited in number as well as possibly present only in the form of nightguards to prevent theft;
- male workers transporting goods (e.g. truck drivers), who can perpetrate SEA/SH on routes and at truck stops associated with the project, even if not on the project site. Number of truck drivers will be limited and they are usually employees of the Contracting and sub-contracting companies, not free lancers;
- poorly designed or maintained physical spaces on project sites and in worker accommodation for example bad lighting in and around grounds and access routes are negligent to non -existent under the project. Workers are likely to be accommodated in the nearby cities and not in the separate workers settlement.

Although construction works tend to be labor intensive, the level of labor influx is not expected to be large, thus the SEA/SH risk for this project is still assessed as low at project preparation phase as the project includes works on smaller and distant sections, and low mileage of new bridges and tunnels, so the expected labor intensity is still lower then e.g. construction of larger new sections of highways. Nevertheless, contractors and sub-contractors will be required to develop Code of Conducts and SEA/SH Code of Conduct which must be read, understood and signed and signed by all workers.

6.5.13.1 Measures against Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH)

Although this is road construction project that includes influx of transient male workers and male workers transporting goods, due to the project design (small sections for rehabilitation, likely local and regional construction companies), the expected worker's influx is likely to be low to moderate, engagement of significant security personnel is not expected, with a good regulative and institutional framework in place and good track record of Projects in RS, the expected SEA/SH risks are rated as low.

Preventive measures will be implemented by the PIU and the Contractors at the entry point, including:

- Appointment of senior focal points in both clients and contractors to ensure that commitments and policies to prevent SEA/SH (sexual exploitation, abuse, and sexual harassment) are enforced.
- Increasing women's representation and establishing monitoring systems appropriate to the risk for regular reporting on SEA/SH.
- Incorporating requirements related to SEA/SH in codes of conduct, policies, and protocols for contractors, including providing training on policies and procedures once developed. All workers must read, understand, and sign SEA/SH CoCs.
- Publicly disclosing codes of conduct in local languages and languages of workers, and ensuring accessibility to all workers and groups in project areas.
- Integrating SEA/SH risk assessments into key processes, including environmental and social impact assessments (ESIAs) and environmental and social management plans (ESMPs).
- Ensuring that resettlement action plans (RAPs) consider gender dynamics, including SEA/SH risks at household and community levels, and are kept confidential.
- Establishing confidential grievance reporting, referral, and support systems for workers.
- Setting up safe, confidential, and accessible grievance redress mechanisms for local communities, GRM that is sensitized to SEA/SH grievances.
- as well as including options for anonymous reporting.
- Including assessment of gender and safety risks in the bidding process for contractors.

- Evaluating contractors for prior efforts in addressing SEA/SH through prevention and response, and ensuring that contracts include clauses on SEA/SH.
- Addressing women's safety concerns for female workers and employees in Putevi Republike Srpske and Contractor/Sub-contractor, including the provision of features such as sanitation facilities for women and appropriate safety and security design elements (e.g., lighting).

6.5.14 Occupational health and safety (OHS) risks, potential impacts and mitigation

This project has a wide range of Occupational Health and Safety (OHS) risks and potential impacts. Based on the source and type, they can be grouped into OHS risks typical for construction works, traffic related OHS risks and risks from installation of equipment.

Physical hazards represent potential for accident or injury or illness due to repetitive exposure to mechanical action, chemical agents, electricity, or work activity and may occur from:

- Operating rotating and moving equipment and other heavy machinery on site can cause a wide range of significant mechanical injuries, even fatalities. Protective measures include: Turning off, disconnecting, isolating, and de-energizing (Locked Out and Tagged Out) machinery with exposed or guarded moving parts, or in which energy can be stored (e.g. compressed air, electrical components) during servicing or maintenance, Designing and installing equipment, where feasible, to enable routine service, such as lubrication, without removal of the guarding devices or mechanisms. Moving heavy machinery has to be within strictly set parameters. Communication corridors, transport and traffic routes at the site must be precisely defined before works start, clearly marked and monitored. Speed of trucks and machinery must be limited to maximally 30 km/h.
- Noise. High levels of noise are frequent on construction sites including tunnels, laying asphalt, and other. The RS Rulebook on Precautionary Measures for Safe and Healthy Work When Exposed to Noise (56/15) defines the daily limit value of exposure and the daily action value of exposure to noise at
    - limit value of noise exposure: LEX,8h = 85 dB(A) and peak = 140 Pa (137 dB), and
    - action value of noise exposure: LEX,8h = 80 dB(A) and peak = 112 Pa (135 dB).
- The use of hearing protection should be enforced actively and periodic medical hearing checks should be performed on workers exposed to high noise level.
- Vibration. Exposure levels should be checked on the basis of daily exposure time and data provided by
- equipment manufacturers.
- Electricity. Exposed or faulty electrical devices, such as circuit breakers, panels, cables, cords and hand tools, can pose a serious risk to workers. Overhead wires can be struck by metal devices, such as poles or ladders, and by vehicles with metal booms. Vehicles or grounded metal objects brought into close proximity with overhead wires can result in arcing between the wires and the object, without actual contact. Recommended actions include: Marking all energized electrical devices and lines with warning signs; Locking out (de-charging and leaving open with a controlled locking device) and tagging-out (warning sign placed on the lock) devices during service or maintenance; Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer recommendations for maximum permitted operating voltage of the portable hand tools ; Double insulating / grounding all electrical equipment used in environments that are, or may become, wet; Using equipment with ground fault interrupter (GFI) protected circuits ; Establishing “No Approach” zones around or under high voltage power lines; Rubber tired construction or other vehicles that come into direct contact with, or arcing between, high voltage wires may need to be taken out of service for periods of 48 hours and have the tires replaced to prevent catastrophic tire and wheel assembly failure, potentially causing serious injury or death; Conducting detailed identification and marking of all buried electrical wiring (and other utilities) prior to any excavation work.
- Chemicals. E.g. Chemicals for degreasing and cleaning parts for machinery and vehicles, lubricants; spraying dyes and protective coatings such as anticorrosive (VOCs), laying down asphalt (VOCs and

PAHs such as benzene, toluene, ethylbenzene, xylene and formaldehyde). Appropriate PPE must be worn when handing chemicals or working with asphalt such as protective clothing, gloves, goggles, FFP3 masks, and more.

- Welding and hot work. Recommended measures include: Provision of proper eye protection such as welder goggles and/or a full-face eye shield for all personnel involved in, or assisting, welding operations.
- Industrial Vehicle Driving and Site Traffic. Safe driving practices are to be implemented and include training and licensing industrial vehicle operators, medical surveillance of drivers, establishing site speed limits, vehicle attests, operating rules and procedures (e.g. prohibited operation of trucks with elevated platform after unloading).
- Working at Heights. Fall prevention and protection measures should be implemented whenever a worker is exposed to the hazard of falling more than two meters. Under the project the risk from falling will be quite present in works in tunnels, including installation of monitoring equipment, works on bridges and viaducts, etc. Fall can be into operating machinery; into water or other liquid; into hazardous substances; or through an opening in a work surface. Fall prevention may include: installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area; Proper use of ladders and scaffolds by trained employees; Use of fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard area, or fall protection devices such as full body harnesses used in conjunction with shock absorbing lanyards or self-retracting inertial fall arrest devices attached to fixed anchor point or horizontal life-lines, Appropriate certification, training in use, serviceability, and integrity of the necessary PPE.
- Soil Erosion. Recommended soil erosion and water system management approaches include: Reducing or preventing erosion by: Scheduling works to avoid heavy rainfall periods to the extent practical, contouring and minimizing length and steepness of slopes, mulching to stabilize exposed areas, Re-vegetating areas promptly, Designing channels and ditches for post-construction flows o Lining steep channel and slopes (e.g. use jute matting); Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical; Segregating or diverting clean water runoff to prevent it mixing with water containing a high solids content, to minimize the volume of water to be treated prior to release of water.
- Structural (slope) stability. Measures to prevent slope instability include: Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented, Providing adequate drainage systems to minimize and control infiltration, application of locally regulated or internationally recognized building codes to ensure structures are designed and constructed in accordance with sound architectural and engineering practice, including aspects of fire prevention and response.
- Traffic safety. Installation of road equipment (protective rails, weight-in-motion, monitoring systems, etc.) can be carried out in the conditions of partially or fully functioning road and traffic. In that case, traffic regulation must be organized and coordinated with the traffic police, and include warning signs, speed limitations, coordinated traffic signaling (e.g. traffic lights, manual signalization). All workers much wear reflective vests, other necessary equipment and organize effective communication (e.g. by two-wats radios).
- Poor visibility. Risks related form poor visibility can occur during the night works, unloading of dusting-prone materials, and during works in tunnels. Adequate lighting during works, wearing reflective clothing, and proper signage are necessary to maintain safe working environment. Works in tunnels can also mean reduced hearing abilities due to use of heavy machinery and echo so the visual signaling and light-marked escape routes are essential for safety.

- Working in confined spaces e.g. manholes, tunnels, can cause conditions deprived of oxygen or where worker is exposed to gasses. Air quality monitoring and providing ventilation can be essential for prevention of OHS accidents.
- Fire safety issues are elaborated in the *Chapter 6.4.20*.
- Climate changes induced extreme weather conditions. Workers can experience heath stress and dehydration from works in high temperatures, can suffer injuries form objects during strong winds, or experience sudden floods and uncontrolled movement of streams. According to recent climate change analysis published by the Academy of Science and Art of Republika Srpska, more pronounced climate changes, include an increase in annual temperatures by up to 5°C. As Balkans, including BiH and RS, experience a heat wave in summer 2024, with temperatures often and for prolonged periods exceeding 38 °C degrees there is no doubt that climate change impact will need to change how works and businesses will be done. During heatwaves, it is strongly recommended to reorganize works so activities in the open sunlight would be avoided during peak temperatures. In addition, the Contractor and sub-contractors must provide sufficient amounts of cool drinking water and electrolytes for workers, water showers to cool, shade, cooled spaces to rest. In the case of health issues observed, an ambulance must be called to assist affected workers. In that case works will be stopped and continued when conditions are more favorable.
- Coal Tar emissions. During the removal of old asphalt that can contain coal tar, substantial emissions of cancerogenic PAHs are possible. Therefore, FFP3 type masks are mandatory for workers during this operation.

6.5.14.1 OHS mitigation requirements

OHS regulation in RS broadly covers OHS issues in the road construction. It includes regulations and rulebook on training of workers for safe and health work, preventative measures, use of personal protective equipment (PPE), OHS during manual load transfer, exposure to noise, vibrations, safe use of equipment, norms for safe use of explosives, using electricity, OHS in construction of tunnels and standards for cranes.

Key occupational safety in the RS is governed by the following regulations:

- RS Labour Law[57]: Regulates labour relations, rights, obligations and responsibilities arising from employment contract, entering into employment contracts, working hours, breaks and rest, general protection of workers, salaries, benefits and other income, termination of employment contracts, protection of workers' rights, as well as organisation of workers and employers;
- RS Law on Occupational Safety[58]: Regulates occupational health and safety as an activity of general interest, responsibility for the implementation and improvement of occupational health and safety, rights, obligations, responsibilities and preventive measures; Supported by key by-lays including:
- Regulation on preventive measures for safe and healthy work during manual load transfer (OG 30/12),
- Rulebook on preventive measures for safe and healthy work when exposed to noise (OG 79/13),
- Regulation on preventive measures for safe and healthy work when exposed to vibrations (OG 03/18),
- Rulebook on preventive measures for safe and healthy work when using work equipment (OG 53/12),
- Rulebook on occupational safety when loading cargo into motor vehicles and unloading cargo

[57] RS Official Gazette, 1/16 and 66/18

[58] RS Official Gazette, 1/08, 13/10

from such vehicles (OG SFRY 17/16),
- Rulebook on technical norms for handling explosives and blasting in mining (OG SFRY 26/88, 63/88),
- Rulebook on occupational safety when using electricity (OG SFRY 34/88),
- Rulebook on providing first aid in case of injuries and illnesses of workers at work (OG SFRY 38/86),
- Instructions on the procedure for supervising the application of regulations in the field of occupational safety during the construction of tunnels (OG SFRY 65/91),
- Regulation on technical standards for cranes (OG SFRY 28/88).

Measures apply equally to the construction, installation and repair works. In accordance with the Law on Health and Safety at Work (OG 1/08, 13/10), workplace include work in a facility or outdoors, as well as on temporary and mobile construction sites, facilities, devices, means of transport, etc.) in which the worker resides or has access during work and which is under the direct or indirect control of the employer.

In accordance with the Law on Health and Safety at Work), measures of /protection at work need to be envisaged to prevent hazards that may occur during the construction. The prevention of hazards during the execution of works requires engaging an organization to implement the works registered for the type of activity subject to the technical documentation hereof. The organization must have a person at the construction site authorized to manage works, having passed the professional examination and in compliance with other conditions as per the Law on Planning and Construction. The authorized person and all other persons involved in the execution of works shall adhere to the regulations, standards and norms for the type of activity they engage in, as well as the Law on Health and Safety at Work. The contractor shall produce a Report on the Organization of the Construction Site, a site-specific operation and plan, produced as separate documentation based on the Construction or Design for Execution. The Report on the Organization of the Construction Site must be dully executed. Such report shall be provided by the contractor (manager of works) and certified by the representative of Putevi RS PIU and Professional Technical Supervision or the supervision service, and thereafter the works may commence.

The Report on the Organization of the Construction Site contains three sections:

- Schematic view of the construction site, i.e. situation plan
- Description of works
- Measures for health and safety at work

When construction works are carried out by a single employer or by multiple employers in succession, each employer must submit a report on the organization of the construction site. The employer or the employer's representative must ensure that, before commencing work, a Plan of Preventive Health and Safety Measures is prepared. The Plan, as well as the technical documentation required for construction in compliance with the planning and construction regulations, form the basis for assessing the risk of injuries and health hazards for specific jobs and the working environment on the site. All employers at construction sites must be familiar with the Plan of Preventive Health and Safety measures and any potential amendments to the Plan, and are required to inform the Investor about these in writing.

Further, in addition to regulatory requirements, the Contractor is responsible for ensuring that employees work in a workplace and environment where health and safety measures have been implemented, while considering the instructions and guidelines provided by the design coordinator and works execution coordinator, in accordance with this ESMF and EHSG. They must also cooperate with other employers and individuals in implementing health and safety measures. In cases where regulations and ESMF/WB EHSG and GIIP measures or limitations differ, the stricter one will take precedence.

The report on the organization of the construction site must be readily available at the site. It should accurately reflect the current situation and include necessary and updated appendices, such as:

- List of high-risk work areas.
- List of employees assigned to high-risk work areas and their medical examination records.
- List of employees trained for safe and healthy work, with a signed record of those instructed in the health and

safety measures outlined in the report.

The contractor may only start work once the construction site has been established and organized in accordance with the provisions of the Rulebook on safety at work. The report submitted to the competent Labor Inspection, as required by the regulations on workplace protection, to notify the commencement of works should contain the data defined by Article 237 of the Rulebook on protection at work during the implementation of construction works. Additionally, the contractor is required to submit the Report on the Organization of the Construction Site to the Labor Inspection along with the report on the commencement of works.
Prior to commencing work, all contractors must develop an Occupational Health and Safety (OHS) Management Plan. It is also essential to provide OHS orientation training to all new employees to ensure that they are familiar with the basic site rules and personal protection measures, and to prevent injury to fellow employees. The training should cover basic hazard awareness, site-specific hazards, safe work practices, and appropriate emergency procedures for fire, evacuation, and natural disasters. During the orientation training, any site-specific hazards or color coding in use should be thoroughly reviewed. Also, copies of the hazard coding system should be posted outside the facility at emergency entrance doors and fire emergency connection systems, where they are likely to come to the attention of emergency services personnel. In addition, representatives of local emergency and security services should be invited to participate in periodic (annual) orientation tours and site inspections to ensure familiarity with potential hazards present.
Construction site should be kept closed for third parties. However, if visitors are able to access areas where hazardous conditions or substances may be present, a visitor orientation and control program should be established to ensure that visitors do not enter hazardous areas unescorted.

6.5.15 Risks from informal work

Construction activities often involve a shadow workforce, which brings various risks such as unpaid or underpaid work, work overload, poor terms and conditions of engagement, lack of occupational health and safety measures, and denied access to social security, pension, or health insurance. With a significant influx of foreign workforce that are often deprived of the clear communication and information of their labor rights in their own language the risk from informal work increased rapidly in the past years. However, with the increased engagement of the competent authorities, increasing number of foreign workers is now obtaining working permits lowering the number of those working informally. Domestic informal work is also showing favourable trends.

6.5.15.1 Managing risks from informal work

To address these challenges, a Labor Management Procedures (LMP) as an integral part of this Environmental and Social Management Framework (ESMF) has been prepared. This LMP include a Labor Screening and Compliance Checklist, as well as Monitoring and Evaluation Procedures, which are mandatory for every call for proposal to ensure compliance with ESS2 labor management requirements for third-party beneficiaries of the Project.

In order to protect the rights and labor conditions of project workers, a LMP has been developed in alignment with national legislation and ESS2. The LMP applies to all, the Putevi Republike Srpske public company as an implementing agency, project's implementation unit (PMU), and any third parties contracted by Putevi Republike Srpske (e.g. contractors and sub-contractors) to provide necessary works, services, or goods for the project. The LMP does not apply to community workers, but they are not expected under this project. Third parties are required to ensure that their suppliers and subcontractors comply with national labor laws and to ensure that employees of any suppliers or subcontractors receive adequate training on these legal requirements. The Putevi

Republike Srpske reserves the right to verify compliance through various mechanisms, including self-assessments, surveys, site visits, and audits. Relevant records must be maintained to demonstrate compliance and allow access to the premises of the Putevi Republike Srpske, suppliers, and subcontractors for authorized representatives if necessary.

6.5.16 Fire safety and accidental situations

Fire safety risks during road construction includes accidental causes of forest fires in the case of unauthorized cooking or from cigarette buts, flammable materials and wastes, intentional fires such as burning waste, lighting, car crashes, heat from a naked flame, use of bitumen boilers or grinding, malfunction of electrical installations e.g. short circuit, sparks, malfunctioning vehicles and engines, and similar factors. Forest fires in 2024 caused a significant damage to Perucica, one of the last European 'primeval forests' within Sutjeska National Park, not far from tentative Project locations under 1.1.

Fire risks are particularly notable in construction of tunnels while there is very little research on the subject. SP Technical Research Institute of Sweden, in the report on *Fire incidents during construction work of tunnels*, identifies several difficult situations including "dead end" before the breakthrough which can make both evacuation and fire and rescue operations very difficult, lack of effective communication (e.g. due to lack of shared language), increased levels of noise that impede alarming or communication, lack of evacuation options as the evacuation routes may not be excavated yet or unavailable due to the position of the incident.

6.5.16.1 Mitigation of risks from fires

In the event of a fire or other damage, it is imperative to maintain a continuous presence of certified firefighting devices on the premises. The precise locations of these devices should be communicated to all personnel, and they should be conspicuously visible and clearly marked. All staff are required to undergo training in the operation of firefighting equipment. Furthermore, an evaluation of the adequacy of firefighting equipment should be conducted through a comprehensive risk assessment.

Local firefighting units and alarm headquarters should be promptly informed of the nature of ongoing work, associated risks, and any recommended supplementary measures. In addition, it is essential for each contractor and sub-contractor to develop an Emergency and Accident Preparedness Plan outlining the necessary procedures, designating responsible individuals, detailing communication protocols and channels, as well as providing contact information in the event of a fire.
In addition, the Contractor (and sub-contractors) have the following duties:

- Appoint a person responsible for fire protection on the site.
- Ensure that procedures for handling fire and accidents are communicated to all employees.
- Keep the part of the road that is not under rehabilitation clean.
- Have a spill prevention kit available on site to prevent further spread of spills.
- Ensure that firefighting extinguishers are regularly attested.
- Protect the work site with a fence and proper signaling.
- Ensure that traffic around the project site strictly follows the Traffic Management Plan.
- Ensure that vehicles and construction machinery are tested and in proper working condition.
- Keep wastes, chemicals and other flammable and hazardous substances away from the potential sources of ignition and protected from the weather conditions.
- Educate workers on forest fires and their causes.
- Provide areas for safe smoking.
- Strictly prohibit and fine littering, including throwing away cigarette butts.

SP Technical Research Institute of Sweden, in the report on Fire incidents during construction work of tunnels recommendations include, but are not limited to: tunnels should normally have at least two separate emergency exits; If this cannot be arranged, special measures shall be taken for safe rescue or evacuation; Mobile or stationary safe havens shall be provided where necessary; Exits shall be clearly marked and visible even in the dusty conditions; Special measures for safe relief or evacuation shall include installation of rescue chambers or

safe havens provision of equipment giving access to respiratory air; Vehicles, electrical installations and material dumps shall be equipped with fixed automatic fire fighting devices; use of flame-resistant conductor materials. For site-specific SEAs, in addition to requirements of national legislation and WB EHSG, SP Technical Research Institute of Sweden, report *Fire incidents during construction work of tunnels* and relevant applicable recommendations, presents GIIP for the works in tunnels (stricter ones prevailing).[59]

6.6 Environmental and social risks, potential impacts and mitigation in the use and dismantling phase

Key risks in the operation phase do not envisage introduction on new risks as works will be carried out on the existing sections, with very little new construction, limited possibly to a small number of bypasses, tunnels, viaducts, and reconstruction of two existing bridges. Majority of impacts resulting from this project will be positive, including but not limited to safer and faster traffic, improved connectivity of urban and rural areas, improved accessibility of markets for rural products, easier access to employment, improved access to health and social services, improved functionality of public transport, potentially reduced emigration from rural areas.

6.6.1.1 Traffic safety

Despite a decreasing trend in road fatalities, Bosnia and Herzegovina still faces high road fatality rates compared to EU countries. The 2022 data for Fatality rates in BiH are 63 deaths per million which is comparable with other countries in the region but nearly 40 percent higher than the average for EU-27 and close to three times the level of the best performing countries such as Sweden. Over-speeding and low seat belt usage are the leading causes. Road safety is expected to improve as a result of the project; the number of blackspots will be addressed, there will be fewer (or no) landslides after extreme rains, and soil erosion will decrease after the Project. Due to drainage works, weight-in-motion systems, and reduced localized flooding, the longevity of roads should increase. Additionally, roads rehabilitated under sub-components 1.1 and 1.2 should provide a better experience and faster transport.

Pedestrian and road safety will be increased by constructing bypasses that will lead traffic away from city centers and populated areas.

6.6.1.2 Community health and safety impacts (noise and vibrations)

As the majority of the roads already exist, it is not expected that noise levels will significantly exceed the limits. Moreover, the construction of bypasses diverting traffic away from urban areas will help reduce traffic noise and related health and safety risks. Noise monitoring will be conducted in response to complaints and if any negative inspection findings arise. In the unlikely event that noise levels exceed the permissible limits set by regulations, Putevi Republike Srpske will address the issue by installing noise barriers and other appropriate measures.

Overall, noise levels are anticipated to decrease due to the improved road conditions after the project. Similarly, the vibrations caused by roads with potholes and differential frost heave, which are major sources of vibrations, are expected to decrease with better road conditions. Additionally, efficient drainage on the roads will prevent water from accumulating in the micropores, road base, and surrounding soil, thereby significantly reducing damage from frost and erosion, hence extend durability of the road.

In order to avoid negative impacts of noise to communities in the future, local spatial plans and construction conditions should prohibit the construction of residential facilities at distances from the road axis where permitted noise levels may be exceeded.

Occasional noise impacts may come form road maintenance, where the Contractor and Putevi Republike Srpske should organize works and set timeframe in close communication with the local administration and communities.

[59] SP Technical Research Institute of Sweden, Fire incidents during construction work of tunnels; Ingason H. et all, 2010

6.6.1.3 Risks from accidental situations

Transport of dangerous goods presents a significant risk in the operational phase, it can cause significant soil and ground water pollution through leakages, spills or accidents, consequent generation of large quantities of hazardous waste from site remediation and cleaning, and can pose a great threat to human health, even life.

Transport of hazardous goods in RS is regulated under Law on Transport of Dangerous Substances (OG 15/16) which requests application of the European Agreement on the International Transport of Dangerous Goods by Road for the transport of dangerous goods in road traffic. In connection with the International Transport of Dangerous Goods by Road - ADR) with its constituent parts, attachments A and B and the act of notification. The law does not apply to transport of fuels in specialized cisterns. Also based on the Law on Waste, ADR applies on transport of dangerous goods and substances within RS. Transport of radioactive materials is carried out in accordance with regulations on radiation and nuclear safety in Bosnia and Herzegovina.

According to the Law, participants in the transportation of dangerous goods, with regard to type of possible dangers, take all necessary measures in order to prevent an accident, that is, in order to minimized the consequences of the accident as much as possible.

In case of danger or accident, participants in transport of dangerous goods immediately inform the nearest the police station and attach the necessary data in order to take appropriate measures. In the event of an accident, in accordance with international agreements, the carrier, safety advisor or the transport organizer submits an accident report in which within a short period, and no longer than 30 days, to the competent organizational unit of the Ministry of Internal Affairs (in hereinafter: Ministry). Carrier, consignor, consignee and organizer cooperate with each other and with authorized persons of competent authorities in order to undertake appropriate security and preventive measures, as well as to act in case of occurrence accidents.

Rescue and protection is organized under Law on Protection and Rescue (OG 121/12, 46/17, 111/21) and implemented by Ministry of Interior, special units for protection and rescue founded by the authorities, headquarters, units, and teams set by LGUs, and others.

6.6.1.4 Waste management

During the operating phase of the road, the following waste will be generated: construction waste from maintaining and patching asphalt and concrete, waste metal from changing damaged rails, car wrecks, waste oil residuals and contaminated absorbents from removing oil and petrol from the road, batteries, break fluids, municipal waste from resting areas, administrative waste from operations of Putevi Republike Srpske, flammable, explosive, corroding, poisonous, irritating, and waste with other properties harmful for environment and human health. Main fractions of the waste will be collected separately (municipal, hazardous such as batteries, metal, paper, plastics, batteries, and construction) and processed or disposed in accordance with the national Law on Waste Management, only using licensed transport, licensed processing plants and licensed landfills. Currently (2024) infrastructure for processing, recycling and reuse of construction waste is not available in RS, however, the priority for Putevi Republike Srpske in waste management will be to use these facilities as soon as they become available, and consequently reduce amounts of the disposed waste (in line with EU targets). Hazardous waste will be largely exported in line with the Basel Convention, of which BiH is signatory, including both entities.

Roadkill collected as part of road management and maintenance shall not be discarded to municipal waste landfills. It will be either carefully removed from the road to avoid workers' contacts with carcasses and tissue, bagged in the nonpermeable bags or containers, and taken for processing in the rendering plant. If rendering plant is not available, it will be, in agreement with and written approval from the Veterinary Inspection (and other competent authorities), buried in sufficient depth, away from watercourses and other sensitive areas. It can also not be buried in the protected areas, near settlements, or other locations where there is an elevated risk form spread of pathogens and diseases. Location of buried carcasses will be registered at competent authorities (Veterinary Inspection) and Putevi RS and records kept permanently.

6.6.1.5 Impacts to soil and water

Major impact to soil and water comes from winter maintenance and surface runoff management.

If the culverts or drainage have not been well positioned, and in the case water quantities exceed capacities of the installed road furniture, including water collection, and treatment infrastructure, excessive water can cause damage to the same road infrastructure, but also cause turbidity of water in the natural recipient, cause soil degradation and removal, and wash out oil (e.g. from leakages and road accidents), dust, salts and contaminated particles to the natural recipient or adjacent soil. This issue though effects take place in the road use phase, must be addressed in the design through optimal and flexible drainage and water collection and treatment systems.

Impacts form winter maintenance takes place mostly in application of technical salts and gravel for deicing and assisted friction. The most used salts include sodium chloride – NaCl, calcium chloride CaCl2. Other compounds can be added to these salt bases for additional desired properties. These salts are then gradually wasted to the surface and groundwaters altering their chemical features. Salts can also mobilize heavy metals form the road dust and road furniture. Heavy metals are prone to bioaccumulation in foods (flora and fauna), including fish, indirectly potentially causing health and social issues of the local population.

The only remedy for reduction of use of salts is use of mechanical removal of snow during winter and/or use of other more mechanical means such as sawdust or gravel.

Also, if using gravel in winter maintenance, it should be clean and untreated gravel produced form quarried stone, not recycled.

6.6.1.6 Biodiversity

Impact to biodiversity can result from increased speed of the road and construction of new sections (however small). There could also be a historical issue with the existing road as designed in times when impact to biodiversity was not considered a particular risk. Therefore, the roadkill of wildlife will be registered and monitored, results shared on annual basis with the Ministry of Construction, Physical Planning and Ecology as well as published. In the case of concerns, or increased number of roadkill, adequate measures will be proposed and executed.

7 Environmental and Social Review Procedures

For projects involving multiple sub-projects the World Bank requirements involve mandatory review of adequacy of local environmental and social requirements relevant for the subprojects, as well as assessment of the Borrower's capacity to manage the environmental and social risks and impacts of such sub-projects, particularly, Borrower's capacity to (a) perform sub-projects screening; (b) ensure necessary specialists for conducting environmental and social assessment; (c) review findings of environmental and social assessment for individual sub-projects; (d) implement mitigation measures; and (e) monitor environmental and social impact during project implementation. The WB requires appropriate environmental and social assessment of sub-projects is carried out, and appropriate preparation and implementation such sub-projects in accordance with national law and any requirement of the ESSs that the Bank deems relevant to such sub-projects, by developing and following procedures to secure ESF and regulation compliant implementation. If necessary, the project may envisage measures to further strengthen Borrower's capacities. **In addition to civil works planned under sub-components 1.1 and 1.2., the ESF application extends to installation works under Component 2 (e.g. monitoring systems in tunnels, monitoring of stability of slopes, and installation of weigh-in-motion devices), as well as technical assistance (TA) under all sub-components including but not limited to building capacities, and design.**

The PIUs will be responsible for E&S screening, E&S assessment, monitoring and reporting on the environmental and social performance, national legislation and ESF compliance under each sub-project to ensure efficient application of measures as defined in site-specific management instruments including ESMF in the design, pre-construction and construction phase. Putevi Republike Srpske will be responsible for prescribed E&S mitigation measures implementation and compliance in the use and dismantling phase. While PIU can outsource

preparation of assessment reports and compliance reports, it remains responsible for their quality, content and public consultation processes.

Each sub-project and its activities must undergo environmental and social assessment compliant to this ESMF, and consequently the ESF, integrating stakeholder engagement activities including consultation and feedback.

The final, consulted version of the site-specific E&S Instrument (result of E&S Assessment) whether, ESIA, ESMP, ESMP Checklist, ESCOP or CHMP and any other presents an integral part of bidding and contracting documentation.

The Environmental and Social assessment will follow the 5 step Process to identify risks associated with specific sub-projects, screen out any substantial and high-risk activity, identify potential impacts and define measures aimed to prevent or minimize negative impacts and determine the type of management instrument required to meet the project standards.

7.1 E&S Review procedures for physical investments, exploratory work and installations

To identify the type and scale of potential social and environment risks and impacts and determine to which WB risk classification the sub-project should be attributed, E&S assessment will be conducted at the level of each sub-project. The significance of impacts and risks, contribute to resulting E&S assessment classification will depend on the type and scale of the sub-project, its location, sensitivity of E&S issues, and the nature and magnitude of potential risks and impacts. The E&S assessment will be proportionate to the risks and impacts of the project and will assess in an integrated way all relevant direct, indirect and cumulative E&S risks and impacts throughout project life cycle.

STEP 1: Sub-project screening and risk classification

The Borrower will carry out E&S screening based on the Environmental and Social Screening Questionnaire (ESSQ) provided in the Annex 5 which contains questions about the project (type of the proposed activities – construction/reconstruction/rehabilitation/installation, use of hazardous or toxic materials, impacts on protected areas, etc.).

In parallel, sub-projects will also be screened to ensure that the involuntary taking of land, displacement (economic or physical) and/or restrictions of access that may occur to achieve the objectives of the sub-project are adequately addressed compliant to the national law and WB ESS5 standards. While conducting E&S assessment dedicated Template for Land Acquisition, Restrictions on Land Use and Involuntary Resettlement Screening provided in the Annex 17 of the ESMF will also be considered. Based on the result of the land acquisition, land use and resettlement screening, the Borrower will propose preparation of RAP, Livelihood Restoration Plan or other document addressing land-related issues. The land-related screening report and proposal of the instrument is a subject to WB Social Specialist approval.

Environmental and Social Screening Questionnaire for each subproject will be updated (if needed) prepared and filled in by the final beneficiary (with the advice of the PIU) and reviewed by PIUs Environmental and Social (E&S) Specialists. Development of ESSQ will take into account relevant E&S aspects of the sub-project, risks and potential issues, such as the type, location, sensitivity, and scale of the project, etc. Once the ESSQ has been satisfactorily completed, the PIU will submit the document and the E&S Screening Report (in an agreed form) with proposed risk rating and E&S Instrument to the WB. For sub-projects where land issue risks and impact occur report must include information resulting from screening based on Template provided in Annex 17.

The ESSQ helps the PIU E&S specialists to determine the sub - project risk based on screening criteria and preliminary impact assessment. Low, moderate and substantial risk activities will be eligible for financing under the Project and screening will consider other eligibility limitations defined in the ESMF. **High risk activities and those listed on IFC exclusion list will not be considered for financing**. Further, PIU E&S Specialist will, as a part

of the screening process, define E&S due diligence documents that are appropriate to address risks and ensure sound E&S management of activity. Development of ESSQ will take into account relevant risks and issues, such as the type, location, sensitivity, and scale of the project, etc.

The final decision on sub-project risk classification requires endorsement of the World Bank, therefore, before the assessment, PIU prepares an E&S screening report, subject of the approval from WB Environmental and Social Specialists, who confirms the risk.

STEP 2: Sub-Project Preparation

The necessary documentation for the implementation of the sub-project, including the technical documentation for the sub-project to be financed, including the technical description of the sub-project, permits and approvals issued by the competent authorities in connection with the implementation of the sub-project, as well as the dynamics of the execution of works, will be prepared by the PIU Environmental and Social Experts. All technical assistant documents and reports must be reviewed and approved by PIU E&S experts before they can be considered complete, including the development of design standards. E&S Assessment for low and moderate risks may be carried out by the designer, however, its quality remains responsibility of the PIU E&S Specialists. Substantial risk E&S Assessments and Instruments must be prepared by an independent expert.

STEP 3: Preparation and Disclosure of ESIA/ESMP/ESMP Checklist, CHMP, RAP as needed

Construction/reconstruction/rehabilitation/installation/investigation and other civil works are expected to have low, moderate and substantial environmental and social risks, thus development of full-fledged or partial EISA with ESMP will be developed for substantial risk projects and, ESMP or ESMP Checklists and ESCOP (templates available at Annexeses 6,7,9,and 10) will be developed for moderate-risk sub-projects. Low risk projects may require ESCOPs. Cultural heritage related risks will be addressed through the development of Cultural Heritage Management Plan (CHMP) and, where applicable, with integrated conditions obtained in opinions and permits of competent authorities for interventions into physical cultural heritage. CHMP can be developed as a stand-alone document or integrated/annex to ESIA/ESMP or ESMP Checklist.

E&S instruments (ESIA/ESMP/ESMP Checklists/ESCOP and/or CHMP, and/or site-specific SEP) will be prepared in parallel with the sub-project design. The design and E&S instrument will inform each other. However, E&S instrument (any type of ESA – ESMP, ESIA, ESCOP, etc.) must be finalized prior to bidding procedures, and shall be subject to review and approval of the WB as any other E&S Instrument. It is recommended that construction permit is not obtained before finalization of aforementioned E&S instruments due to potential delays that the design may suffer as part of E&S Assessment and consultations. Similarly, RAP will be prepared once exact physical footprint of the Project is known, and before expropriation process and obtaining construction permit.

In the case of ESIA, the PIU E&S experts will always explore ways to integrate the national and WB procedures and not duplicate assessment, consultations or any other effort. The integrated procedures are subject to approval of the WB E&S Specialists.

Full-time (can be adjusted depending on the project progress) experienced environmental specialist and social specialist, and part-time OHS specialist will be hired in the PIU for the period of project implementation and assume responsibility for the implementation of this ESMF. PIU may also include communication specialist to support consultations and outreach activities.

PIU E&S Specialists will propose (and the bank will approve), on a case-by-case basis, the necessary ESS documentation. When confident that the document meets WB quality and content requirements E&S Specialists submits the draft documents for the review by the World Bank. After the approval is obtained, the documents shall be publicly disclosed and consulted. The finalized E&S Instrument will reflect relevant comments Documents reflecting relevant comments obtained in the public consultations (for moderate risk subprojects) and include minutes of public consultations will be considered finalized. ESIA/ESMP/ESMP Checklists/ESCOP and

CHMP (when applicable) will constitute an integral part of bidding and contracting documentation for contractors. When satisfied with the quality of ESMP Checklists/ESCOP, the Bank may decide to perform only post review of these documents.

STEP 4: Public consultations

Public consultation and engagement are covered in national legislation, including the right to address petitions, request information on projects carried by public bodies, consultation of neighbors and local communities, etc. Additionally, the processes for reaching and informing potentially impacted persons and communities will be amended by WB principles, and by engaging actively with these persons/groups, especially with vulnerable groups where such situations will surface.

These aspects are addressed in the current document, under the provisions for Grievance Redress Mechanism, Public Consultation and Social Risk mitigation measures and also through SEP.

PIU E&S Specialists will be responsible for publishing the documents to the public and introducing the public in the whole process of subproject implementation.

Disclosure package for Draft ESIA/ESMP/ESMP Checklist/CHMP will include the following documents: Public announcement for organization of the public disclosure containing the call for comments (for moderate risk subprojects), draft version of E&S Instrument, form for submitting comments and suggestions, and Grievance form.

All relevant comments from the public will be addressed and if needed reflected in the final E&S document.

Information about upcoming public consultations (for moderate risk subprojects) during the preparation of ESIA/ESMPs/ESMPs Check list/CHMP for respective sites will be posted on the website of the Putevi Republike Srpske. The PIUs will also explore means to disseminate this information in accessible formats, both online and offline in the culturally appropriated way.

All comments and questions shall be processed and together with feedback incorporated in the final version of the E&S Instrument (EISA, ESMP, etc.) and captured in the minutes of the meeting.

The PIU will submit such final document with the confirmation of re-disclosure, and were documents can be accessed to the WB.

Unlike other instruments, site specific RAPs will be prepared, consulted and finalized as early as possible in the project, and mandatory before expropriation process commences.

STEP 5: Integration of ESIA/ESMP/ESMP Checklist/ESCOP/CHMP in tender and contracting documentation

E&S Instruments (ESIA's ESMP/ESMP /ESMP Checklist/CHMP/ESCOP, etc.) will be prepared prior to the bidding of works and the final version integrated into tender and contracting documentations for the selected sub-projects and in the contracts for their execution to be signed with the selected works contractors. The Contractors will be required to demonstrate that all mitigation measures have been accounted for in C-ESMP/ESMP Checklist/C-ESCOP, C-CHMP to ensure sub-project implementation in environmentally and socially acceptable manner.

STEP 5: Implementation, project supervision, monitoring and reporting

The contractor (and consequently all its sub-contractors) is responsible for the implementation of ESIA's ESMP/ESMP/ESMP Checklist/CHMP/ESCOP mitigation measures and monitoring plan as well as any subsequent corrective measures prescribed by PIU and WB. Implementation of particular community safety and OHS measures that relate to use period, safety of staff, emergency preparedness, Waste Management Plan, Traffic Management Plan and other defined in the ESCP is responsibility of project beneficiaries and PIU as will be

defined in the ESIA's ESMP/ESMP/ESMP Checklist. PIU regularly supervises works through site visits, review of documentations and other available means (for moderate risk subprojects). The PIU will report on ESMF, ESIA/ESMP and ESMP Checklist/CHMP/ESCOP implementation compliance to the WB in the regular semi-annual Progress reports and for sub-projects in line with the ESCP and in dynamics agreed in the ESMP or ESMP Checklists.

PIU will notify WB without delay and within 24 hours of any incident or accident related to the project or that has an impact on it, and that has or could have a significant adverse effect on the environment, the affected communities, the public, or the workers included, for example, occupational accidents that could result in serious injury, minors, injuries, falls, vehicle accidents, larger spills of chemicals, oils, fuels, etc. The PIU will adhere to ESCP and reporting procedures developed for the Project guidance in the World Bank's Environment and Social incident response toolkit (ESIRT) and sure that their own response procedures are in line with the ESIRT. The PIU will provide sufficient detail regarding the incident or accident, indicating immediate measures taken to address it and include any information provided by any Contractor/Subcontractor or supervising engineer. As per Bank's request, Putevi RS will also prepare a report on the incident or accident with a detailed Root Cause Analysis (RCA) to be submitted within 30 business days of the incident to the Bank (unless differently agreed with the Bank).

7.2 Environmental and social reviews for Technical Assistance (TA)

Although TA activities carry E&S risk in the Project implementation phase, they can have significant E&S impacts further downstream regardless the time and source of financing. Therefore, TA is the correct time to address all risks and potential impacts, that can be avoided or mitigated in the TA scope, plans and design.

TA envisaged under this Project under all components, including design of ne road sections, new tunnels, design of climate change resistant measures, monitoring of slopes and tunnels, etc. and even internship program is a subject to environmental and social due diligence (compliant to ESF). Specific steps to be taken include:

Step 1: PIU E&S Specialists screen ToR prepared for TA against ESF ESS end determine its potential E&S risk for the implementation phase. If the risk is low, no further action needs to be taken. If the future risk is moderate or substantial, E&S Specialists notify the PIU (and the WB in a regular Progress Report) that a particular TA needs further E&S assessment. TA with potential downstream high risk will not be supported under this Project.

Step 2: When TA documents are in high draft, they will be shared with PIU Environmental Specialist and PIU Social Specialist for E&S assessment against ESF ESSs. PIU E&S Specialists carry out assessment and make recommendations to mitigate identified E&S risks and make recommendations for further E&S performance of TA. Assessment results and recommendations are presented in the E&S Assessment Report.

Step 3: E&S Assessment Report is reviewed (also revised by PIU E&S Specialists if needed) and approved by the WB. Approved E&S Assessment Report is disclosed for 14 days at MSE web site with a call for comments. E&S Assessment Report is considered final when it addresses all relevant comments, feedback is provided to public, and consultation minutes are included (e.g. as an annex).

7.3 Environmental and social reviews for Associated Facilities

The Policy requires the application of the ESSs to Associated Facilities. Although Associated Facilities are not identified at the Project preparation, they quite frequently occur in the transport sector infrastructure projects. WB E&S Policy defines Associated Facilities as facilities or activities that are not funded as part of the project and, in the judgment of the Bank, are:

(a) directly and significantly related to the project; and
(b) carried out, or planned to be carried out, contemporaneously with the project; and

(c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist.

For facilities or activities to be Associated Facilities, they must meet all three criteria.

Associated Facilities will meet the requirements of the ESSs, to the extent that the Borrower has control or influence over such Associated Facilities.

Where common approach has been agreed for the project, the common approach will apply to the Associated Facilities. Also, where Associated Facilities are being funded by other multilateral or bilateral funding agencies, the Bank may agree to apply the requirements of such other agencies for the assessment and management of environmental and social risks and impacts of the Associated Facilities, provided that such requirements will enable the project to achieve objectives materially consistent with the ESSs.

Template for screening of the Associated Facilities is available in the Annex 11.

7.4 E&S Instruments

Table 10: Required E&S instruments

Subcomponent	Type of activity	E&S Screening required under national legislation	ESIA required under national legislation	Document required under ESF (tentatively)
Subcomponent 1.1. and 1.2.	Geotechnical investigation	No	No	ESCOP
	Upgrade/reconstruction of road, including byasses	Yes	No	ESMP
	Redesign	No	No	WB E&S review
	Reconstruction of bridges, viaducts	No	No	ESMP
	Drainage	No	No	ESMP Checklist
Subcomponent 2.1. and 2.2.	Road safety TA	No	No	WB E&S review
	Reconstruction /rehabiltiation of roads	No	No	ESMP Checklist
	Reconstruction of bridges	No	No	ESMP
	Slope management system, weigh-in-motion installation	No	No	ESCOP

E&S instruments for ESF compliant implementation of sub-projects envisaged under the Project include (according to the ESS1, ESS8, ESS5 and ESS10):

- Environmental and social impact assessment (ESIA) is an instrument to identify and assess the potential environmental and social impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures. ESIA will also reflect national regulatory requirements, which may be relied on by the Borrower to the extent they meet the requirements of the ESSs. EISA template is available in the Annex 6.

- Environmental and social management plan (ESMP) is an instrument that details (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and (b) the actions needed to implement these measures. Template for the preparation of ESMP is available in the Annex 7.

- ESMP Checklist is the short version of the ESMP for light civil works with predictable E&S impacts. Template for the preparation of ESMP Checklist is available in the Annex 9.

- ESCOPs are pre-prepared environmental and social risks management measures for standard construction, livelihood or household support activities. Template for the preparation of ESMP Checklist is available in the Annex 10.

- Cultural Heritage Management Plan (CHMP; Template available in the Annex 8) is prepared when the Project cannot avoid impact to Cultural Heritage or Cultural Heritage objects are part of Project activities. Mitigation measures include, for example, relocating or modifying the physical footprint of the project; conservation and rehabilitation in situ; relocation of cultural heritage; documentation; strengthening the capacity of national and subnational institutions responsible for managing cultural heritage affected by the project; establishment of a monitoring system to track the progress and efficacy of these activities; establishment of an implementation schedule and required budget for the identified mitigation measures; and cataloguing of finds. CHMP will also reflect requirements of the competent authorities.

- Stakeholder Engagement Plan; The site-specific SEP will describe the timing and methods of engagement with stakeholders throughout the life cycle of the sub-project, distinguishing between project-affected parties and other interested parties. The SEP will also describe the range and timing of information to be communicated to project-affected parties and other interested parties, as well as the type of information to be sought from them. The SEP will be designed to take into account the main characteristics and interests of the stakeholders, and the different levels of engagement and consultation that will be appropriate for different stakeholders.

- Resettlement Action Plan (RAP): RAPs will be considered and prepared for each subproject where land acquisition, restriction on land use or involuntary physical or economical resettlement are detected/ screened as per the screening procedure. Site-specific Resettlement Action Plans (RAPs) will be proportionate to potential risks and impacts, in line with the principles of ESF. Project activities that may cause physical and/or economic displacement or any impact for which RAP is required (including land acquisition, resettlement, economic displacement, etc.) will not commence until such specific plans have been finalized and approved by the Bank.

- Livelihood Restoration Plan (LRP): LRP restoration will include options and alternatives for compensating loss of income, additional income, or other form of livelihood from which affected persons may choose, with timelines.

8 ESF Implementation Arrangements

Sustainable, Integrated and Safe Road Transport in Republika Srpska will be implemented by the Project Implementation Unit that will be established within the Putevi Republike Srpske Public Company.

Putevi Republike Srpske will be responsible for implementation of all components and will be accountable for reporting to both the World Bank and the Project Steering Committee on all Project activities and progress.

The PIU will be responsible for project coordination, monitoring and the preparation of consolidated reports. It will be responsible for overall implementation, including functions such as procurement, technical inputs, progress monitoring, quality control, and social and environmental safeguards- ESF compliance (including implementation of this ESMF, SEP, LMP an ESCP).

The PIU will coordinate with other relevant competent authorities (e.g. Putevi Republike Srpske, Ministry of Physical Planning, Construction and Ecology, Ministry of Interior, and other), and non-government organizations. Required staff who will be engaged for project is shown in the following Table 11.

Main Responsibilities of Putevi Republike Srpske as the implementing agency regarding environmental and social policies and standards:

1. Implements activities related to environmental and social policies and standards in accordance with the provisions of the loan agreement, ESCP and ESF
2. Ensures that the terms of reference for any design consultancy services incorporate the World Bank requirements and environmental and social policies and standards as defined under this ESMF and sub-project E&S instruments (prepare ESIA, ESMP/ESMPs Checklist/CHMP, ESCOP) including consultations on the results of ESAs, timely disclosure of draft and final E&S instruments and screening for gender based violence (GBV).
3. Ensure timely assessment of risks and preparation of relevant reports and documents as per requirements of ESS10 and ESS5. e.g. implement the Project's RPF, prepare site specific RAPs, Livelihood Restoration Plans (LRSs), update SEP and prepare site-specific SEPs, monitor the land acquisition process, conduct stakeholder engagement activities, and other;
4. Demonstrates, in the manner acceptable to the WB, compliance of finalized works with the ESF;
5. Ensures technical coordination of activities related to the preparation and implementation of ESIA, ESMP/ESMPs Checklist/CHMP, ESCOP;
6. Ensures that the execution of construction works is in accordance with the ESMF and site-specific mitigation measures; Manages the GRM to monitor, respond and report on feedback provided by the public on the project's activities;
7. Collaborates with the communication and legal expert on communication about project activities to direct beneficiaries, affected persons and the wider public, particularly inclusive public outreach activities that are sufficiently nuanced and targeted effectively towards vulnerable groups (e.g. men/women, disabled, youth/elderly, Roma, etc.);
8. Explores opportunities to consult and engage with project beneficiaries and members of the general public;
9. Develops a monitoring system of the activities, carries out and updates continuously the data base related to the implemented activities in order to dispose at any time of relevant monitoring information comparable and compatible concerning the problems of environmental protection on sites;
10. Monitors implementation of environmental and social policies and standards' activities including risks, impacts and mitigation measures in compliance with ESF, and update monitoring database on a regular basis. These include measures to mitigate the impact of construction activities, as well as health and safety protection measures, and reporting of any incidents as per ESIRT. Prepares and submits the initiation of legal documents for the approval of investments in accordance with the legal provisions in force;
11. Ensures the execution of the construction works in accordance with the general ESMF and relevant site-specific ESIA, ESMP/ESMPs Checklist/CHMP, ESCOP and monitors and reports the social and environmental aspects of the project throughout its period of operation;
12. Prepares reports, as defined in the ESCP, and inform the project manager whenever there is a deviation from the pre-established program, in order to review the work plans;
13. Prepares periodic reports for the World Bank and cooperates for the realization of the biannual reports on the implementation state of the project;

14. Maintains contact with Environmental and Social Specialists of the World Bank, and asks for advice on any problem that requires guidance regarding the activity in the field.

Table 11: Tentative composition PIU staff engaged for the Project

Item	Name of position	No. of Putevi RS and other competent authorities personnel	No. of external experts to be contracted
1	Project Manager	1	
2	Assistant Project Manager	1	
4	Financial Manager		1
5	Technical Manager (Civil Engineer)	1	
6	Procurement experts	1	1
8	Social/environmental/OHS experts	1	2
9	Monitoring/assessment experts	1	
10	Communication expert	1	
11	Legal counsel/ legal advisor	1	
13	Secretary	1	
TOTAL		**9**	**4**

World Bank will provide support to Project implementation for overall Project (Component 1 and Component 2) through: close cooperation with PIUs, review of E&S due diligence documents, monitoring E&S aspects of implementation performance and progress, conducting regular implementation support missions, provision of trainings and facilitating knowledge exchange, supervision and support on procurement process and financial management.

The World Bank E&S specialists will provide technical support and oversight of Project's E&S aspects throughout Project implementation. World Bank specialist will review all prepared ESF documents and approve when ESF and quality requirements are met. Capacity building activities will continue on an ongoing basis throughout project implementation. Costs of capacity building is covered by the Project.

World Bank will provide training on ESF and relevant standards to build capacity of the PIU E&S Specialist and relevant PIU staff and guide them in the preparation, implementation, and supervision of all project environmental and social instruments.

Furthermore, Putevi Republike Srpske PIU will provide training on implementation of environmental and social due diligence documents to all staff working with contractors and sub-contractors, supervising engineers, OHS specialist, etc.

Table 12: Capacity support (training)

		TIMEFRAME	RESPONSIBILE ENTITY/AUTHORITY
TRAINING OF PIU STAFF	Basic training to all relevant Putevi RS staff and PIU on basic ESF and related environmental and social issues; In-depth training to PIUs' environmental and social specialist, and communications and community outreach specialist, as well as to all other staff responsible for ensuring full	Initial training within three months after the Project Effectiveness Date. Refresher trainings at least once a year, when new relevant specialist is employed, or as needed, during project implementation	Project Implementation Unit (PIU) Funding from the Project budget

	compliance with the ESF and relevant instruments on: • OHS, environmental and social assessments, • ESMP preparation, • Preparation of RAP, • Labour influx, community health and safety, • Stakeholder engagement and grievance redress, • WHO Guidelines on Safe Management of Wastes from Health-Care Activities • National sanitary norms and regulations. • Codes of conduct • Monitoring and reporting, and • Other relevant topics.		
TRAINING FOR CONTRACTORS' STAFF	Training on implementation of environmental and social due diligence documents (e.g. OHS, environmental and social assessments, labour influx, community health and safety, stakeholder engagement, grievance redress, codes of conduct, etc.) to all staff working with contractors and sub-contractors that are responsible for environment, and social issues.	Prior to commencing works	PIU Funding from the Project budget

8.1 Monitoring and reporting

Monitoring helps track the environmental and social performance of the project, to determine whether it is achieving desirable and set outcomes and meeting various environmental and social requirements of national regulation and ESF. Monitoring also informs PIU and WB whether prescribed mitigation measures are efficient and effective or additional measures need to be implemented. It is important to document the monitoring of mitigation measures set out in the ESMP and ESMF, pursuant to ESCP defined responsibilities and obligations.

PIU of Putevi RS will monitor the environmental and social performance of the project in accordance with the legal agreement (including the ESCP) and Project E&S due diligence and guideline documents such as ESMF, SEP, RPF and LMP. The extent and mode of monitoring is agreed upon with the Bank, and is proportionate to the nature of the project, the project's environmental and social risks and impacts, and compliance requirements.

Implementation of E&S Instruments (including EISAs, ESMPs, ESMP Checklists, ESCOPs, RPs and site-specific SEPs) prepared for particular sub-projects is responsibility of a respective Contractor, including of Mitigation Plan and Monitoring Plan. Nevertheless, as the overall ESF compliance falls under responsibilities of the Putevi RS as implementing agency, the PIU will perform regular supervision of the Project and E&S Instruments compliance/implementation as well as prescribe corrective measures.

The MSE must ensure that adequate institutional arrangements, systems, resources and personnel are in place to carry out monitoring.

Based on the results of the monitoring, the Putevi RS PIU will identify any necessary corrective and preventive actions, and incorporate these in the relevant management tool, in a manner acceptable to the Bank. The PIU must implement the agreed corrective and preventive actions in accordance with the amended ESCP or relevant management tool and monitor and report on these actions.

The PIU must notify the Bank promptly of any significant incident or accident relating to the project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers.

The PIU will prescribe corrective measures. In the case corrective measures have not been implemented, in the case of continuous E&S incompliance, and/or significant impact recorded from the Project implementation, or any other situation where deem needed, the PIU can stop works and payments to Contractor, and in the worst case (in the situation continues), cancel the contract.

ESMP implementation reports for the works envisaged under the project will be submitted semi-annually, unless works are located in nature protected areas or can impact cultural heritage. For such projects (located in the sensitive areas/buildings), ESMP implementation reports will be prepared quarterly (if not differently agreed with the WB Environmental and Social Specialists).

Table 13: Reporting obligations during project implementation

Author/addressed to	Report	Frequency
PIU E&S Specialists to WB	- Periodic site-specific E&S Instruments implementation reports e.g. ESIAs, ESMPs/ESMP Checklists/CHMP/ESCOPs, SEPs, RPs - Summaries on complaints, feedback, queries, suggestions and compliments, together with the status of implementation of associated corrective / preventative actions, will be collated and referred to the PIU manager.	Semi-annually or as required in the ESCP and site-specific E&S Instruments (including initial/inception report), unless differently agreed with the WB (which may be the case for protected areas, recorded significant incompliances, CH risks,

Author/addressed to	Report	Frequency
		and similar where closer monitoring is required)
Contractor and supervising firms to PIU	- reports on ESHS performance in accordance with the metrics specified in the respective bidding documents and contracts - Snapshot of status of complaints received/ resolved/ delayed (Contractor GRM Report) - Snapshots of stakeholder engagement activities carried, feedback provided/incorporated or rationale for not including feedback (SEP Report);	Monthly
The PIU to World Bank	- Progress reports for WB on: physical and financial progress achieved against agreed implementation and disbursement indicators; issues and problem areas, including comments on actions to address identified problems; work programs and cost estimates for the coming year, including revised estimates for the former period; report on key environmental issues, accidents, and corrective actions; data on grievances and resolutions to allow for timely corrective action.	Semi-annual progress report
PIU to World Bank in the case of accident	- Environment and Social Incident Report (ESIRT) (Incident/Accident Report for WB to promptly notify of any incident or accident related to or having an impact on the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, including - WB has to notify the Bank within 24 hours after learning of the incident or accident	Immediate

8.2 Distribution of responsibilities

Detailed responsibilities during the project implementation and reporting obligations are given below in Table 14.

Table 14: Responsibilities during project preparation/implementation

Responsible entity / authority	Material measures and actions
Putevi RS PIU	Responsible to ensure the implementation of the provisions of the ESMF, SEP, RPF , LMP and ESCP by all parties, such as sub-project beneficiaries and contractors (and sub-contractors), including environmental and social monitoring, evaluation and reporting. Engage E&S, OHS and communication specialists in the PIU
PIU E&S specialists	Mandatory actions include: - preparing the E&S screening questionnaire,

Responsible entity / authority	Material measures and actions
	- preparing E&S screening reports, - screening all subprojects to ensure that no involuntary land taking that leads to physical, economic or other displacement occurs, - carrying out ESAs and preparing site-specific E&S Instruments e.g. ESIAs, ESMPs/ESMP Checklists/CHMP/ESCOPs, site-specific SEPs, etc., - preparing site-specific E&S Instruments (ESIAs, ESMPs/ESMP Checklists/CHMP/ESCOPs, SEPs, etc.) implementation reports, - update Project SEP and RPF; - Preparation of RAPs and LRPs; - where relevant, conducting engagement activities as defined in sub-project stakeholder engagement action plans, - holding regular meetings with the contractors and PIU members, - regularly visit working sites, - advising and guiding the contractors on mitigation of environmental and social impacts of the sub-project, preparing monitoring reports - carrying out document reviews, receiving E&S compliance reports from Construction Supervisors at least once a month, - implementation of stakeholder involvement activities as defined in the SEP and action plans for the involvement of stakeholders in the subproject, - revising and publicly consulting SEP and sub-project stakeholder engagement action plans, - preparing report on implemented stakeholder engagement activities, - conducting environmental/social supervision by carrying out document reviews, receiving reports from beneficiaries at least once a month, - providing specific training to contractor workers and Final Beneficiaries on monitoring and reporting under ESF, waste management, OHS and asbestos when deem needed, - responding on WB requirements and Head of PIU, - prepare ESF compliance reports for sub-projects and E&S contribution semi-annual progress reports for WB, - when incompliances are observed propose corrective measures, - upon repeated incompliances and upon observing significant incompliances, stop works if deem necessary and inform WB, - prepare informing and reporting Procedures in the case of accidental situations, - inform and issue initial reports to Bank on significant incidents and accidental situations, - carry out Root Cause Analysis when needed - responsible for managing the Grievance Mechanism (GRM), providing feedback and preparation of GRM reports.
OHS	- provide all required support to E&S Specialist in the field of OHS; - regularly visit working site and ensure OHS compliance, - propose corrective measures in the field of OHS, and supervise and ensure their implementation, - provide input for reports to Bank on significant incidents and accidental situations if deem needed, - provide feedback on OHS related GRM inputs and reports, - carry out Root Cause Analysis when needed.
Communication specialists	- provide all required support to E&S Specialist in the area of external communications, - provide support to E&S Specialist in public consultation processes for all E&S Instruments,

Responsible entity / authority	Material measures and actions
	- provide support to PIU in preparation and communicating external reports, - provide communication and outreach support to the PIU in the case of accidents, - assist the PIU Social Specialist in (i) preparation of site-specific SEPs, (ii) social surveys and analysis, (iv) early ocnsultations, (iii) stakeholder engagement.

9 Grievance Redress Mechanism

Under the ESS10, the WB requires Putevi RS to provide a grievance redress mechanism (GRM) to receive and facilitate resolution of concerns and grievances of project-affected parties arising in connection with the project, in particular about the environmental and social performance of implementation agency. GRM will be proportionate to the risks and impacts of the Project and should enable project-affected parties (PAPs) to submit complaints regarding a Bank-financed activities to the

(i) Project GRM,
(ii) local GRM, or
(iii) the World Bank's corporate Grievance Redress Service (GRS).

The main objective of the GRM is to allow stakeholders to submit complaints, feedback, queries, suggestions, or compliments related to the overall management and implementation of the project. The GRM is intended to address issues and complaints from stakeholders in an efficient, timely, and cost-effective manner. Specifically, it provides a transparent and credible process for fair, effective and lasting outcomes. It also builds trust and cooperation as an integral component of broader community consultation that facilitates corrective actions. GR form is available in the Annex 19.

9.1 Project level GRM

A Project level grievance redress mechanism (GRM) will consist of a Grievance Redress Committee (GRC) administered by the Putevi RS (management and legal representatives), Project GRM Committee (PGRC) and GRM Focal Point (most likely Social Specialist in the PIU).

- CGRC will include representatives of Putevi RS and relevant competent authorities, and relevant NGO or community organization representatives (e.g. representative of the PAPs, NGO representative (female) working for Gender and GBV/SEA/SH issues, etc. depending on the subject of complaint); it will function as the second-degree complaint tier.
- PGRC presents the first tier complaint body and it will gather PIU representatives, Putevi RS technical staff and municipality representatives.
- At the first instance, all grievances will be logged by the GRM Focal Point and resolved by the municipality technical staff and the PIU (Environmental and Social Specialists, other PIU members).
- The Project Implementation Unit (PIU) will assign a staff member under the direct responsibility of the PIU Manager to be responsible for managing the GRM.

If the appeal is filed (as a final level GRM action to CGRC) complainants may still seek a judicial settlement before the competent court; for a natural person, the competent court is Municipal Court (so called Local Court). If the dispute is between two legal entities, the District Commercial Court is competent.

9.1.1 Grievance and feedback admission channels

A Grievance Redress Mechanism (GRM) is a process for receiving, evaluating and addressing project related complaints, feedback, questions and suggestions from citizens and affected communities at the level of the project. The GRM shall serve as Project level information center, feedback provider, and grievance mechanism, available to those affected by implementation of all Project sub-components and be applicable to all Project activities and relevant to all local communities affected by project activities.

The GRM will be available over the Project's website by using dedicated email address: XXXXXX or telephone number **+38XXXXXXX** (for larger infrastructure projects, a separate address for each sub-project is recommended and Putevi Republike Srpske will have its own GRM email address for Grievances connected to the selection of research organizations and firms that will participate in the Project) to receive potential complaints or to report on occurred (or noticed) incidents. The GRM will also enable postal delivery (XXXXXX ADRESS) for those persons who are not comfortable in using electronic ways of communication. The mechanism focuses not only on receiving and recording complaints but also on resolving them. All complaints, queries and suggestions should be registered and will follow the defined procedures to ensure efficient and timely response.

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

The GRM shall be responsible for receiving and responding to grievances and comments of the following four groups:

- A person/legal entity directly affected by the project, potential beneficiaries of the Project,
- A person/legal entity directly affected by the project through land acquisition and resettlement,
- Stakeholders - people with interest in the project, and
- Residents/communities interested in and/or affected by project activities.

The GRM Focal Point will be appointed immediately after appraisal of the Project, in order to manage and appropriately answer complaints during its different phases while the PGRC and CGRC will be be effective upon decision on each new sub-project has been taken. In addition to the GRM, legal remedies available under the national legislation are also available (courts, inspections, administrative authorities etc.).
The grievance mechanism for project workers required under ESS2 will be provided separately with details to be provided in the Labor Management Procedure.
Putevi RS holds full responsibility for establishing functioning GRM and informing stakeholders about the GRM role and function, the contact persons and the procedures to submit a complaint in the affected areas. Where possible, affected municipalities and cities will take an active role in GRM. At very least, information on the GRM will be available:

- on the Putevi RS and Project websites,
- on the notice boards and websites of cities and municipalities,
- through social media campaigns,
- through online platforms.

The following channels will be available to stakeholders who would like to submit complaints, feedback, queries, suggestions, or compliments:
Relevant for all:

- Hotline and/or other communication mechanisms of Putevi RS, which will be established for affected cities and municipalities;
- In-person complaints to Contractor's representatives, construction and supervising engineer;
- Email addresses, postal addresses and phone numbers provided by the Putevi RS for citizen inquiries on their respective webpages under the "contact" section, RS and municipality notice boards, construction site billboards for citizens, stakeholders, affected parties, etc.
- Complaint boxes provided in strategic places (e.g. construction site, secluded place in Putevi RS facilities, other relevant and appropriate places that enable anonymous expressions, etc.)
- Special GRM and feedback mechanisms for vulnerable and disadvantaged groups devised under site-

specific SEPs, that relate to their needs.

The updated contact information and channels for submitting complaints to the Grievance Redress Mechanism (GRM) will be included in the updated Stakeholder Engagement Framework and site-specific Stakeholder Engagement Plans (SEP) documents, which will be made publicly available within 30 days of the project taking effect. The GRM will accept anonymous complaints and ensure they are properly addressed. Feedback on anonymous complaints will be posted online and in public spaces, such as near complaint boxes or on notice boards in relevant municipalities. Additionally, the GRM will have procedures in place for confidential reporting and the ethical handling of gender-based violence (GBV) issues. Those responsible for receiving project-related feedback will be trained to handle disclosures of GBV. Procedures will be established to promptly inform Putevi RS and the World Bank of any incidents related to sexual harassment and sexual exploitation and abuse with the consent of the survivor.

9.1.2 Local level GRM

Local level GRM under this Project will be integrated to Project GRM. Local aspect will include (i) appointing local GRM Focal Point in the subject municipality to receive and process (through the Project GRM system) grievances; (ii) publishing GRM information on the municipality web site, including contact information, hotlines, addresses for sending grievances and publishing feedback.

9.1.3 Processing of grievances

Any project-related feedback or grievance received should be forwarded within 24 hours to the PIU GRM Focal Point, who will register the complaint/inquiry in a dedicated Logbook (Xcel or other form) and log the information. GRM Focal Point will ensure that each complaint has an individual reference number and is appropriately tracked and recorded actions are completed. The logged information will include:

- ✓ Allocated tracking number of the case,
- ✓ Type of complaint (e.g. suggestion, question, complaint, etc.),
- ✓ Name of the Complainant (or marked anonymous),
- ✓ Contact details of Complainant,
- ✓ Way/means of submitting,
- ✓ Date when the complaint was received,
- ✓ Deadline for feedback,
- ✓ Whether the immediate acknowledgment was sent,
- ✓ Category of complaint (environmental social, land issue, restricted access, etc.),
- ✓ Language of complaint,
- ✓ Preliminary action plan.

In the process, or at the closing of the case (the latest), the following information will be added to the log:

- Name of feedback provider, if not anonymous
- Feedback provider's contact details,
- Nature of the feedback provided/complaint;
- Category of feedback (according to a typology to be developed in the updated SEP),
- Information about the feedback provider/complainant along categories to be developed in the updated SEP (e.g. gender, age, etc.),
- Action taken and response provided to the feedback provider/complainant,
- Date response was provided,
- Feedback provider/complainant satisfaction with response provided,
- Current status of the case,
- Any other relevant information.

9.1.4 Acknowledgment and follow-up, investigation and action

Upon receiving project-related feedback or grievances, the PIU GRM Focal Point will acknowledge receipt of the feedback/grievance within 3 days to the person who submitted it. They will outline the next steps and provide an expectation of when the feedback provider/complainant can expect to hear back from the project implementers. In the case of complaints, the PIU GRM Focal Point will then investigate the submission by reaching out to relevant actors as appropriate.

9.1.5 Grievance resolution and complainant satisfaction

Following the investigation, the PIU GRM focal point will propose a resolution to the complainant in writing within a maximum timeframe of 10 days from the moment the complaint was acknowledged. If an issue is still pending by the end of 10 days, the complainant will be provided with an update regarding the status of the complaint and the estimated time by which a proposed resolution will be provided. All grievances should be resolved within a maximum of 21 days of receipt. To enhance accountability, these timelines will be disseminated. Feedback for anonymous complaints will be provided on the Project's/RS web pages (dedicated to Project).

In case a complainant is dissatisfied with the proposed resolution, an appeal may be lodged within 15 days following the receipt of the decision with the Project Grievance Redress Committee (PGRC), who shall decide on the lodged appeal. If still dissatisfied, the Complainant can raise another appeal with the Grievance Redress Committee (GRC). An appeal to GRC again must be lodged within 15 days while response must take place within 30 days.
As a final level of appeal, an administrative dispute may be instituted before the Municipal/Local Court of the Republika Srpska for natural persons, and District Commercial Court for a legal entity.

9.1.6 Feedback and grievance monitoring and analysis

Semi-annual summaries on complaints, feedback, queries, suggestions and compliments, together with the status of implementation of associated corrective/preventative actions, will be collated by the designated PIU GRM focal point, and referred to the PIU manager. The summaries will allow to assess the volume and nature of feedback received and enhance the project's ability to address it in a timely and effective manner. These reports will also be included in the reporting to the World Bank.
The PIU GRM focal point will also be responsible for designing and administering a short complainant satisfaction survey in order to capture feedback providers' satisfaction with their interaction with the parties implementing the project and the resolution proposed following the submission of their grievance.

9.1.7 World Bank Grievance Redress Service

Project stakeholders and citizens can also submit complaints regarding project activities through the World Bank Grievance Redress Service (GRS). Communities and individuals who believe that they are adversely affected by a World Bank-supported project may submit complaints to existing project-level grievance-redress mechanism or to the World Bank's (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaint to the WB's independent Inspection Panel (IP), which determines whether harm occurred, or could occur, as a result of the WB noncompliance with its policies and procedures.

Complaints may be submitted at any time after concerns have been brought directly to the WB's attention, and Bank Management (BM) has been given an opportunity to respond. Information on how to submit complaints

to the World Bank's GRS is available here: http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service.

Complaints can also be submitted to the IP of the World Bank. The IP is an independent complaints mechanism for people and communities who believe that they have been, or are likely to be, adversely affected by a World Bank-funded project. Information on how to submit complaints to the World Bank's IP is available here: www.inspectionpanel.org.

10 Annexes

10.1 Annex 1 – Project Components

Component 1: Improved Regional Connectivity

The overall objective of this component is to improve regional connectivity and the quality and sustainability of the magistral road network in BiH. A high quality, safe network is essential to provide reliable access to jobs, markets, and services in BiH and connectivity to neighboring countries. To this end, the component will finance upgrade and improvement of Route 2b of the TEN-T network connecting Sarajevo (BiH) and Podgorica (Montenegro), and for the reconstruction, rehabilitation and maintenance of priority magistral roads. The upgrade of Route 2b will further regional integration with Montenegro, improve access to markets, foster the growing tourism industry in the area, and support BiH in its EU accession process. Financing of priority magistral roads will further domestic connectivity and the resilience and safety of the network. Priority investments will be determined by the merits of safety, resilience and economic return.

Subcomponent 1.1: Upgrade of Route 2b between Brod na Drini (Foca) and Hum (Scepan Polje)

This subcomponent will improve the connectivity between Sarajevo and Podgorica through the upgrade of 13.245 km between Brod na Drini (Foca) and Hum (Scepan Polje) on route 2b. The entire investment will be in RS and jointly financed through an EBRD loan and WBIF grant. The current road is in very poor condition as described in Annex 2. The road is only 3.5m wide, and it is characterized by many active landslides and ongoing deformations of the road surface, wooden bridges, and curvy alignment. The interstate bridge (Montenegro Border) over the river Tara was damaged during the war, and later repaired with the intention of providing a temporary solution for crossing over the Tara Canyon. The road has been closed for trucks and commercial vehicles since 2019. The bridge will be financed through BiH own resources before the start of works on the project road. The original feasibility study for the road was completed in 2015 and detailed designs were done in 2017, there is a need to perform additional geotechnical investigations and update and adjust detailed design, if and where needed. The road is vulnerable to flooding and landslides and will require additional design work to enhance climate resilience. The results from a GFDRR activity on Nature Based Solutions and Network Vulnerability Assessments will inform this process. A road safety audit will be undertaken to inform the final detailed design. Supervision will be also financed under the subcomponent.

The works will be tendered through a design and build approach, following the alignment recommended in the feasibility study for which detailed design was developed in 2017. The alignment follows the right bank of Drina River until the confluence of the rivers Tara and Piva, where the border crossing is located. The alignment runs close to the existing road, is 13,245.5 km in length, includes 14 structures (1,383 m) and work on local connecting roads (2.8 km). The design and build approach will transfer part of the risk to the contractor, which might result in slightly higher costs but would allow for more flexibility and faster implementation once the designs are approved. An expert will be mobilized to support the client in preparing the design and build tender documents

as per the Bank guidelines. This subcomponent will finance the design build contract including all necessary bridges, interchanges, road safety audits and site supervision.

Subcomponent 1.2: Investments in a program of rehabilitation of priority national roads

This sub-component will finance selected sections of the program for the reconstruction, rehabilitation and maintenance of priority magistral roads. The needs assessments for addressing backlog rehabilitation and maintenance needs stands at about EUR 740 million, representing an unconstrained scenario. Based on the outputs from the asset management systems in both entities a priority list of rolling investments will be identified from that backlog for Bank finance. In total this sub-component will improve about 150 km of road and associated blackspot improvements and interventions to enhance climate resilience. The works will be undertaken along the existing alignment and will include resurfacing, partial pavement widening, works concerning traffic signalization improvements, structure renewal, road safety improvements, road protection works, and rehabilitation of bridges and tunnels as well ancillary connections i.e, crossroads, access roads, drainage systems, etc. The proposed rehabilitation will improve ride quality leading to lower operating costs for road users and lower life-cycle cost for the road asset.

Two bridges- Bridge on the Drinjaca River and Bridge Tatinac were identified as highly unstable and deteriorated and will be repaired to enhance the safety and resilience of the road network. Bridge construction/rehabilitation will undertake structural retrofits/reconstruction to withstand climate hazards. Bridge number 350 on the River Drinjaca, is located on the main road M-19.2, on the section TiSca - Vlasenica in the Municipality of Vlasenica. In BiH, the main road M-19.2 connects Kladanj and Vlasenica. The road is 30 km long and connects to the M18 highway in Kladanj, while in Vlasenica, it connects to the M19 highway and is very important from the transport and socio-economic importance for the network. The bridge Tatinac is located on the section of the Regional Road RII-5501 (old code R-443), section Grajseljici - Klanci, Municipality of Kalinovik.

The component will also support Technical Assitance activities relevant for the road upgardes with road safety and resilience consideaion in mind. Support in the enhancement of institutional structure around road safety at state and entity levels will be also provided: (i) Update to the National Guidelines for design, construction, supervision, and maintenance and related rulebooks will be supported to reflect changes in the relevant standards and laws since 2004 and to allow adoption of modern practices in the transport construction sector; (ii) Support to establishment of a road crash database system as per CADaS protocols on the level of BiH and in close cooperation with the Ministry of Interior and Health will be provided; and (iii) road safety audits, technical control, designs, and site supervision of the sections to be financed under the subcomponent. In addition, all activities financed through this component will be complemented by a GFDRR grant to support integration of Nature Based Solutions into road designs and for the development of a methodology to assess road network vulnerability. The methodology for vulnerability assessment will be used to screen the country's road network for climate resilience considerations.

Component 2: Enhanced Road Sector Governance

This component will support the BiH EU accession and reform process in the transport sector through interventions that enhance road companies' ability to manage and operate their road infrastructure efficiently and cost effectively. The design of this component reflects screening and recommendations from the EU acquis report for BiH and further institutionalization of the reforms supported through previous bank engagements. The selected activities will strengthen road management in BiH with a particular focus on improving the financial

sustainability of the road companies, streamlining climate resilience, and enhancing road safety. The activities under this component will not add GHG but will increase adaptation and resilience in the future.

Subcomponent 2.1: Improved safety and resilience of the BiH road network

This subcomponent will support implementation of elements of the road safety ecosystem including screening and prioritization of blackspot locations and design and implementation of interventions. All activities are aligned with BiH accession agenda as identified in the EU aquis report for BiH. The subcomponent will be implemented through technical assistance, goods and services, training and operating costs and will support the following activities:

- Road Safety Inspection and Blackspot improvement program: RSI will be performed on priority 1200 km road network across BiH. Recommendations from the RSI will be included in the road safety action plans of the road companies and support in the development of a program for Blackspot improvement, particularly in the RS where there has been no prior screening. Measures will be proposed to rehabilitate the road sections near these high-risk locations.

- Stability monitoring: A Slope Management system including landslides and facilities monitoring will be developed. This will include monitoring equipment, patrols, support with planned road closures, signing, periodic maintenance, and minor rebuilding to reduce vulnerability.

Subcomponent 2.2: Enhanced operational management

The subcomponent will finance technical assistance, and procurement of goods and services to enhance the operational management of the roads sector in BiH. It will finance activities that support the institutionalization of modern road asset management system, a system of Weigh-in-Motion to protect existing assets from overloaded trucks, and the implementation of Intelligent Transport Systems (ITS) for tunnel management. The activities will support the development of multi-year maintenance plans based on priorities developed through RAMS designed to reduce the whole life costs of the road network and the overall financial sustainability of the sector. The activities include:

Enhancing the company level Road Asset Management Systems. The project will finance enhancements to the existing RAMs to integrate a module for the systematic economic prioritization of interventions. It will finance equipment for road condition monitoring, weather stations and screening of the network for optimal decision making and identification of network vulnerability. Further institutionalization of RAMs will be supported to help optimize multiannual planning and the preparation of investment and maintenance plans.

Implementation of a BiH wide Weigh-in-Motion system: Introduction of a weight control system will support the country in addressing overloaded trucks causing premature failure of roads. The project will finance the equipment necessary for a mixture of mobile weight control systems and fixed weigh-in-motion (WIM) systems. TA will support drafting the necessary legislation to facilitate the operations and enforcement of such a system.

Implementation of ITS in selected tunnels: The subcomponent will support higher utilization of ITS by centralized monitoring and control of ITS systems in tunnels.

Subcomponent 2.3: Project Management and Capacity building

This subcomponent will finance eligible expenses for both companies to enable successful implementation of the Project. The project will be implemented by the road company employees but they can benefit from capacity

building and selected additional expert support as may be necessary in procurement, financial management, environmental and social safeguards and annual program planning. The subcomponent will support relevant training and knowledge exchange activities and operating costs like office equipment, travel, printing and translation costs. In addition, the subcomponent will support 30 paid internships, out of which sixty percent will be women. Paid internships will be granted to students from the final year of relevant faculties or recently graduated students, enabling the companies to identify candidates that could be good addition to their institutions, with the aim to guarantee permanent employment for at least 5 women. The subcomponent will provide support in establishment of the online platform for dissemination of information about the project and user feedback interface. This will be implemented eithwr through separate project webpage or within existing web page of the companies.

10.2 Annex 2 - IFC Exclusion List

The IFC Exclusion List defines the types of projects that World Bank does not finance. IFC Exclusion List includes the following activities:

- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under CITES.
- Production or trade in weapons and munitions.
- Production or trade in alcoholic beverages (excluding beer and wine).
- Production or trade in tobacco.
- Gambling, casinos and equivalent enterprises.
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.
- Production or trade in unbounded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20 %.
- Drift net fishing in the marine environment using nets in excess of 2.5 km in length.
- Production or activities involving harmful or exploitative forms of forced labor/harmful child labor.
- Commercial logging operations for use in primary tropical moist forest.
- Production or trade in wood or other forestry products other than from sustainably managed forests.
- Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.
- Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples.
- Activities that might cause land acquisition or involuntary resettlement will not be eligible for financing.
- Laboratories with biosafety risks.
- Maritime industry (except maritime transport -research related to small vessels).

In addition to IFC risks, the following activities will be excluded from financing:

- Activities rated with substantial or high E&S risk according to WB E&S policies.
- Purchase of large quantities of chemicals and hazardous materials (including agents, gases, equipment, liquids, etc.).
- Procurement of pesticides.
- Activities that include testing on animals, collecting samples from animals or humans, procuring/working on samples of animal or human tissue/cells/other body materials.

10.3 Annex 3 - Eligibility criteria and risk classification

High-risk projects, as defined in the WB E&S Policies will not be eligible for financing, including:

• Construction of substantial new road sections (new routes);

• Construction of small new sections such as bypasses, intersections, and/or other infrastructure or TA in protected areas, critical, sensitive and valuable natural areas, those causing fragmentation of habitats, archeological zones, if can significantly impact cultural heritage, if can cause social turmoil, and otherwise cause significantly negatively impact environmental, natural, social features or human health;

Project type, location, sensitivity, scale	**Nature & magnitude of ES risks & impacts, available mitigation**	**Context risk relevant to ES measures**
HIGH RISK		
• Generate wide range of significant adverse risks and impacts. • Project is complex. • Large to very large Project. • Location is sensitive.	Potential risks and impacts associated with the Project have the majority or all of the following characteristics: (i) long term, permanent and/or irreversible (e.g., loss of major natural habitat or conversion of wetland), and impossible to avoid entirely due to the nature of the Project; (ii) high in magnitude and/or in spatial extent (e.g., the geographical area or size of the population likely to be affected is large to very large); (iii) significant adverse cumulative impacts; (iv) significant adverse transboundary impacts; and (v) a high probability of serious adverse effects to human health or the environment (e.g., due to accidents, toxic waste disposal).	• The area likely to be affected is of high value and sensitivity, for example, sensitive and valuable ecosystems and habitats (legally protected and internationally recognized areas of high biodiversity value), lands or rights of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities and other vulnerable minorities, intensive or complex involuntary resettlement or land acquisition, impacts on cultural heritage or densely populated urban area. • Some of the significant adverse ES risks and impacts of the Project cannot be mitigated or specific mitigation measures require complex and/or unproven mitigation, compensatory measures or technology, or sophisticated social analysis and implementation. • There are significant concerns that the adverse ES impacts of the Project, or the associated mitigation measures, may give rise to significant social conflict or harm or significant risks to human security, including due to

		activities of security forces involved in Project implementation. • The Project is being developed in a legal or regulatory environment where there is significant uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex Projects, or changes to applicable legislation are being made, or enforcement is weak. • There are significant concerns related to the capacity and commitment for, and track record of relevant Project parties, in relation to stakeholder engagement.
SUBSTANTIAL RISK		
• Some risks and impacts may be significant. • The Project may not be as complex as High-Risk Projects. • Project scale (large to medium) and impact may be smaller than of the High-Risk one. • Location may not be in such a highly sensitive area.	This would take into account whether the potential risks and impacts have the majority or all of the following characteristics: (i) they are mostly temporary, predictable and/or reversible, and the nature of the Project does not preclude the possibility of avoiding or reversing them (although substantial investment and time may be required); (ii) there are concerns that the adverse ES impacts of the Project, and the associated mitigation measures, may give rise to a limited degree of social conflict, harm or risks to human security; (iii) they are medium in magnitude and/or in spatial extent (the geographical area and size of the population likely to be affected are medium to large). (iv) the potential for cumulative and/or transboundary impacts may exist, but they are	• The effects of the Project on areas of high value or sensitivity are expected to be lower than High Risk Projects. • Mitigatory and/or compensatory measures may be designed more readily and be more reliable than those of High-Risk Projects. • The Project is being developed in a legal or regulatory environment where there is uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex Projects, or changes to applicable legislation are being made, or enforcement is weak. • There are some concerns over capacity and experience in managing stakeholder engagement although these concerns could be addressed through implementation support.

	less severe and more readily avoided or mitigated than for High Risk Projects; and (v) there is medium to low probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal), and there are known and reliable mechanisms available to prevent or minimize such incidents.	
MODERATE RISK		
• The potential adverse risks and impacts on human populations and/or the environment are not likely to be significant. • Project is not complex. • Project is not large. • Located away from environmentally or socially sensitive areas. • Project does not involve activities that have a high potential for harming people or the environment.	As such, the potential risks and impacts and issues are likely to have the following characteristics: (i) predictable and expected to be temporary and/or reversible; (ii) low in magnitude; (iii) site-specific, without likelihood of impacts beyond the actual footprint of the Project; and (iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents).	• Project's risks and impacts can be easily mitigated in a predictable manner.
LOW RISK		
• Project is classified as Low Risk if its potential adverse risks to and impacts on human populations and/or the environment are likely to be minimal or negligible.		

10.4 Annex 4 - E&S Screening Questionnaire and Screening Report Template

This form is to be used by the PIUs to screen for the potential environmental and social risks and impacts of a proposed sub-project. It will help the PIU in establishing an appropriate E&S risk rating for these sub-projects and specifying the type of environmental and social assessment required, including specific instruments/plans. Use of this form will allow the PIU to form an initial view of the potential risks and impacts of a sub-project***. It is not a substitute for project-specific E&S assessments or specific mitigation plans.***

Environmental and social screening questionnaire will be filled out by the final beneficiary and send to PIU for review.

Table 15: Environmental and social screening questionnaire

Name of the project	
Name of the sub-project:	
Estimated Investment:	
Start/Completion Date	
Brief description of the sub-project activities (describe main project features and location of work execution): *Annexes for all additional information can be supplemented if necessary (e.g.) maps with the geographical location of the project*	

No.	Screening Questionnaire	Yes	No	Not known	Not applicable	Additional Clarifications
1.	Will the sub-project include civil works?					
2.	Is the activity listed in the IFC exclusion list?					
3.	Will the sub-project include new construction?					
4.	If 'Yes' under the question 2: What type of works will be included?	(a) Road construction (b) Tunnel (c) Bridge (d) Other, pls specify				
5.	If 'No' under the question 2: What type of works will be included?	(a) Road rehabilitation (b) Rehabilitation of tunnels (c) Rehabilitation of bridge (d) Rehabilitation of a viaduct (e) Rehabilitation of the drainage				

No.	Screening Questionnaire	Yes	No	Not known	Not applicable	Additional Clarifications
		(f) Other, pls specify				
6.	According to national legislation does the subproject require EIA?	(b) Tunnel				
7.	Has the opinion that EIA it is not needed been issued? (please attach)	(c) Bridge				
8.	Is the sub-project taking place in the nature protected or ecological network area, or close proximity of such sites (less than 5 km away)?	(d) Other, pls specify				
9.	Is preliminary assessment of acceptability for the ecological network area obtained from the competent authority? (please attached)					
10.	Is permission / confirmation regarding interventions in protected areas obtained from the competent authority? (please attach)					
11.	Will the sub-project affect endangered flora or fauna?					
12.	Will the sub-project affect some critical habitats (forest, wetlands, marshlands, aquatic ecosystems)?					
13.	Will the sub-project produce significant emissions to air (e.g. dust, air pollutants, green-house-gases emissions, etc.)?					
14.	Will the sub-project produce excessive noise and vibrations?					
15.	Are there any risks of contamination of surface waters?					
16.	Are there any risks of contamination of ground waters?					
17.	Are there any activities which will lead to physical changes of the water body?					
18.	Will the project produce negative impact to soil (erosion, contamination, etc.)?					
19.	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the sub-project?					
20.	Is the subproject located within or in the vicinity of any known cultural heritage site or is located in protected cultural and historical area?					
21.	Will the sub-project impact archaeological or cultural heritage sites?					
22.	Will the sub-project generate non-hazardous wastes?					

No.	Screening Questionnaire	Yes	No	Not known	Not applicable	Additional Clarifications
23.	Will the sub-project generate hazardous wastes?					
24.	Will the sub-project generate asbestos wastes?					
25.	Will the sub-project generate significant amounts of wastes?					
26.	Is there an indication or a risk of historical pollution?					
27.	Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the sub-project?					
28.	Are there existing land uses within or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying that could be affected by the sub-project?					
29.	Are there areas within or around the location which are densely populated or built-up, that could be affected by the sub-project?					
30.	May sub-project cause impact on community health and safety?					
31.	If the project is EU co-financed, does the sub - project proposal comply with DNSH criteria for each of the six environmental objectives?					
32.	Will sub-project require land acquisition, restrictions on land use and involuntary resettlement? (see screening template in Annex VIII)					
33.	Please add any other E&S relevant risk/potential impact/aspect of the sub-project.					

Risks and potential impacts identified, stemming from the recognized E&S sub-project aspects will be (pre)assessed for relevance considering their geographical scope of impact, magnitude, nature of impact, probability of occurrence, severity, and other relevant ecological features. The overall level of risks for the screened activity will be weighed against thresholds provided in the risk classification overview in the Annex 4.

Screening Report template

Screening report template can be adjusted in agreement with the WB

Categorization of the Risk	☐ **Low Risk**	☐ **Moderate Risk**	☐ **Substantial Risk**	☐ **High Risk**
	The applicant needs to prepare:	The applicant needs to prepare:	ESIA/ESMP/CHMP	Not eligible for financing under the Project
	N/A ESCOP	ESMP Checklist/ESMP/CHMP/ ESCOP		
Environmental impacts including OHS and CH identified (short description and note on significance)				
Social impacts identified (short description and note on significance):				
List of instruments to be prepared				
Required permits				
Additional comments				

Project Categorization confirmed WB E&S Specialists: _____

Signature of responsible person: _____
Date: _____

10.5 Annex 5 - Template for preparation of ESIA (tentative)

SAMPLE Terms of Reference

for

Preparation of an Environmental and Social Impact Assessment (ESIA)

for

..... Project

Background

.....

The objectives of the assignment are:

i. To prepare an *Environmental and Social Impact Assessment (ESIA)* and a *General Environmental and Social Management Plan (ESMP)* for the whole Project, which will outline the main procedures and responsibilities to manage environmental and social risks associated with the implementation of the Project activities. This document will guide the development of general ESMP for road sections whose design will not be available at the early stage of project preparation;

ii. To prepare a *Social Assessment* based on (a) existing socio-economic studies of the area relevant for the road; (b) a census of settlements, entities (businesses, households, vendors (particularly informal vendors and squatters), etc.), farms and agricultural businesses, etc. along the road section; (c) public consultations with Project Affected People (PAPs) along the road section.

iii. To prepare *Environmental and Social Impact Assessment Reports* and *Management Plans* for road section to be supported by the proposed Project, which would identify and assess the potential environmental and social risks of the proposed Project, determine adequate mitigation measures.

All work undertaken and outputs produced must comply with:

• World Bank environmental and social standards, while taking into consideration the environmental and social procedures of Republika Srpska
• World Bank guidance on the conduct of public consultations with PAPs along the proposed alignment (right-of-way) of the ..... road section.
• World Bank guidance and structure provided on Social Assessments, ESIAs.
• World Bank Environmental Health and Social (EHS) Guidelines for General and Toll Roads.

Required Contents of the Environmental and Social Impact Assessment

This section provides a summary of the required contents of each section of the ESIA. The contents of the ESIA Report should follow the outline listed below, subject to any comments for addition or amendment from appropriate permitting and the relevant national environmental agencies:
Title Page

Executive Summary

Abbreviations and Acronyms

Table of Contents

List of Tables

List of Figures

List of Annexes

Section 1 Description of the Project

Section 2 Legal, Regulatory and Policy Framework

Section 3 Environmental and Social Baseline Information and Data

Section 4 Impacts and Risks Statement

a) Socio-economic Impacts and Risks Assessment

b) Assessment of Environmental and Social Impacts and Risks

Section 5 Analysis of Alternatives

Section 6 Environmental and Social Mitigation Measures

Section 7 Environmental and Social Monitoring and Management Plan

Section 8 Community and Social Risk Management Plan

Section 9 Public Consultation and Disclosure Plan

Appendices

List of ESIA Preparers/Consultants and Their Qualifications

List of References

Record and Documentation of Agency Meetings and Agreements

Record and Documentation of Consultation Meetings

Overview of ESIA Report Contents

i) Title Page and Table of Contents

The title page and table of contents shall be consistent with the proposed outline (previous section).

ii) Executive Summary

A summary of the project objectives; a brief project description; a brief description of significant findings and recommendations for environmental and social management that will be adopted to eliminate or minimize adverse impacts to acceptable levels as defined by the appropriate authorities and standards. This product will serve as the main consultation document and should be available in Bosnian and English.

***iii) Section 1* Description of the Project**

Provides a brief overview of the Project background and specific description of the Project components. The following technical information shall be included: the study area, size and capacity of the Project; all associated infrastructure (construction and operation workforce, housing, water supply, gravel sources, batching plants, machine and maintenance yards, technological roads, borrow pits, building materials deposits, etc.); description of the construction and operation activities (phased construction activities, associated manpower size and skill levels necessary, opportunities for local labor, size and skill of local workforce as per Feasibility Study assessment); hazardous waste use, handling, and storage (diesel, fuel gasoline, lubricants); worker health and safety, emergency preparation and response (including community response and notification); temporary

construction areas; site location alternatives considered; clean-up activities; implementation schedule; staffing and support, and worker facilities and services. Maps (in a common GIS format) are required at appropriate scales to show project-related development sites, pre-construction and construction activities as well as surrounding areas likely to be impacted. These maps should include topographic contours as well as locations of major surface waters, roads, railways, villages and communities, administrative boundaries, existing land use and all critical habitats including parks and recreation areas, and historical and cultural resources.

***iv) Section 2* Legal, Regulatory and Policy Framework**

a) WB policies, EHS guidelines, including a gap analysis explaining what additional efforts are needed to meet the WB requirements. The gap analysis should be expanded to the WB ESF requirements, which include emissions thresholds into the Environment, Health and Safety Guidelines, and these should be compared against national standards as the most stringent requirements should be identified and further applied.

b) The regulation on Environmental Impact Assessment will be followed. Also, the provisions of the relevant EU directives transposed in the national legislation and the requirements of the competent national environmental institutions will be followed. These laws incorporate relevant BiH, RS and EU Directives that apply to this project, where relevant Annexes make clear compliance to meet national/regional permitting requirements.

c) Describe applicable environmental policy and administrative requirements and associated regulations and standards of Republika Srpska and the EU. Particular reference should be made to requirements governing environmental quality, protection of sensitive areas, protection of endangered species, land use controls, etc., at national, regional and local levels. Legal and institutional framework relevant for social aspects (i.e. legislation on land acquisition, land tenure, expropriation, building codes and legislation relevant to universal accessibility of new infrastructure, legislation pertinent to ethnic minorities and particularly Roma, legislation regarding consultations, labor laws, etc.).

***v) Section 3* Environmental and Social Baseline Information and Data**

The Consultant shall assemble, evaluate and present baseline data on relevant environmental characteristics of the study area as it relates to the Project. The environmental description should be concise and focused on the potential impacts of the Project, clearly defining the area of influence. Detailed baseline data should be presented when it is relevant to corresponding mitigation measures. When extensive background information is required for documentation purposes, and/or for project files, this information should be provided in appendices. In addition, the Consultants will carry out any field surveys, interviews, and consultations needed to fill information gaps critical to the potential impacts and to development of mitigation measures. Such information should be assimilated in illustrative maps at an appropriate scale. The following will be included as part of this activity:

Physical environment: Geology; topography; soils; climate and meteorology; ambient air quality; surface and groundwater hydrology; existing sources of noise and air emissions; existing water and air pollution discharges; receiving water quality; all existing operational and past associated processing facilities (as described in existing technical documents);

Biological environment: Flora; fauna; rare or endangered species; sensitive habitats, including parks or preserves, significant natural sites, etc.; species of commercial importance; and species with potential to become nuisances, vectors or dangerous;

Socio-economic baseline: Any earlier social assessments in the area and the initial findings and baseline should be used to update any needed social assessment and provide a clear scoping statement of the anticipated impacts arising from the Project. This updated social assessment will describe current social and economic impacts on directly- and indirectly-affected communities. This socio-economic information will provide a baseline for evaluation of impacts and mitigation measures to reduce negative impacts and to enhance positive impacts and opportunities. Data will be obtained from a combination of secondary sources and suitable primary data, such as personal interviews and household or community surveys as relevant. The assessment will verify and update as needed: where likely impacts are identified; social and economic baselines; social and economic

impacts; mitigation of adverse impacts and enhancement of positive impacts; and identification of community development opportunities. The following will be included as part of this activity:

Socio-cultural environment (include both present and projected where appropriate): Population; land use; planned development activities; settlement and community structures; employment; distribution of income, goods, and services; recreation; public health; and historical, archeological and cultural resources.

The Consultant shall ensure that any specialized anthropological and sociological experts contributing to the Social Assessment is experienced to address issues relevant to World Bank requirements (this effort shall be linked to the RPF and RAP studies).

- Socio-Economic Conditions: Identify and map nearby human settlements in the proposed road corridor, paying special attention to communities or people potentially affected by the road widening including bypasses, if any. For such it will be necessary to collect socio-economic data as may be necessary to assess potential impacts on their income, livelihood status etc. Demographic data would include: population (size, gender and age distribution); cultural characteristics (religion, ethnic composition, languages spoken, etc.); population migration over the last few years, livelihood and economic activities; literacy rates and levels of education; community organizations and social networks; public health and safety;
- Infrastructure: For each settlement potentially affected, describe the infrastructure such as access roads linking main road corridor and traffic patterns on existing roads. Public health, education infrastructure as appropriate if it is to be used or adversely affected:
- Poverty and Social Risks- For each settlement potentially affected, analyze the level of poverty and vulnerability including social risks such as prevalence of sexual exploitation and abuse and sexual harassment (SEA/SH), high-risk behaviors among youth, child and forced labor in the construction sector, community cohesiveness etc.;
- Cultural, archaeological, spiritual structures, and historic resources: identify all cultural, archaeological, ceremonial and historic resources in the impact zone/within the area of influence;
- Indigenous People/Religious Groups and Ethnic/Other Minorities -Information on marginalized and vulnerable groups living in settlements along the road corridor, including indigenous communities, ethnic or other minority groups or other traditional cultural groups, if any.
- Vulnerable or disadvantaged groups (if any) and if relevant, social data should be disaggregated accordingly to the extent it is technically and financially feasible. To the extent possible demographic data should report on HHs with members with disabilities legacy issues on land take for the project and associated facilities.
- Legacy issues related to land use, property rights etc. The documents and reports noted in Annex 1 contain useful baseline data, but the Consultant will need to identify what additional data and any data gaps may have become available since those studies were completed and document any relevant changes to include them in this ESIA (e.g. such targeted information may include population dynamics, archeological finds, etc.). Should any additional land be required for the Project it is particularly important that this is accurately identified. In such cases, it would be essential to identify any involuntary relocation of people and any individuals who may have livelihoods affected by the Project. The numbers, locations, and socio-economic conditions of affected people, if any, should be fully documented in order to assist authorities of RS in meeting acceptable international standards for compensation, which would be equivalent to objectives of World Bank ESS5.

vi) Section 4 Assessment of Environmental and Social Impacts

The Consultant shall present a risk/impact assessment methodology that will help identify and assess the Project's likely environmental impacts and social influences (including cumulative impacts – see also Section 6 and Section 7 below), both positive and negative, based on changes brought about by all the project components to the baseline conditions described above in the area of influence. They shall quantify these impacts to the extent possible, in terms of costs and benefits and distinguish between positive and negative impacts, direct and indirect impacts, and immediate and long-term impacts. Additional information to be provided will include:

- Scenarios under normal conditions, start-up and shut-down activities during construction and commissioning and emergency situations;

- Identification of the type, relative likelihood and broad consequences of major hazards or accidents that might occur;

- Mitigation measures and any residual negative impacts that cannot be mitigated;

- Opportunities for environmental enhancement;

- Impact on the natural protected area (land occupation, habitats degradation or fragmentation, increase of the visitor number);

- Impact on land use - particularly the requirement of lands for road expansion, impacts of road construction on access and livelihood of various categories of people (businesses, households, vendors (informal vendors and squatters), etc.), farms and agricultural businesses, etc. along the railway section; (This will be further explored under the RPF preparation as well);

- Labor Influx – if there are additional labor requirements, potential labor influx issue, estimates of number of outside labor requirements, the areas where constructions camps are to be located, etc.; and

- The quality of available quantitative data, key data gaps, and uncertainties associated with predictions, and specify topics that do not require further attention.

Environmental impacts and social influences should also be categorized based on construction and operational phases, and summarized according to issues and themes in the main report text, with the detailed findings documented in appendixes. Although not exhaustive, the main impacts and influences of the following illustrative list of key potential environmental (and socio-economic) impacts must be addressed. Especially, positive social impacts and opportunities for the people and benefits to the PAPs. The illustrative list of aspects should also refer to labor management and working conditions, OHS, social tensions/conflict, livelihoods impacts, road safety etc.

Phase	**Aspect**
Construction	Air Quality
	Involuntary Resettlement/land acquisition
	OHS
	…etc.
Operations	Noise
	OHS for maintenance
	…etc.

Description of Cumulative and Associated Effects. This ESIA will include a discussion of cumulative effects as they affect air, groundwater and surface water, soil, biodiversity, human settlements which focuses on the Project. This should include projections of changes to environmental impacts and the potential livelihoods impacts.

- scoring or weighting of the magnitude and significance of cumulative effects;

- identification of potential actions to avoid, minimize or mitigate significant cumulative effects; and

- how these are proposed to be included into the Environmental and Social Management Plan (next section).

- Social Mitigation measures, especially suggested actions to mitigate adverse impacts to community safety, vulnerable groups, labor camp management etc.

- Indicative time frame for implementation of social and environmental mitigation plans.

***vii) Section 5* Analysis of Alternatives**

a) The Consultant shall compare the alternatives examined above in terms of potential environmental and social impacts assuming reasonable implementation of environmental and social mitigation measures and environmental and social monitoring. When describing impacts, indicate which are irreversible or unavoidable, and which can be mitigated. To the extent possible, quantify the environmental and socio-economic costs and benefits of each alternative, incorporating the estimated costs of any associated mitigating measures. Include the alternative of not carrying out the construction of the railway section. State the basis for selecting the proposed design over alternatives.

b) This explanation will include diagrams, maps, tables, and descriptive text based on the existing information. A shorter text, understandable to the non-technical audience that also includes diagrams, maps, and tables of the Project alternatives will be prepared for use in public consultations.

***viii) Section 6* Environmental and Social Mitigation Measures**

For each potential impact identified as significant in the section above, a mitigating measure will be identified and the collection of all such mitigation measures will constitute the Mitigation Plan. The Consultant shall provide a matrix of all impacts organized into construction and operational phase for all key project components, and will be further reflected in the ESMP (section 7). The matrix will include: i). the potentially significant impact; ii). proposed mitigation measure(s); iii). when action is to be taken (timeframe for the mitigation measures); iv). who is responsible for incorporating the mitigating measure into the project during construction and operation; and v). associated costs for these measures. As appropriate, mitigation measures will be presented in a spatial representation, such as map or diagram, with precise location of such measures. In addition, will be presented the eventual residual impacts that might result following the implementation of the proposed mitigation measures.

***ix) Section 7* Environmental and Social Monitoring and Management Plan**

a) Based on the Mitigation Plan, the Consultant shall prepare a general Environmental and Social Management Plan (ESMP). This ESMP will apply to the entire road or segments of the road as determined in the future for design and build options. The ESMP should address organizational roles and responsibilities, including an organogram and reporting lines for implementation of all mitigation measures (based on the matrix presented in Section 6 above), and should identify: i). a set of mitigation responses to potentially adverse impacts; ii). institutional structure and strengthening required to implement the mitigation measures; iii). responsibility for implementation of each proposed mitigation measure; and iv) a monitoring program to verify compliance with the recommended mitigation and measure the level of impacts produced. Measures also need to address emergency response requirements for accidental construction events. As detailed below, there should be clear distinction of measures associated with the construction and operation phases of the project. Each mitigation measure should be described in as much technical detail as possible, to the level of preliminary engineering drawings and specifications where possible. Include the type of impact to be minimized, the conditions under which it is required, along with designs, equipment descriptions, and operating procedures. Also, will be evaluated the feasibility of the proposed measures and the action needed to increase the likelihood of their effectiveness; For impacts that cannot be mitigated (residual impact), compensation to affected parties should be considered where relevant. Will be forecasted the residual negative impacts that cannot be mitigated and rate their significance and assess the acceptability of these remaining risks.

b) With regard to the relevant phases, the general ESMP should at a minimum address: i) *Construction Phase*: Construction Spoils Management Mitigation Plan to manage the disposal of construction spoils generated in an environmentally-friendly manner; Erosion and Sediment Control Mitigation Plan to describe the measures during construction to minimize sediment carried by runoff from entering downstream surface water drainage systems; Fugitive Dust Control Mitigation Plan to control fugitive dust control emissions during construction activities; Noise Control Mitigation Plan to control noise impacts on the surrounding communities construction activities; Occupational Health and Safety Plan to ensure workers and local communities protection; Re-vegetation and Natural/Wildlife Habitat Management Mitigation Plan to ensure proper re-vegetation of areas disturbed by

construction activities; Traffic Control Mitigation, Public Safety and Public Communications Plan to minimize the disruption of daytime traffic flows along important access roads in the area; Archaeology/Cultural Resources Mitigation Plan to manage any archeological or cultural impacts that may be encountered during construction; Worker Safety Plan to identify standards for protection of workers including onsite training and proper safety equipment; Labor Influx Management Plan and/or a Workers' Management Plan that outlines measures to manage laborers without hindering social and community life of the road corridor during construction period, Grievance Redress Mechanism (GRM) that allows the public and PAPs to lodge their concerns and complaints if any, and Public Consultation and Community Communications Plan for Construction Activities that takes into account all impacts and mitigation identified during preparation of the Final ESIA. Will be followed up the provision of the Environment and Forest Ministry no 135/2010 on informing the public, will be completed the annexes 14 and 15 provided in this order. In addition, the mitigation measures for land acquisitions and resettlement impacts should be covered under RAPs, livelihood restoration plans etc. In the Environmental and Social Monitoring Plan will be made provisions regarding the implementation of the public requirements;

ii) *Operations Phase*: Traffic Safety Plan to cover all aspects of road transport and pedestrian use; and Updated Public Consultation and Community Communications Plan for Operations Activities that considers all impacts and mitigation identified during preparation of the Final ESIA.

c) In line with the Mitigation Plan, the Consultant shall prepare an Environmental and Social Monitoring Plan to monitor the implementation of mitigating measures established for the Project during construction and operation. This plan will include a description and technical details of the monitoring program, including simple implementation progress criteria. The plan should also include recommended monitoring and reporting procedures, parameters to be monitored and periodicity, and should specify the responsibility for implementation of each measure to: a) ensure early detection of conditions that require particular mitigation measures; and b) furnish information on the progress and results of mitigation. The plan should also include a description of other inputs (e.g., training and institutional strengthening) required to carry out the monitoring plan; at a minimum, this monitoring plan should provide measures to determine the status of the elements presented in the list under Section 4 above. The monitoring plan should include sufficient inspections during construction to ensure compliance with recommendations in the ESMP and should clearly indicate roles and responsibilities. Monitoring plan may include GRM and the reporting systems, Monitoring criteria should be specified for choice of parameters, quantitative performance standards and frequencies (e.g., noise levels, noise reduction, dust management, surface area for re-vegetation, etc.) based on RS and EU regulations. During operations, monthly monitoring reports would be synthesized and the annual report (the synthesized report) would be submitted to National Environmental Protection Agency (NEPA) per agreed procedures.

d) The ESMP will consider and recommend a Scope of Work for an independent Environmental and Social Supervision Contractor (ESSC) during the construction and operations phases of the project. The ESMP will include allocation of responsibility, budget and sources of funding, monitoring and evaluation, including measures for non-compliances. The goal of the ESC would be to provide independent third party verification on progress of the mitigation measures and when needed technical advice on effective implementation of the ESMP.ESSC also need to supervise on social mitigation measures including the implementation of RAPs (as needed), restoration of livelihoods, performance of grievance redress and stakeholder engagement, etc. The ESSC may also provide training and capacity building for relevant staff for SEPA and MCTI, other relevant state bodies, and NGOs other interested parties, as relevant.

***x) Section 8* Public Participation and Consultation Plan**

o The Consultant shall prepare a Public Consultation and Participation Plan (PCPP), which describes a methodology for addressing substantive issues with competent authorities and local government, residents of the project area of influence, academic and applied research institutes, non-governmental organizations and interested individual citizens. This consultation process shall build on extensive documentation and procedures previously developed in other projects. The PCPP process will include standard record keeping for each meeting: a formal record should be made including the agenda, a list of participants, a summary of the issues discussed, and copies of materials provided to the participants. PCPP should also include a stakeholder mapping, including identifying representatives of potentially disadvantaged or vulnerable groups (i.e. Disabled Peoples

Organizations, organizations representing Roma, etc.). The design of the consultation process must be directed to build public confidence in the anticipated environmental and social assessment process through a well-designed communications and participation program. These measures shall be incorporated as part of early information collection process. The Plan should include timing and methods of engaging, including minimum requirements for information disclosure, differentiated requirements (if any) to reach vulnerable or disadvantaged groups, etc. The PCPP should describe in detail how the public consultations will be conducted, and how a special attention to the persons with disabilities, and to the vulnerable groups will be given. Additional steps required to be undertaken by the consultant under this process include:

- Assist to disclose the present TOR as well as drafts of ESIA report in Bosnian and English languages through the web page of MCTI and other media, as relevant, with due consideration of convenient access to published documents by project-affected communities;
- Organize consultation meetings, including advertising them, inviting participants, arranging the venue and providing presentation equipment;
- Organize consultation with the custodian / conservator of the natural protected areas;
- Chair each meeting and give an introductory presentation, and chair and participate in discussions as appropriate.

The consultant will:

o Prepare and deliver an MS Power Point presentation in Bosnian at each meeting describing their work;

o Produce summaries of their work in Bosnian to be distributed at each meeting;

o Produce a written record of each meeting in Bosnian and English languages, noting attendance, stakeholders' affiliations, points raised in discussion and answers given;

o Incorporate an account of the consultation process in the ESIA report, identifying how each point was addressed in the ESIA report and/or engineering design, and providing valid reasons why any points were not addressed.

The Consultant will be expected to assist the client with the above procedures, as requested. The Consultant's work may imply various types of consultations, interviews, thematic group meetings and other interaction with the project beneficiary communities on the environmental and social aspects of the project informing client on such meetings in advance.

Small meetings and ad hoc discussions on site will not require the client's involvement, however all meetings should be documented and included in the ESIA report.

Coordination

The Consultant will coordinate with the client, the Putevi Republike Srpske, the World Bank, and the engineering design team hired by the client to ensure fulfillment of the ToR requirements as outlined above. The client will facilitate initial contacts with each agency, and should be invited to all subsequent meetings with and the Bank so that they have the opportunity to attend. It is anticipated that the Putevi RS will assist the consultants in identifying appropriate permit requirements. Coordination with the engineering team is extremely important to ensure that the environmental and social impacts and risks are considered in the final road designs. This coordination is also necessary to ensure that ESIA contains detailed information on the designs. The ESIA Consultant also needs to communicate with the consultants undertaking the involuntary resettlement work.

Reporting Requirements

No later than three (3) weeks from contract award, an Inception Report shall be submitted that presents the Consultant's Work Plan, defines the Implementation Schedule by task, specifies submission dates in draft for each of the required reports, and assigns personnel by name and date to each task. The proposed project schedule shall be broken down by tasks and sub-tasks and presented in chart form in accordance with program evaluation and review technique (*PERT*) or equivalent format (e.g. *Microsoft Project Manager*). A proposed table

of contents for the Draft Environmental and Social Impact Assessment (ESIA) reports as called for in this TOR will also be submitted at this time. The timing of each draft and final ESIS is also presented in the table below.

Monthly Progress Reports shall be submitted which present a brief overview of progress in completing tasks, any difficulties affecting ability to achieve work as agreed in the Work Plan, proposed alternate means to achieve project objectives, major scheduled milestones, and any other relevant information to ensure effective implementation. Monthly Progress Reports will be 5 pages maximum in length.

Draft and final ESIA Reports shall be submitted in Bosnian and English, with two (2) hard copies and two (2) electronic copies at the times as agreed in the Work Plan.

10.6 Annex 6 - ESMP template

The Environmental and Social Management Plan (ESMP) consists of a number of mitigation and monitoring measures as well as of institutional measures to be enforced during the implementation and works in order to eliminate and neutralize negative environmental and social impacts or to reduce them to acceptable levels. The ESMP also includes a list of activities necessary to implement the said measures. ESMPs are, as a rule prepared for E&S aspects of site-specific activities and impacts.

When preparing the Environmental and Social Management Plan the loan beneficiary and his Environmental and Social Assessment team (usually PIU) shall (a) identify direct, indirect and cumulative project risks and impacts, (b) identify series of responses to potentially adverse impacts, (c) define the requirements that will ensure effective and timely implementation of the said responses i.e. measures and (d) describe how to meet these requirements.

The Environmental and Social Management Plan (ESMP) includes the following components:

Impact mitigation

1. The ESMP identifies feasible and cost-effective measures that can mitigate potentially significant adverse impacts to the environment and communities to acceptable levels. If the mitigation measures are not feasible, sufficient of cost-effective, the ESMP may include compensation measures. The ESMP particularly:

(a) identifies and summarizes the adverse environmental and social impacts (including impacts on the indigenous population and involuntary relocation);

(b) provides detailed technical description of each measure including the type of impact it addresses and the conditions under which the measure is required (e.g. continually or in case of unforeseen events), together with the project design, description of equipment and operative procedures, if necessary.

(c) evaluates all potential impacts of the said measures

(d) provides a reference to other mitigation plans (e.g. for involuntary relocation, indigenous population or cultural property) required by the project.

Monitoring

2. Monitoring the state of environment during the implementation of the project provides information on key environmental aspects of the project, particularly on the impacts of the project on the environment and the efficiency of the mitigation measures. These measures enable the client and the Bank to evaluate the successfulness of the mitigation measures as a part of supervision and enable introduction of corrective action, if needed. Therefore, the ESMP identifies the monitoring objectives and specifies the type of monitoring with reference to Environmental and Social Assessment Report and measures described in the ESMP. Part of the ESMP referring to monitoring provides (a) specific descriptions and technical details of the monitoring measures, including parameters to be monitored, methods to be used, sampling locations, frequency of monitoring, restrictions and defined limit values that are a signal for corrective action, (b) monitoring and reporting procedures to (i) ensure early detection of conditions that require specific mitigation measures and (ii) provide information on monitoring progress and results.

Capacity Development and Training

To support timely and effective implementation of environmental and social project components and mitigation measures, the ESMP draws on the environmental and social assessment of the existence, role, and capability of responsible parties on site or at the agency and ministry level. Specifically, the ESMP provides a specific

description of institutional arrangements, identifying which party is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental and social management capability in the agencies responsible for implementation, the ESMP recommends the establishment or expansion of the parties responsible, the training of staff and any additional measures that may be necessary to support implementation of mitigation measures and any other recommendations of the environmental and social assessment.

Implementation Schedule and Cost Estimate

For all three aspects (mitigation, monitoring and development of capacities) the ESMP provides (a) a measure implementation plan that is an integral part of the project, with the plan stages and coordination in line with other project plans and (b) cost estimates and sources of funding for the cost of capital and recoverable cost arising from the ESMP, if possible to assess.

Environmental Mitigation Plan

Activity	Potential Environmental Impact	Proposed Mitigation Measures	Responsibility for Implementation of Mitigation Measures	Period for Implementation of Mitigation Measures	Mitigation Measures Implementation Costs
Design Phase					
Climate change					
2. Erosion and landslides					
…					
Construction Phase					
1. OHS and community safety issues					
2. Air pollution					
3. Noise					
…					
Operational Phase					
1. Soil and water quality					
2. Noise					
…					

Monitoring Plan

Construction Phase					
What *parameter is to be monitored?*	**Where** *is the parameter to be monitored?*	**How** *is the parameter to be monitored?*	**When** *is the parameter to be monitored (time and frequency)?*	**Who** *monitors the parameter (responsibility)?*	**Cost** *of monitoring the parameter*

1.					
2.					
…					
Operational Phase					
1.					
2.					
…					

Given the above, ESMP for the sub-projects under Component 1 has to consist sections as follows:

Table 16: Structure of site specific ESMPs

Section	Description
Executive summary	Should provide a general summary of the ESMP contents and key findings, in a vocabulary that is easily understood by the general public. It should be clear, concise ranging from 1 to 3 pages;
Introduction	An introduction describing the ESMP purpose, objectives, principles and methodology. This section should introduce the sub-project proponents, the study team, and provide other relevant information. The layout of ESMP should also be described to facilitate its use.
Sub-project description	A description of the sub-project which will include background, purpose and different components. Also indicate any sub-project specific resource requirements such as material, manpower, equipment, etc.
Environmental baseline of sub-project area	This section gives site specific overview of baseline covering physical and biological environment like: air quality, waste management, nature protection, noise, temperatures, rainfall etc.
Social-economic baseline of sub-project area	This section describes socio-economic profile of the sub-project area like: administrative division, community structure, population, economy, cultural heritage sites, health care, education etc.
Stakeholder consultation and information disclosure	This section will describe the objective, process, and outcome of the stakeholder consultations carried out during the ESMP preparation. This section should also list arrangements for disclosing sub-projects information in order to comply with the Bank's Policy of Disclosure of Information
Impacts and mitigation	This section will identify all environmental and social impacts with cost effective and feasible measures to reduce adverse environmental impact to acceptable level. It will describe with technical details mitigation measures including the type of impact to which it relates to. It will also describe methodology for social impacts.
Institutional arrangement and trainings for users and contractors	Detailed description of institutional arrangements, roles and responsibilities and reporting procedures should be presented. There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies. Reporting procedure including grievance redress mechanism should also be proposed.
ESMP Implementation Budget	An ESMP implementation budget estimates are provided here. The budget will include funds for institutions development activities, training programs for implementation teams and local/national institutions, technical assistance to authorities, costs for preparations of EMPs and other safeguard documents.
Environmental and social monitoring and mitigation plans	This section will provide specific description and technical details of monitoring measures including

Section	Description
	the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions. The monitoring and reporting procedures will ensure early detection of conditions that necessitate particular mitigation measures, and furnish information on the progress and results of mitigation.
Cultural Heritage Monitoring Plan	For sub-project located in the protected cultural and historical area there is a risk that conduction of civil works could transform landscapes and maintenance of cultural and regional identity. CHMP will be developed according to CHMP template and special conditions for the protection of cultural heritage (if applicable) and will be attached.
Annexes	Technical annexes to support ESMP implementation

10.7 Annex 7 - Cultural Heritage Management Plan

Required content:

1. Description of the Cultural Heritage (CH) Facility/Object
2. Historical and other significant background information
3. Overview of ESS8
4. Overview of national CH regulation
5. Overview of CH policy and institutional framework
6. CH avoidance, prevention and mitigation measures

Table 17: Cultural heritage management plan (CHMP)

CHMP measures			
Phase	**Mitigation measure**	**When should the measure be implemented**	**Implementation responsibility**
During activity preparation/design			
During activity implementation			
During use phase			

Table 18. Environmental and social monitoring plan - Civil Works Preparation / Implementation phase

What parameter is to be monitored?	***Where is the parameter to be monitored?***	***How is the parameter to be monitored?***	***When is the parameter to be monitored (frequency of measurement)?***	***Why is the parameter to be monitored?***	***Cost***	***Responsibility***	
						Implementation	***Supervision***
Project activity:							

10.8 Annex 8 - ESMP Checklist template

The ESMP Checklist provides "pragmatic good practice" and it is designed to be user friendly and compatible with WB safeguard requirements. The checklist-type format attempts to cover typical mitigation approaches to common civil works contracts with localized impacts.

This document will help assess potential environmental impacts associated with the proposed sub-project, identify potential environmental improvement opportunities and recommend measures for to the prevention, minimization and mitigation of adverse environmental and social impacts.

ESMP Checklist is a document prepared and owned by beneficiary.

The checklist has one (1) introduction section and three (3) main parts:

Introduction or foreword part consisted of following sections:

- *Introduction* (sub-project description),
- *Environmental and social category* (environmental and social category is defined),
- *Potential environmental and social impacts* (potential impacts are defined)
- *ESMP Checklist* (concept and application of Checklist are explained),
- *Monitoring and reporting* (brief description of the monitoring and reporting process including responsibilities of involved stakeholders)

Part 1 - constitutes a descriptive part ("site-passport") that describes the project specifics in terms of physical location, the institutional and legislative aspects, the project description, inclusive of the need for a capacity building program and description of the public consultation process.

Part 2 - includes the environmental and social screening in a simple Yes/No format followed by mitigation measures for any given activity.

Part 3 - is a monitoring plan for activities during project construction and implementation. It retains the same format required for standard World Bank ESMPs.

Table 19: Part I - General project and site information

INSTITUTIONAL & ADMINISTRATIVE		
Country		
Project title		
Scope of project and activity		
Institutional arrangements (WB) (Name and contacts)	(Task Team Leader)	Safeguards Specialists:

Implementation arrangements (Borrower) (Name and contacts)	Safeguard/Environment Supervision	Works supervisor	Inspectorate Supervision	Works Contactor
SITE DESCRIPTION				
Name of site				
Describe site location				
Who owns the land?				
Valid operating permit, licenses, approvals etc.				
LEGISLATION				
Identify national &local legislation & permits that apply to sub-project activity(s)				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place and what were the remarks from the consulted stakeholders				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building?	**[] N or []Y**			
ATTACHEMENTS				
Attachment 1: Site plan / photo Attachment 2: Agreement for construction waste disposal Other permits/agreements – as required				

PART 2: ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following potential issues/risks:	**Activity**	**Status**	**Additional references**
	A. General conditions		See Section **A**
	B. General Rehabilitation activities • Site specific vehicular traffic • Increase in dust and noise from rehabilitation activities • Generation of waste • Transport of materials and waste	[ ] Yes [ ] No	If "Yes", See Section A, B below

PART 2: ENVIRONMENTAL /SOCIAL SCREENING			
	C. Activities taking place near water bodies such as rivers, lakes, international waters, etc. • Increase in sediments loads in water bodies • Changes of water flow • Pollution of water due to temporary waste disposal or spill leakages	[ ] Yes [ ] No	If "Yes", See Section A, B, C below
	D. Physical damage of cultural and historical heritage • Risk of damage to known/unknown historical buildings/cultural and historical area • Chance finds are encountered	[ ] Yes [ ] No	If "Yes", See Section A, C, D below
	E. Biodiversity, forests and protected areas • Vicinity of recognized protection area or ecological network • Disturbance of protected animal habitats • Cutting of trees/forest	[ ] Yes [ ] No	If "Yes", See Section A, B, E below
	F. Traffic disturbance and pedestrian safety • Site specific vehicular traffic Site is in a populated area	[ ] Yes [ ] No	If "Yes", See Section A, B, G below
	G. Usage of hazardous or toxic materials and generation of hazardous waste2 • Removal and disposal of toxic and/or hazardous waste during the rehabilitation activities • Storage of machine oils and lubricants	[ ] Yes [ ] No	If "Yes", See Section A, B, I below
	H. Land acquisition	[ ] Yes [ ] No	If "Yes", See Section L below

Activity	Parameter	Mitigation measures checklist
A General conditions	OHS and community safety	Community and OH&S measures: a) The local construction and environment inspectorates and communities in the Municipality should be notified for the project activities rehabilitation of the local road/street; b) The public in the Municipality should be notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works, municipal information table and municipal website www.xy.com); c) All legally required permits have been acquired for the project activities; d) Preparation and implementation of the Site Management Plan; e) Appropriate installation of signposting of the project site will inform workers of key rules and regulations to follow; f) Ensure appropriate marking out and out of the construction site /section by section; g) Access to the family houses, markets, play yards for kids, village church should be provided; h) Placed warning tapes signalizing forbidden entrance of unemployed persons; i) Temporary material storage should be clearly marked. j) Preparation prior to commencement of works and implementation of the Traffic Management Plan; k) All work will be carried out in a safe and disciplined manner designed to minimize impacts on workers, citizens using the road and environment; Labor procedures at least includes: • Sign a Contract for engagement of personnel trained for specific work positions • Hiring only qualified and experienced workers • Respecting the 8 hours working time for workers • Introducing the Labor procedure by the Contractor that should also be followed by the sub – contractors • Development of an Dynamic Plan for implementation of the project activities • Conducting H&S risk assessment for each work place OH&S measures for workers: a) Machines should be handled only by experienced and trained personnel, thus reducing the risk of accidents; b) Workers who will be engaged, will be trained and comply with international good practice (will always wear hats, masks and safety glasses, harnesses and safety boots, and other work specific protective equipment).; c) Community and Worker's OH&S measures should be applied (first aid, protective clothes for the workers, appropriate machines and tools); d) Firefighting measures: e) Constant presence of firefighting devices should be ensured on site in case of fire or other damage. Their position is communicated to workers and marked. The level of fire-fighting equipment must be assessed and evaluated through a typical risk assessment; f) A person should be appointed on the site responsible for the fire protection; g) Procedures in the case of fire are conveyed to all employees;

		h) The part of the road that is not under rehabilitation should be kept clean.
	Cultural Heritage preservation	a) In the case of chance finding, the site will be fenced (protected) and authorities (Ministry of Culture, Directorate for Protection of Cultural Heritage) will be informed within 24 hours following the national procedures. Works will recommence upon approval of competent authorities. Their instructions will be followed in the further works; b) If rehabilitation works take place close to a designated archeological sites, or are located in a designated archeological sites, notification shall be made and approvals/permits be obtained from local authorities and all rehabilitation activities planned and carried out in line with local and national legislation; c) Adequate care and awareness rising shall be taken to enlighten construction workers on the possible unearthing of archaeological relics; d) It shall be ensured that provisions are put in place so that artefacts or other possible "chance finds" encountered in excavation or rehabilitation are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds
	Prevention of accidental situations	a) Spill prevention kit, which will prevent further extension of the spillage, should be available on site; b) Firefighting distinguishers should be attested and in proper condition; c) Work site should be protected by a fence and proper signalization; d) Traffic around the project site should operate strictly in accordance with the Traffic Management Plan; e) Vehicles and construction machinery should be attested and in proper working condition.
B. General rehabilitation activities	Air Quality	f) On dry and windy days the construction site, transportation routes and materials handling sites should be water sprayed if needed; g) Washing of road transport vehicles and wheels will be conducted regularly, in previously identified sites equipped with, minimally, oil and grease collector; h) To minimize dust the construction materials should be stored in appropriate places and be covered; i) When transporting waste/materials the vehicles mu be covered in order to decrease the dust emission; j) The speed of the vehicles needs to be adjusted accordingly on the project location (40km/h); k) All machinery needs to be equipped with appropriate emission control equipment; l) Ensure all vehicles and machinery use petrol from official sources (licensed gas stations) and on fuel determined by the machinery and vehicles producer; m) Ensure all transportation vehicles and machinery is regularly maintained and attested; n) Excavation and other clearing activities and earthwork must be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighboring area.
	Noise disturbance	a) The level of noise should not exceed national limited level (according to national legislation and EU requirement)

		• Area with a **first degree** of noise protection, includes areas of tourism and recreation, areas near health institutions for hospital treatment, and areas of national parks and natural reserves (Ld – 50 dB, Le – 50 dB, Ln – 40); • Area with a **second degree** of noise protection, includes areas primarily intended for residential use, residential districts, areas in the vicinity of educational institutions, educational facilities and social protection services for adults and children(Ld – 55 dB, Le – 55 dB, Ln – 45) ; • Area with a **third degree** of noise protection, correspond to an area where some human activities with noise disturbance are accepted. These include commercial areas, areas with mixed housing/residential, craft activities and production activities (combined areas) (Ld – 60 dB, Le – 60 dB, Ln – 55); • Area with **fourth degree** of noise protection, correspond to an area in which actions are allowed that can cause the appearance of greater environmental noise. It includes non - residential areas exclusively intended for industrial activities (Ld – 70 dB, Le – 70 dB, Ln – 60); a) The construction work should be not permitted during the nights, the operations on site shall be restricted to the hours 7.00 -19.00; b) Noise suppression measures must be applied to all construction equipment. During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed. Should the vehicles or equipment not be in good working order, the constructor may be instructed to remove the offending vehicle or machinery from the site; c) Mechanical equipment is effectively maintained.
	Waste management	a) The different waste types that could be generated at the rehabilitation site need to be identified and classified according to the List of Waste (Official Gazette no.100/05); b) Containers for each identified waste category are provided in sufficient quantities and positioned and marked for separate collection; c) The main waste would be classified under the Waste Chapter 17 “Construction and demolition wastes (including excavated soil from contaminated sites)” with the waste code 17 01 – Waste from concrete, asphalt, 17 05 04 – Excavated soil, 17 09 04 – Mixed waste from construction site; Small amount of solid municipal waste can be found (beverages, food), as well as packaging waste (bottles, paper, glass, etc.; d) Communal service enterprise for waste collection is the responsible for communal and inert waste collection and transportation within the Municipality. The waste disposal will be performed in the local landfill. For the expected waste types from cleaning and rehabilitation activities the waste collection and disposal pathways and sites will be identified; e) The construction waste will be separated from the general waste, liquid and chemical waste on site, by sorting in appropriate containers; f) Construction and demolition waste from site needs to be instantly removed and reused if possible; g) The records of waste disposal (waste manifest) will be regularly updated and archived h) Only licensed collectors of waste will collect and dispose of the construction waste; i) All of the records of the disposed waste will be kept as proof for proper management;

		j) For the possible hazardous waste (motor oils, vehicle fuels) an authorized collector needs to be appointed to collect and dispose of it properly; k) The materials should be covered during the transportation to avoid waste dispersion; l) Burning of construction waste shall be prohibited.
	Hazardous materials and waste management	a) In the event of hazardous spillage, it needs to be stopped and removed, then the site needs to be cleaned and the procedures and measures for hazardous waste management need to be followed: b) Contractor must sign a Contract with authorized company/person to collect and transport the hazardous waste in accordance with national legislation with emphasis c) on the transportation of hazardous (toxic) goods: Issuing the license to company/person for collection and transportation of hazardous waste, Obligations for packaging and labelling of hazardous waste, Transportation of the hazardous waste; d) According to the national the hazardous waste needs to be identified and classified e) Applying appropriate packaging and labelling of the boxes with hazardous waste f) The packaging should follow the requirements of national legislation • The label should present the hazardous classification code, attention note ”HAZARDOUS WASTE”, general data for the waste holder, R-risk phrase, S – safety phrase, quantity of waste, physical conditions of hazardous waste and graphical symbol • The transport of hazardous waste is forbidden if it is not packaged and labelled according the national legislation requirements • In the case of any run-off coming from the works, in order to avoid contamination of the area it needs to be collected on site and placed in a temporary retention basin; g) Install/provide and maintain proper sanitary facilities for workers (mobile toilets). These toilets need to be cleaned and the wastewater needs to be properly transported to be further treated by the company that has a license for maintaining and cleaning of the mobile toilets; h) Waste water collected at the site must not be released to the environment without prior treatment; i) The temporary or final disposal of any waste stream near the water courses is forbidden; j) Servicing of vehicles and machinery is forbidden to be conducted on the construction-site; k) Prevent as much as possible, oil and other pollutants leakages to water and soil; l) If necessary, the stream flow is made to bypass the construction area within drainage lines.
	Nature protection	a) Reducing the size of the construction site due to the minimization of the land that will suffer a negative impact - Minimal green surface is to be removed; b) Disturbance of animals and collection of plants in the area is prohibited; c) Prohibit the collection of firewood from and around working areas; d) Rehabilitation activities should be performed by avoiding the important reproduction stages of protected species if works are done in proximity of protected areas; e) Collection of the generated waste on daily basis, selection of waste, transportation and final disposal on appropriate places;

		f) Destroyed plants need to be replaced by planting the new native species; g) Strictly forbidden collection of plants and herbs from the vicinity of the site; h) After finishing with rehabilitation activities, the location should be return to the pre work condition and if not possible than it will be adequately rehabilitated.
	Transport and Materials Management	a) Rehabilitation routes are clearly defined; b) Distribution of materials and other usages of the local road/street need to be announced and coordinated with the Municipality. The Contractor will take safety measures to prevent accidents; c) All materials prone to dusting are transported in closed or covered trucks; d) All materials prone to dusting and susceptible to weather conditions are protected from atmospheric impacts either by windshields, covers, watered or other appropriate means; e) Roads are regularly swept and cleaned at critical points. Spilled materials are immediately removed from a road and cleaned. Access roads are well maintained; f) Spilled materials are immediately removed from tracks and cleaned. Tracks are well maintained; g) Access of the construction and material delivery vehicles are strictly controlled, especially during the wet weather; h) Topsoil and stockpiles are kept separate; i) Stockpiles are located away from drainage lines, natural waterways and places susceptible to land erosion; j) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas. k) All loads of soil are covered when being taken off the site for reuse/disposal; l) Stockpiles do not exceed 2m in height to prevent dissipation and risk of fall; m) Producer of asphalt, gravel, concrete should possess all necessary working and emission permits and quality certifications; n) Producer of asphalt, concrete has to present a proof of conformity with all national environmental and H&S legislation; o) Ensure all transportation vehicles and machinery have been equipped with appropriate emission control equipment, regularly maintained and attested;
C. Activities taking place near water bodies such as rivers, lakes, international waters, etc.?	Water pollution	a) Good construction practices have to be implemented to avoid pollution of water in river/lake; b) Organization of proper storage, handling and daily refilling the hazardous materials; c) It is prohibited temporary or final storage or disposal of substances harmful to water (e.g. fuels for construction machinery, construction waste, etc.) near/in river bend of river/lake in wider surrounding of project locations, in order to prevent adverse impact on water quality and good ecological status of water courses; d) The access roads to the project locations should be kept clean and tidy to prevent the build-up of oil and dirt that may be washed or drain during heavy rainfall;

		e) The stormwater management measures should be applied in order to prevent the erosion and flooding (e.g., reduce sediment load, using oil/water separators for any significant oil is expected, avoid temporary/final disposal of different waste streams near the water banks, etc. .
D. Vicinity of any historical building/s or areas	Historical/cultural buildings/area preservation	a) If there is a building designated as a historic structure in the surrounding or along the rehabilitation route the notification shall be made and approvals / permits should be obtained from local authorities b) Apply all measures proposed by the competent authorities after the notification c) Apply the preventive measures to avoid noise disturbance, vibrations, easy access during the ceremonials, etc. f) Avoid the already known time period of a day when the specific ceremony has been performed (e.g. religious holidays)
E. Impacts on biodiversity, forests and/or protected areas	Ecosystem protection	a) All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities; b) For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect root system and avoid any damage to the trees; c) Adjacent wetlands and streams will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences;
F. Traffic disturbance and traffic and pedestrian Safety	Direct or indirect impact to public traffic and pedestrians	The construction site including the regulation of the traffic will be accordingly secured by the Contractor. This includes but is not limited to: d) The Traffic Management Plan will be prepared with the municipal staff in order to provide proper traffic flow within the project area (and beyond) and to prevent possible traffic accidents; e) The neighboring communities (located along/near the project site) need to be timely informed of the upcoming works; f) In an event where the traffic will be interrupted the contractor in cooperation with the Municipality need to organize alternative routes; g) Placing of sign posts, warning signs, barriers and traffic diversions signs (vertical signalization and signs at the beginning of the rehabilitation site): the passing citizens will be warned about the potential hazards; h) Installed boards and signs must not interfere with traffic safety and visibility; i) Adequate warning tapes and signage need to be provided and placed; j) Forbidden of entrance of unemployed persons within the fence; k) Traffic management system and staff training should be executed, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes; l) Active traffic management should be conducted by trained and visible staff at the site, if required for safe and convenient passage for the public;

		m) Set up a special traffic regime for the vehicles of the contractor during the period of rehabilitation (together with the municipal staff and police department) and installation of signs to ensure safety, traffic flow and access to land and facilities; n) Announce timely alternative traffic regulation during the rehabilitation works to the local communities (if there will be one); o) Ensure pedestrian safety. Special focus for safety of children if the school is in the vicinity (fence off the site, install safe corridors, regulate traffic manually in the peak hours, etc.); p) Ensuring safe and continuous access to office facilities, shops and residences during rehabilitation activities; q) Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement.
G. Usage of hazardous or toxic materials and generation of hazardous waste	Toxic / hazardous materials management and Hazardous waste management	a) Temporarily storage on site of all hazardous or toxic substances (including wastes) will be in safe containers labeled with details of composition, properties and handling information. Chemicals are managed, used and disposed, and precautionary measures taken as required in the Material Safety Data Sheets (MSDS); b) The containers holding ignitable or reactive wastes must be located at least 15 meters (50 feet) from the facility's property line. Large amounts of fuel will not be kept at the site; c) The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaking. This container will possess secondary containment system such as bunds (e.g. banded-container), double walls, or similar. Secondary containment system must be free of cracks, able to contain the spill, and be emptied quickly; d) The containers with hazardous substances must be kept closed, except when adding or removing materials/waste. They must not be handled, opened, or stored in a manner that may cause them to leak; e) Hazardous waste should not be mixed and will be transported and handled only by licensed companies in line with the national regulation; f) Hazardous waste should be maintained according the national legislation by the company that has License for hazardous waste g) Paints with toxic ingredients or solvents or lead-based paints will not be used.
H. Land acquisition	Land acquisition	a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank's Task Team Leader shall be immediately consulted; b) The approved Land Acquisition Plan (if required by the project) will be implemented (not expected in this project)

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During **preparation**							
During **implementation**							
During **operational period**							

10.9 Annex 9 - Environmental and Social Codes of Practice (ESCOP) template

These are examples of ESCOPs, if relevant for your Project activities. ESCOPs are pre-prepared environmental and social risks management measures for standard construction, livelihood or household support activities. The ones below are examples. Depending on the activities in your Project, you can include and exclude certain sections, as well as add new ones. For more detailed examples of standard environmental and social risk management measures refer to the World Bank Group Environmental, Health and Safety (EHS) Guidelines, which offer general and industry-specific measures.

You should fill out the "Responsibility" column with the relevant party responsible to implement the actions in the ESCOP, such as the project implementation unit, the local implementing unit, the contractor, or project beneficiaries (in certain community infrastructure or livelihoods activities).

To manage and mitigate potential negative environmental impacts, the project applies Environmental Codes of Practice (ESCOPs); outlined in this document. The ESCOPs contain specific, detailed and tangible measures that would mitigate the potential impacts of each type of eligible subproject activity under the project. They are marked as relevant for the planning phase, the implementation phase, or the post-implementation phase of activities. They are intended to be simple risk mitigation and management measures, readily usable to the Borrower and contractors.

a. ESCOPs for Infrastructure Subprojects

General ESCOP for Infrastructure Subprojects

Issue	Environmental Prevention/Mitigation Measures	Responsible Party
1. Noise during construction	a) Plan activities in consultation with communities so that noisiest activities are undertaken during periods that will result in least disturbance. (Planning phase) b) Use when needed and feasible noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines or planting of fast-growing trees). (Implementation phase) c) Minimize project transportation through community areas. Maintain a buffer zone (such as open spaces, row of trees or vegetated areas) between the project site and residential areas to lessen the impact of noise to the living quarters. (Implementation phase)	
2. Soil erosion	a) Schedule construction during dry season. (Planning phase) b) Contour and minimize length and steepness of slopes. (Implementation phase) c) Use mulch, grasses or compacted soil to stabilize exposed areas. (Implementation phase) d) Cover with topsoil and re-vegetate (plant grass, fast-growing plants/bushes/trees) construction areas quickly once work is completed. (Post-Implementation phase) e) Design channels and ditches for post-construction flows and line steep channels/slopes (e.g., with palm frowns, jute mats, etc.). (Post-Implementation phase)	
3. Air quality	a) Minimize dust from exposed work sites by applying water on the ground regularly during dry season. (Implementation phase) b) Avoid burn site clearance debris (trees, undergrowth) or construction waste materials. (Implementation phase)	

	c) Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals. . (Implementation phase) d) Reduce the operation hours of generators /machines /equipment /vehicles. (Implementation phase) e) Control vehicle speed when driving through community areas is unavoidable so that dust dispersion from vehicle transport is minimized. (Implementation phase)	
4. Water quality and availability	a) Activities should not affect the availability of water for drinking and hygienic purposes. (Implementation phase) b) No soiled materials, solid wastes, toxic or hazardous materials should be stored in, poured into or thrown into water bodies for dilution or disposal. (Implementation phase) c) Avoid the use of waste water pools particularly without impermeable liners. d) Provision of toilets with temporary septic tank. (Implementation phase) e) The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements. (Implementation phase) f) Separate concrete works in waterways and keep concrete mixing separate from drainage leading to waterways. (Implementation phase)	
5. Solid and hazardous waste	a) Segregate construction waste as recyclable, hazardous and non-hazardous waste. (Implementation phase) b) Collect, store and transport construction waste to appropriately designated/ controlled dump sites. (Implementation phase) c) On-site storage of wastes prior to final disposal (including earth dug for foundations) should be at least 300 metres from rivers, streams, lakes and wetlands. (Implementation phase) d) Use secured area for refuelling and transfer of other toxic fluids distant from settlement area (and at least 50 metres from drainage structures and 100 metres from important water bodies); ideally on a hard/non-porous surface. (Implementation phase) e) Train workers on correct transfer and handling of fuels and other substances and require the use of gloves, boots, aprons, eyewear and other protective equipment for protection in handling highly hazardous materials. (Implementation phase) f) Collect and properly dispose of small amount of maintenance materials such as oily rags, oil filters, used oil, etc. Never dispose spent oils on the ground and in water courses as it can contaminate soil and groundwater (including drinking water aquifer). (Implementation phase) g) After each construction site is decommissioned, all debris and waste shall be cleared. (Post-Implementation phase)	
6. Asbestos	a) If asbestos or asbestos containing materials (ACM) are found at a construction site, they should be clearly marked as hazardous waste. (Implementation phase) b) The asbestos should be appropriately contained and sealed to minimize exposure. (Implementation phase)	

	c) Prior to removal, if removal is necessary, ACM should be treated with a wetting agent to minimize asbestos dust. (Implementation phase) d) If ACM is to be stored temporarily, it should be securely placed inside closed containers and clearly labeled. (Implementation phase) e) Removed ACM must not be reused. (Implementation and post-implementation phase)	
7. Health and Safety	a) When planning activities of each subproject, discuss steps to avoid people getting hurt. (Planning phase) It is useful to consider: • Construction place: Are there any hazards that could be removed or should warn people about? • The people who will be taking part in construction: Do the participants have adequate skill and physical fitness to perform their works safely? • The equipment: Are there checks you could do to make sure that the equipment is in good working order? Do people need any particular skills or knowledge to enable them to use it safely? • Electricity Safety: Do any electricity good practices such as use of safe extension cords, voltage regulators and circuit breakers, labels on electrical wiring for safety measure, aware on identifying burning smell from wires, etc. apply at site? Is the worksite stocked with voltage detectors, clamp meters and receptacle testers? b) Mandate the use of personal protective equipment for workers as necessary (gloves, dust masks, hard hats, boots, goggles). (Implementation phase) c) Follow the below measures for construction involve work at height (e.g. 2 meters above ground (Implementation phase): • Do as much work as possible from the ground. • Do not allow people with the following personal risks to perform work at height tasks: eyesight/balance problem; certain chronic diseases – such as osteoporosis, diabetes, arthritis or Parkinson's disease; certain medications – sleeping pills, tranquillisers, blood pressure medication or antidepressants; recent history of falls – having had a fall within the last 12 months, etc. • Only allow people with sufficient skills, knowledge and experience to perform the task. • Check that the place (eg a roof) where work at height is to be undertaken is safe. • Take precautions when working on or near fragile surfaces. • Clean up oil, grease, paint, and dirt immediately to prevent slipping; and • Provide fall protection measures e.g. safety hardness, simple scaffolding/guard rail for works over 4 meters from ground. d) Keep worksite clean and free of debris on daily basis. (Implementation phase) e) Provision of first aid kit with bandages, antibiotic cream, etc. or health care facilities and enough drinking water. (Implementation phase) f) Keep corrosive fluids and other toxic materials in properly sealed containers for collection and disposal in properly secured areas. (Implementation phase)	

	g) Ensure adequate toilet facilities for workers from outside of the community. (Implementation phase) h) Rope off construction area and secure materials stockpiles/ storage areas from the public and display warning signs including at unsafe locations. Do not allow children to play in construction areas. (Implementation phase) i) Ensure structural openings are covered/protected adequately. (Implementation phase) j) Secure loose or light material that is stored on roofs or open floors. (Implementation phase) k) Keep hoses, power cords, welding leads, etc. from laying in heavily traveled walkways or areas. (Implementation phase) l) If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours, if needed. (Implementation phase) m) Control driving speed of vehicles particularly when passing through community or nearby school, health center or other sensitive areas. (Implementation phase) n) During heavy rains or emergencies of any kind, suspend all work. (Implementation phase) o) Fill in all earth borrow-pits once construction is completed to avoid standing water, water-borne diseases and possible drowning. (Post-Implementation phase)	
8. Other	a) No cutting of trees or destruction of vegetation other than on construction site. [Implementing agency] will procure locally sourced materials consistent with traditional construction practices in the communities. (Planning phase) b) No hunting, fishing, capture of wildlife or collection of plants. (Implementation phase) c) No use of unapproved toxic materials including lead-based paints, un-bonded asbestos, etc. (Implementation phase) d) No disturbance of cultural or historic sites. (Planning and implementation phases)	

Specific ESCOPs for Infrastructure Subprojects

Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party
Buildings		
In general	a) Provide adequate drainage in the building's immediate surroundings to avoid standing water, insect related diseases (malaria, etc.) and unsanitary conditions. (Implementation phase) b) Include sanitary facilities such as toilets and basins for hand-washing. (Implementation phase) c) Restrict use of asbestos cement tiles as roofing. (Implementation phase) d) Tiled floors are preferred for easier cleaning and more hygienic. (Planning and implementation phases)	

Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party
Shelters, community centers, schools, kindergartens.	a) Design of schools, community centres, markets should follow relevant requirements on life and fire safety required by National Building Codes and relevant guidelines from the concerned Ministries. (Planning phase) b) Schools: Maximise natural light and ventilation systems to minimise needs for artificial light and air conditioning; use large windows for bright and well-ventilated rooms. (Planning phase)	
Roads, Bridges and Jetties		
Roads connecting villages, between villages and townships.	General Considerations: a) Control placement of all construction waste (including earth cuts) to approved disposal sites (at >300 m from rivers, streams, lakes, or wetlands). If we do have to dispose spent oil unexpectedly, we should use safe disposal method capable by rural community. For example- burning spend oil as fuel. (Implementation phase) b) Erosion control measures should be applied before the rainy season begins, preferably immediately following construction. Maintain, and reapply the measures until vegetation is successfully established. (Implementation and post-implementation phases) c) Sediment control structures should be applied where needed to slow or redirect runoff and trap sediment until vegetation is established. (Implementation and post-implementation phases) d) Avoid road construction in unstable soils, steep slopes and nearby river banks. Additional measures (see the section below) need to be applied should there be no alternatives for road alignments. (Planning phase)	
	Protect slopes from erosion and landslides by the following measures (Implementation phase): a) Indigenous Species, fast-growing grass on slopes prone to erosion. These grasses help stabilise the slope and protect soil from erosion by rain and runoff. Locally available species possessing the properties of good growth, dense ground cover and deep root shall be used for stabilisation. b) Provide interceptor ditch, particularly effective in the areas of high intensity rainfall and where slopes are exposed. This type of ditch intercepts and carries surface run-off away from erodible areas and slopes before reaching the steeper slopes, thus reducing the potential surface erosion. c) For steep slopes, a stepped embankment (terracing) is needed for greater stability. d) Place a retaining wall at the lower part of the unstable slope. The wall needs to have weeping holes for drainage of the road sub-base, thus reducing pressure on the wall. e) Rocks (riprap) can be used in addition to protect the slope.	

Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party
	f) Prevent uncontrolled water discharge from the road surface by sufficiently large drainage ditches and to drain water away from the down slope.	
Bridges (less than 20 meters) and Jetties	Erosion protection (Planning and implementation phases): a) The main method of slope and erosion protection is the construction of gabions (gravity walls that support jetties bankment or slopes which have a potential to slip) and ordinary stone pitching. • The slope of gabions should be in the ratio of at least 1 vertical: 2 horizontals. Flatter slopes may be adopted depending on the site terrain. • The filling of the gabions should be from strong and competent rock which is laid very closely packed to maximize the weight. • Bracing wire should be used to prevent the gabion bulging out. The bracing wire should be placed at each third of the gabion height. • The gabions should be firmly anchored into the ground by founding the gabions below the expected scour depth level. • In cases where stone pitching is not provided, the top layer should be covered by soil to encourage the growth of grass and the stabilization of the slopes. b) Stone pitching may be provided as the only erosion protection measure in those cases where the erosion potential is deemed minimal. Stone pitching is not very resistant to strong water current and is mainly used as the top finish on gabion walls.	
	Water Quality and Fauna (Implementation phase): a) Restrict duration and timing of in-stream activities to lower flow periods (dry season) and avoid periods critical to biological cycles of valued flora and fauna (e.g., spawning) b) Water flow diversion should be avoided; if it is impossible to avoid, impacts should be assessed and mitigation proposed. c) Establish clear separation of concrete mixing and works from drainage areas and waterways	
Water Supply		
Shallow Groundwater Wells	a) Site wells so that appropriate zone of sanitary protection can be established. (Planning phase) b) Equip with slab around the well for easy drainage, a crossbeam and a pulley to support the use of only one rope and bucket for collecting water. One rope and bucket is more hygienic for the well and water. (Implementation phase) c) Install steel steps/rungs (inside wall of a deep well) for maintenance and in case of emergency. (Implementation phase) d) A groundwater well usually has a wide open water area. It is necessary to provide a cover/roof/wire mesh on top to protect this area from falling leaves or debris. (Implementation phase) e) Wells should always be located upstream of the septic tank soak-away. Build the soak-away as far away as possible from the well (minimum 15 m/50 feet) as it can influence the quality of the drinking water when it is too close.–(Planning and implementation phases) f) Before using a new water source, test water quality and when intended for potable purposes ensure water meets the national drinking water standard. Water quality should also be monitored in the case of all well rehabilitation. (Post implementation phase)	
Spring	a) Every spring capture should be equipped with a filter and a sand trap. Add a wall	

Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party
	between the inflow and the outlet pipe to create chamber for settling out sand; build the wall with a notch (lowered section) for controlled flow. Sand must be cleaned out periodically (operation and maintenance). (Implementation and post-implementation phases) b) Collection basin for spring capture needs to have a perforated PVC pipe (holes diameter 2mm) to be used as a screen for the water intake. Alternatively, a short pipe with wire mesh (screen) around the open end should be provided. (Implementation phase) c) Collection basin needs to have a fence to protect the spring from public access and risk of contamination; and a roof/cover over the spring to prevent leaves or other debris from entering the basin. (Implementation phase)	
Rainwater harvesting	a) Rainwater storage reservoir should be intact, connected to roof gutter system, with all faucets and piping intact. (Implementation phase) b) If distribution pipes are attached into the storage reservoir, install the distribution pipes 10cm above the storage/tank bottom for better use of the storage capacity. (Implementation phase) c) Cover must be fitted tightly onto the top of the storage reservoir to avoid overheating and growth of algae (from direct sunlight), and to prevent insects, solid debris and leaves from entering the storage tank. (Implementation phase) d) A ventilation pipe with fly screen should be placed in the cover to help aerate the tank/reservoir which is necessary for good water quality. (Implementation phase) e) Roof gutters need to be cleared regularly, as bird and animal feces and leaf litter on roofs or guttering can pose a health risk if they are washed into the reservoir tank. (Post-implementation phase) f) Reservoir tanks need an overflow so that in time of really heavy rain, the excess water can drain away. The overflow should be designed to prevent backflow and stop vermin/rodents/insects entering the system. A good design will allow the main storage tank to overflow at least twice a year to remove built up of floating sediment on the top of the stored water and maintain good water quality. (Planning and implementation phases)	
Installation / Rehabilitation of pipelines	Preventing contamination at water sources: a) Build a structure with roof over the water source to prevent leaves or other debris from entering into the basin. (Implementation phase) b) A fence is needed to protect the water sources (springs particularly) from public access and risk of contamination. (Implementation phase) c) The sand/gravel filter traps sediment before the spring flow enters the collection chamber and has to be changed during periodical maintenance. (Implementation and post-implementation phases) Pipe Laying: a) PVC water transmission and distribution piping need to be buried underground (coverage 50cm minimum) to prevent pipe against external damage (e.g. passing vehicles, solar UV radiation, etc.). Exposing PVC pipe to UV radiation causes the plasticiser in the PVC pipe to evaporate causing loss of integrity and brittleness. (Implementation phase) b) Pipe shall be laid in a straight line, over a constantly falling slope. (Implementation phase) c) When conditions do not allow piping to be buried (i.e. pipe is used above ground), then metal pipe must be used, and supported/braced as excessive movement may lead to leaks and breaks. (Implementation phase) d) Outlet pipes and fittings from water storage/basin shall not be PVC pipe due to	

Subproject Type	Environmental Prevention/Mitigation Measures	Responsible Party
	exposure to solar UV/sunlight. Metal piping and fittings are preferred. (Implementation phase) e) When the distribution pipes are laying via forest area, the following considerations are needed (Planning and implementation phases): • The route must be considered with minimum effects of changing the existing situations of the forest as well as the least habitats area of the animals • Setbacks distances from important natural features (e.g. mineral licks, wildlife features such as nest, leks, dens, staging areas, lambing areas, calving areas) to conserve wildlife values should be kept, if necessary.	
Electrification		
Solar power supply	a) Tidy wiring for easy maintenance and reduces the risk of accidents. (Implementation phase) b) Need to raise community awareness on electrical hazards and health and safety concerns, as well as proper maintenance of solar panels (Implementation and post-implementation phases) c) Need to raise community awareness on proper disposal of solar panels, specifically avoiding disposal of panels near water bodies (Post-implementation phase)	
Access to Sanitation		
Public latrines/toilets	a) All toilets must have a septic tank made from non-permeable material such as concrete, plastic or fiberglass to provide primary treatment of fecal waste. (Implementation phase) b) PVC pipe used to connect pour-flush toilet to a septic tank must be buried underground or covered over (with cement) for protection and to prevent exposure to sunlight. (Implementation phase) c) Metal pipe is a preferred choice to be used as the gas vent pipe on septic tanks. Never use PVC pipe as it is unable to withstand long-term exposure to sunlight. (Implementation phase) d) A toilet should be at least 20 meters from water sources (well, spring, river). (Planning and implementation phases)	
Wastewater Systems		
Wastewater sewerage and treatment	a) Septic tanks must have a vent pipe to prevent the build-up of gas inside the chamber and shall have a 'manhole' that provides access inside the tank if needed. (Implementation phase) b) Ensure that the septic tanks have two chambers: first chamber is for settling of sludge, and the second chamber is for aerobic treatment. These chambers will generally treat wastewater better. Partially treated septic tank effluent can pollute groundwater and surface water. (Implementation phase) c) Do not discharge septic tank effluent to an open drain or other surface water. The effluents need to be treated before final disposal. This may be achieved through: (i) an underground leach field, (ii) a vegetated leach field, or (iii) a pit for soaking away. (Implementation phase) d) Community awareness should be raised so that the community inspects the septic tanks periodically and ensures that the septic tanks are emptied every few years for the tank to continue to function properly. (Implementation and post-implementation phases)	
Solid Waste Management	a) Solid waste depots/disposal need to be located on hard-standing areas that prevent waste entering surface or groundwater. (Implementation phase) b) Waste depots/storage/disposal should be contained, sealed and/or roofed/covered to prevent storm water contamination. Wastes need to be emptied regularly. (Implementation phase)	

b. ESCOPs for Delivery of Food and Non-food Items

ESCOPs for Delivery of Food and Non-food Items

Risk/Concern	Environmental Prevention/Mitigation Measures	Responsible Party
Food Safety	- Conduct due diligence during the procurement process and the vendor selection that the food commodities to be received will be delivered in good condition and quality control is performed during intake. (Planning phase) - For storage, select storage facilities and locations based on surveying the relevant characteristics, considering factors such as quality of construction, state of repairs, road access, and sustainability. Regularly inspect these warehouse storage facilities for perimeter fencing, cleanliness, ventilation, lighting and fire prevention. (Implementation phase) - Assess the effects of moisture, humidity and temperature in food storage warehouses and for transportation, and take appropriate mitigation and management measures to ensure that food quality and safety are not impacted by these factors. Regularly monitor warehouse storage facilities for temperature, moisture and humidity given the particular inventory of food items stored and regularly inspect warehouses for food quality. Similar minimum measures for food safety should be included in the contracts of transportation services providers and inspected regularly. (Implementation phase) - For pest management, for each warehouse, conduct a site-specific pest (insect and rodent) assessment, prepare a pest control plan, procure and utilize relevant insect and rodent control equipment, as well as procure and apply relevant pest management measures. Regular food storage warehouse inspections should include inspection of the implementation of the pest control regime. (Implementation phase)	
Solid waste management	- Procure food aid commodities with an aim to minimize packaging; minimize the potential for unmanaged waste; and minimize the type of packaging materials that may have adverse impacts on the environment, and on community health and safety, to the extent technically and financially feasible. (Planning phase) - During transportation, storage and distribution processes, collect all solid waste generated, establish a short term covered storage area on site, and store all solid waste, including food packaging, at these storage area sites. Upon completion of distribution in communities and with relevant frequency in storage warehouses, remove waste from the storage area sites and dispose of waste in relevant off-site facilities designated by local township authorities. (Implementation phase) - For possible solid waste generated after distribution (food packaging that will be discarded later), raise community awareness on where and how to dispose of such packaging, in designated covered storage areas in communities or in IDP camps. (Implementation and post-implementation phases)	

10.10 Annex 10 - Associated Facility (AF) Template

Identification of Associated Facilities

According to the World Bank's Environmental and Social Standards (ESS), the term *„Associated Facilities*" means facilities or activities that are not funded as part of the project and are:

(a) directly and significantly related to the project; and
(b) carried out, or planned to be carried out, contemporaneously with the project; and
(c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist.

For facilities or activities to be Associated Facilities, they must meet all three criteria.

Associated Facilities should meet the requirements of the ESSs, to the extent that the Borrower has control or influence over such Associated Facilities.[60]

In order to identify, in a timely manner, the potential environmental and social risks of Associated Facilities and to apply adequate environmental and social standards, it is necessary to determine as soon as possible which individual investments could be qualified as Associated Facilities. This requires the following information:

1. Source of financing
2. Basic information on the project (purpose, functional improvements, etc.)
3. Scope of the project (reconstruction / renovation / construction, etc.)
4. Describe how the project is functionally related to the World Bank project and explain if it is not
5. Current status of the project (preparation phase / design phase/ construction phase, etc.)
6. Planned implementation dynamics with emphasis on planned construction time (start and end)

{Please insert name of the Facility}

		[Name of the Facility]
1.	Nacin financiranja *[Source of financing]*	
2.	Osnovne informacije o projektu (namjena, obuhvat, i sl.) *[Basic information on the project (purpose, scope, etc.)]*	
3.	Obuhvat projekta (nova gradnja/ rekonstrukcija/ obnova?)	

[60] The Borrower will be required to demonstrate the extent to which it cannot exercise control or influence over the Associated Facilities by providing details of the relevant considerations, which may include legal, regulatory, and institutional factors. Where the Borrower has limited or no control or influence over other entities or third parties, the environmental and social assessment will identify these parties and their roles with respect to the Associated Facilities. The risks and impacts that the Associated Facilities, and such lack of control or influence present to the project, should be considered in the assessment of the environmental and social risks and impacts of the project.

	[Scope of the project (new construction/ reconstruction / renovation etc.)]	
4.	Opisati na koji nacin je (funkcionalno) povezana s projektom Svjetske banke? Ako nije – obrazložiti *[Describe how the project is (functionally) related to the World Bank project and explain if not]*	
5.	Navesti akt temeljem kojeg se gradnja planira (građevinska dozvola, , dr.) *[Indicate the act on the basis of which the construction is planned (building permit, etc.)]*	
6.	Planirana dinamika, s posebnim naglaskom na planirano vrijeme gradnje (pocetak i kraj), trenutna faza *[Planned implementation dynamics with emphasis on planned construction time (start and end)], current status*	
7.	Procijenite je li objekt neophodan da bi projekt bio održiv i ne bi bio izgrađen, proSiren ili proveden da projekt nije postojao. Molimo pojasnite. *Please assess if the facility is necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist. Please elaborate.*	

10.11 Annex 11 - Environmental Baseline for the Project Area (extended)

The presented overview of the tentative sub-project location for upgrade and rehabilitation of the M18 road from Brod na Drini to Hum (just over 13 km), planned to be financed under sub-component 1.1 is based on desk research and compilation of information carried out for *Preliminary Environmental Impact Assessment (PEIA) for Component II for the main road E762 (M18), from Sarajevo to Foca*, and *Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini) section EIA* from in 2014 and 2017 respectively.

Baseline data for the territory of RS is partially based on ESMF prepared for the WB funded Projects BiH Water and Sanitation Services Modernization Project, and Agriculture Resilience and Competitiveness Project.

10.12 Description of key micro-locations

10.12.1 M18 between Brod na Drini (Foca) and Hum (Scepan Polje)

The M18 road section tentatively selected to be funded under the Project passes through the Municipality of Foca, located in the southeastern part of Bosnia and Herzegovina (BiH) in the Republika Srpska. The municipality's eastern and southern borders form the border with Montenegro, while its southeastern border is with the Municipality of Cajnice. To the north, the Municipality of Foca borders the municipalities of Foca/Ustikolina and Gorazde in the Federation of BiH (FBiH).

To the west, Foca borders the municipality of Kalinovik, and to the southwest, it borders the municipality of Gacko. The Municipality of Foca is connected to other parts of BiH through main roads such as the M20 (Gacko – Foca – Ustipraca), and remaining sections of the M18 connect Foca to Sarajevo and Podgorica, the capital of Montenegro (Sarajevo – Foca – Niksic). The section of the main road M18, Sarajevo – Foca, holds great significance in the road network of the Republika Srpska and Bosnia and Herzegovina, as well as in the wider region. It connects to Corridor Vc (E73), which links North, Central and South Europe, and represents the shortest route for Albania and Montenegro to connect with Central and Northern Europe.

10.12.1.1 Key socio-economic features

The municipality of Foca, located in the Republika Srpska entity, is rather large, covering an area of 1,115 km2. It encompasses 95 inhabited places with a total of 19,811 residents and 6,521 households. These residents are organized into 22 local communities, resulting in an average population density of 18 inhabitants per 1 km2 for the entire municipality. In the wider project area, there are 8 settlements: Brod, Bunovi, Birotici, Celikovo Polje, Mazoce, Bastasi, Tecici, and Hum. According to the preliminary data from the Census of Population, Households, and Apartments in Bosnia and Herzegovina carried out in 2013, there are 294 households and 927 residents within the territory of Republika Srpska, in the areas that comprise these local communities.

In the sub-project area, there are even fewer inhabitants, only 586 residents. The beginning of the section in Brod na Drini has a higher population density, though the road section runs for about 800 m in length. This part of the section has a design speed limit of 50 km/h, whereas the part where the school is located has a design speed limit of 30 km/h. The remaining part of the section is sparsely inhabited.

Table 20 Number of population in the project coverage[61]

No.	INHABITED PLACE	TOTAL NUMBER OF REGISTERED PERSONS	TOTAL NUMBER OF HOUSEHOLDS	TOTAL NUMBER OF APARTMENTS
1	Brod	403	157	191
2	Bunovi	78	35	133
3	Birotici	23	14	27
4	Celikovo Polje	-	-	9
5	Mazoce	31	16	33
6	Bastasi	17	7	19
7	Tecici	19	6	13
8	Hum	15	-	25
TOTAL		**586,00**	**235,00**	**450,00**

The primary demographic characteristic of the subject area is the outflow of population, particularly the younger population. This is evident from the fact that the majority of inhabited places have more apartments than residents.

There is also a noticeable trend of population migration from rural areas to towns and villages, resulting in a continuous

[61] Census of population, households and apartments in BiH in 2013, in the territory of the Republika Srpska - Preliminary results; Preparation of design and studies for improvement of the road on the SEETO route 2b, EIA for Component 1; 2016

decrease in the number of households and population in rural areas, particularly in the area along which the subject road alignment runs.

The local economy is primarily based on forestry, agriculture, and energy, with tourism emerging as a growing sector due to the region's scenic landscapes and opportunities for outdoor activities. The Municipality of Foca is renowned for its rafting tours on the Drina and Tara rivers, as well as for hiking destinations such as Zelengora, Maglicc, Volujak, Bioc, Vucevo, Ljubisnje, Peruccica, and the Tara Canyon. Fishing tourism is also popular. Hospitality industry includes large number of restaurants, and accommodations including hotels, motels, camping sites, and private accommodation.

The Drina River and its tributaries are prominent features of the region, offers potential for hydroelectric power generation and presents a vital natural resource. Despite its natural assets, Foca faces socio-economic challenges, including the need for industrial diversification, recovery from the effects of past conflicts, and demographic shifts such as population aging and emigration. These issues have prompted efforts to stimulate economic growth and enhance the quality of life for residents. Initiatives aimed at developing infrastructure, promoting sustainable tourism, and attracting investment are part of a broader strategy to address these challenges and leverage Foca's potential for long-term socio-economic development.

The region has several educational institutions, including primary and secondary schools that serve as the foundation for youth education. Higher education is represented by the University of East Sarajevo's Faculty of Medicine located in Foca, which attracts students from various parts of the country. The community nourishes traditional values. However, like many areas in Bosnia, Foca faces challenges such as brain drain due to limited employment opportunities locally, prompting many young people to seek education and employment elsewhere.

In the Municipality of Foca 47% of population is connected to potable water supply while the rest of households are connected to private wells or use other sources.

10.12.1.2 Key climate features

Subject area is very a very prominent area in terms of relief and this is conditioned by a complex system in this region. The impact of the Adriatic Sea, due to high mountains that surround the watershed, is not very much prominent[62]. Opposite that, the drainage basin is open in the north, and the penetration of cold air from the north to the south is facilitated. Basically we can say that this valley is of moderate continental climate, and high areas of mountain climate. [63]

The average temperature of the warmest month of July is changed to the subject area of 18.9 °C to 15.0°C (Zabljak), and minimum temperatures down to -30,°C. Average annual temperature is in the range from 9.8°C (Foca) to 5.6°C (Zabljak), and minimum temperatures go down to -30.0°C. Cloudiness during the year is considerable. The sky is under the clouds 60% of the year. The highest cloudiness is in November, and the lowest in August.[64]

The average annual precipitation in the basin to Foca are 1,587 mm and they are quite evenly distributed by months. The wettest month gets 3 - 3.6 times the amount of rainfall of the driest month. The primary maximum of precipitation is in November or December, and the secondary in April and May. Minimum rainfall is in July and August. According to this feature, the confluence of Drina to Foca belongs to a modified maritime pluviometric regime. The annual range of rainfall is significantly fluctuating from the territory of the basin of 43 mm (Foca) to 241 mm (KolaSin), as well as seasonally.[65]

10.12.1.3 Geomorphology and hydrogeology of the area

Hydrographic network of the observed area is made of both the rivers Drina and Tara entirely as a basic course and a number

[62] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

[63] Ibid

[64] Ibid

[65] BiH Water and Sanitation Services Modernization Project

of lower-rank tributaries. Of the most significant on the left side (observing upstream from Brod) the rivers flow into the main course as follow: Sutjeska, Piva until "Piva" Hydropower Plant, Susica, Petrovica, Strma Stijena brook, the Bistrica, Tvrdi potok, Skara, Stitarica, Pcinja and Velika Proscanica rivers. On the right side, going from the spring downstream, tributaries are: the Opasanica, Skrbusa, Svnjaca, Biogradska rijeka, Bjelojevacka rijeka, Rudnica, Selacka rijeka, rijeka Draga, Ljutanica and Jelovcev potok rivers.[66]

The heights in the area are made of durable rock mass, resistant to erosion of exogenous forces, mostly limestone and dolomite. Subject area comprises a narrow strip of the Drina river valley and its tributaries form Scepan polje, to Brod. About 5 km away from Scepan polje, a very significant tributary the Sutjeska river flows to Drina. Of other permanent watercourses, left tributaries are the Grlac, Okrumski and Belenski potok, and right tributaries are the Mazorlacki potok and Kremnik. All these watercourses are mountainous, meaning they have steep beds (gradients are >>5‰) and extremely unequal flow. Such geo-morphological and hydrological conditions, together with characteristics of the rock mass in the surface part of terrain have caused creation of many large gullies, decametre depth and width. Besides proluvial (foot of the slope sediment), terrain of the observed space is also affected by colluvial (unconsolidated deposited sediments) processes, primarily landslides. They are numerous, especially on the left valley side, upstream from the dam to Kosman. The deposits have different depths and dynamic activity. Processes are directly connected to atmospheric conditions and they are activated during inundation. The wider coverage of the alignment has two landslides, notably: "Belansko groblje" and "Marinkovici". Besides many landslides and unstable slopes, a collapsing limestone-dolomite rock mass is especially prominent among colluvial phenomena in the area of Pusine-Gurici. The area of Kosman, Belen, Alicici has similar phenomena, but in much smaller dimensions. These launched masses have hectometre areas and depths, and are connected with giant, old, falls of Triassic carbonates. Fluvial (river depositing) process is also prominent in this area, and reflects in spacious and thick river terraces. Alluvial (loos deposit in the stream bed) deposit is not especially developed.[67]

Drina river

Drina is a river in eastern Bosnia and Herzegovina, which in its lower course forms a natural border between Bosnia and Herzegovina and Serbia, and also formed the border between the eastern and western parts of the Roman Empire.

The merging of the Montenegrin rivers Tara and Piva in Scepan Polje creates the river Drina; In Bosnia and Herzegovina, only the Sava river is bigger. The Drina, with its course of about 340 km, passes through numerous places in Bosnia and Herzegovina. In the lower Podrinje, the Drina along its entire course forms the border between Bosnia and Herzegovina and Serbia. The Drina flows into the Sava near the town of Srijemska Raca. The difference in sea level between Scepan Polje and the confluence of the Drina and the Sava is about 358 meters. The river also has the folk name Zelenka.

Not long after its origin in Scepan Polje, the Drina enters Bosnia and Herzegovina. This part of Bosnia and Herzegovina also got its name from that river - Gornje Podrinje. Passing through Foca, Goražde and ViSegrad, several smaller and larger rivers such as Lim, Praca and Rzav flow into the Drina. Historically, the Drina river here was full of rapids and passed through canyons and gorges. Unfortunately, this unique nature was destroyed by the construction of hydropower plants in ViSegrad, Bajina BaSta and Zvornik. In Donji Podrinje, it flows directly through Zvornik, dividing the town into two parts so that Zvornik belongs to Bosnia and Mali Zvornik to Serbia.

North of Visegrad, between Žepa and Klotijevac, there is the longest canyon of this river, 24 km long.

Tara river

Tara is a river in Montenegro and Bosnia and Herzegovina. It originates from two rivers, Opasanica and Verusa, under the mountain Komovi. The last 40 km of the course of the Tara River forms the border between the two countries. Near the

[66] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

[67] Ibid

Montenegrin settlement Scepan polje, in the territory of the municipality of Foca, together with the river Piva form the river Drina.

The most important tributaries on the left side are the Ljutica and Susica, and the most important right tributaries are the VaskovaSka river and the Draga. Among them, the most famous spring is certainly the Bajlovica sige spring, a spring on the left bank of Tara, with a yield of hundreds of liters per second, where the water that springs from the lake in the Bucavica cave cascades into Tara from a height of over 30 and a length of about 150 meters.

The Tara Canyon, 82 kilometers long and 1,300 meters high in places, ranks right behind the Grand Canyon of the Colorado River in the USA, and the first in Europe. It has a course of 146 kilometers and is the longest Montenegrin river. Among the many peculiarities of Tara, a special place is occupied by its beech trees. The roar of some larger beech trees can also be heard on the very edges of the canyon. Of the more than 40 beech trees, the most famous are Djavolje lazi, Sokolovina, Bijeli kamen, Gornji and Donji tepacki beech, etc. In 1977, Tara was included in the "Man and the Biosphere" program and registered in the ecological reserve of the biosphere of the world, which is why it is protected by an internationally adopted convention.

A large part of the canyon is overgrown with individual conifer trees, and black pine occupies a special place among them.

The canyon massifs provide extraordinary conditions for chamois to live. Tara is also rich in fish.

In the town of Đurdjevic Tara, there is a large bridge, built in 1940. Over time, this bridge became one of the symbols of this river. During the Second World War, it was demolished, only to be rebuilt in 1946. The length of the bridge is 154 meters, and at the highest arch it reaches a height of 135 meters.

The most attractive part for rafting, rafting is the last 25 km of the river, especially on real rafts, made of logs tied together and a massive wooden rudder.

10.12.1.4 Biodiversity[68]

Subject area is covered by natural vegetation of broadleaf high forest. From the phyto-geographical point of the subject property is located at the transition between the western Balkan areas of forest oak and hornbeam / Querco - Carpinetum / and east - the Balkan region of forest cerris / Quercetum confertae - cerris /. Anthropogenic influence there has been a significant degradation of the primeval forest reserves which led to the creation of low forests and underbrush. The assembly of these stands is often interrupted, the soil is eroded, leading to a significant reduction in the fertility of the land.

The Republika Srpska issued a decree on the Red List of Protected Species of Flora and Fauna in the Republika Srpska (RS Official Gazette, No. 124/12). Analysing the species in the Red list, in the wider surroundings of subject road whose modernization and construction are planned, the following were found:

- *Cyperus fuscus L,*
- *Loroglossum caprinum calcaratum,*
- *Moehringia malyi*
- *Campanula sparsa ssp. Sphaerothrix,*
- *Nasturtium officinale.*

The upper Drina canyon is characterised by a great diversity of habitats for birds. The area also represents a refuge for many but already rare and protected species in Europe. All species of birds are comprised by some measures of protection, although the red list of species of Europe are always prominent, notably Hieraaetus pennatus – Booted Eagle, Crex crex – Corn Crake, Eremophila alpestris – horned lark, Ficedula parva – red-breasted flycatcher. There are also present glacial relicts: horned lark, boreal species: Strix uralensis – Ural owl, Picoides tridactylus – Eurasian Three-toed Woodpecker, Pyrrhula pyrrhula – bullfinch,

[68] Ibid

Oro-mediterranean species: Monticola saxatilis – common rock thrush, Regulus ignicapillus – firecrest and species of relict communities: Poecile lugubris –sombre tit, Emberiza cia – rock bunting.

Of the species potentially present in the research area, common wall lizard (Podarcis muralis), European green lizard (Lacerta viridis) and slow worm (Anguis fragilis), then dice snake (Natrix tessellata), Aesculapian snake (Coluber longissimus), smooth snake Coronella austriaca and horned viper (Vipera ammodytes) are assumed to be common. In smaller tributaries is expected the presence of grass snake (Natrix natrix), and in the zone of oaks the presence of European copper skink (Ablepharus kitaibelii) (Sofradžija, 1975).

Bearing in mind wide coverage of Project activities and distribution of present and potentially present species in the area of sub-components 1.1 and 1.2 that will be affected by the planned anthropogenic changes, a special attention must be paid to preservation of specific areas which are necessary for a complete life cycle of species, as well as timeframe of works to avoid sensitive seasons for protected species.

International Union for Conservation of Nature- IUCN declared many species of amphibians globally vulnerable. Species of amphibians that reside in the territory of the Republika Srpska, with fire salamander (Salamandra salamandra) and Greek frog (Rana graeca) being exceptions, the process of mating and egg laying mostly (green frog, toad) or compulsorily (triton, frogs in the family Bombina, European tree frogs, agile frog, common frog) is conducted in stagnant fresh water. Some other species may be present.

Natural properties of the area provide conditions for the occurrence of a large number of mammal species. In the area are readily found wolf (Canis lupus), wild boar (Sus scrofa), brown bear (Ursus arcotos), roe deer (Capreolus capreolus), domestic cat (Felix catus), badger (Meles meles), skunk (Putoruis puterius), weasel (Mustela nivalis), hare (Lepus europeus) and other species.

Based on available data on the structure of communities of Phytobenthos (organisms found attached to bottom surfaces aquatic environments) in the river Drina, there were established 69 taxons that are divided into five groups: Cyanophyta, Chrysophyta, Xanthophyta, Bacillariophyta and Chlorophyta. Properties of the Drina course, with high falls in the upper course and lowland properties downstream, have conditioned presence of a large number of river fish. In the lower course, from the confluence to Zvornik, are present the cyprinid fish species. Middle course, to Bajina Basta is dominated by the barbel, whereas in the upper stream, upstream from Bajina Basta, are present the communities of Salmonidae fish species.

10.12.1.5 Protected areas

The wider Project area includes valuable nature, landscape and cultural/historical areas, particularly the Sutjeska National Park, one of the oldest and most significant national parks in the country. The park is a sanctuary for diverse flora and fauna and houses Maglic, the highest peak in Bosnia and Herzegovina.

There are several protected areas relatively close to the Project area e.g. Sutjeska National Park being in the immediate vicinity. The Park is planned to be extended, however, the route Foca - Hum will still be placed outside the boundaries of the planned extension of the National Park Sutjeska. The expansion of this national park is not foreseen on the right bank of the river Drina.

Sutjeska National Park is located on the territory of the municipalities of Foca, Gacko and Kalinovik and is the oldest national park in Bosnia and Herzegovina. It is located on the main road in the direction of Sarajevo-Foca-Tjentište-Bileća-Trebinje-Dubrovnik. It covers an area of 17,500 hectares. It includes the area of the river Sutjeska and its tributaries Hrcavka and Jabučnica, with the strict nature reserve Perucica, parts of the mountain Maglic (2386 m - the highest peak in Bosnia and Herzegovina), Volujak, Vucevo and Zelengora.

Over 66% of the park is covered by forests, while the remaining part consists of mountain pastures, meadows and glades above the upper limit of the forests. This area is part of the Dinarides, which further extends deep into the Balkan Peninsula, all the way to Prokleti on the border with Montenegro and Albania. There is also the last rainforest in Europe, Perućica, with

the famous Skakavac waterfall. Maglic, the highest mountain peak in Bosnia and Herzegovina with a height of 2386 m, is located in the NPS. Maglić Mountain is located on the border of Bosnia and Herzegovina and Montenegro and can be approached from the national park. Next to the top of Maglić, in neighboring Montenegro, is Trnovačko lake.

Zelengora is famous for its eight clear glacial lakes, known as Mountain eyes: Black Lake, White Lake, Orlovačko Lake (also known as Borilovačko Lake), Gornje Bare, Donje Bare, Štirinsko Lake, Kotlaničko Lake, Kladopolj Lake, and the artificial Jugovo Lake .

In the Republic of Serbia, there is a Law on the National Park "Sutjeska" ("Official Gazette of the Republic of Srpska", no. 121/12)

According to the Spatial Plan of the Republika Srpska until 2025 (at the second regular session of the National Assembly of the Republic of Srpska18.02.2015. Decision no. 2/1 - 021 - 214/14 ("Official Gazette of the Republic of Srpska" number 15/15) Proposal amendments to the Spatial Plan of the Republic of Srpska until 2025 was adopted), the list of areas planned for the establishment of protection in the planning period envisages establishing of the National Park (Category II according to IUCN categorization) "Tara Canyon and Ljubisnja" on the territory of the Municipality Foca. This has not yet taken place, however, according to accessible maps, the protected area will include a section of the road closest to the Montenegrin border.

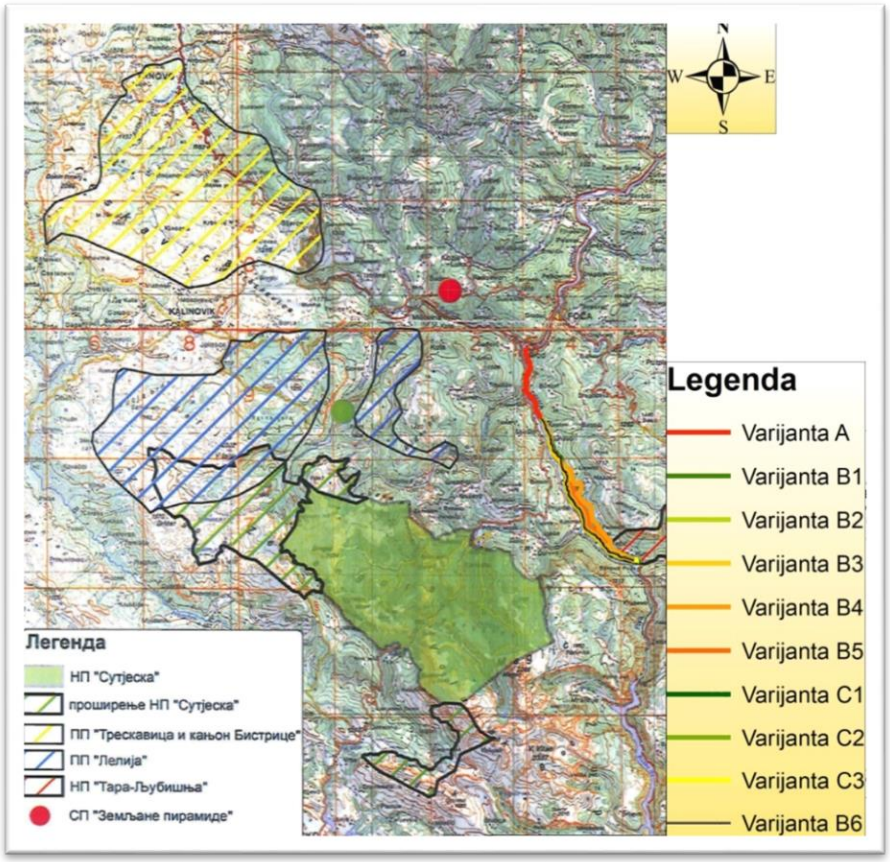


Figure 7: Map of protected natural areas and areas envisaged for protection under a spatial plan of the Republika Srpska to 2025[69]

[69] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

10.13 Project relevant environmental baseline information

This section provides an overview of key environmental features for Project environmental aspects on the territory of RS, which is the overall Project scope.

10.13.1 Geology

Republika Srpska (RS) is situated at the meeting point of two large natural-geographic and socio-economic regional entities: the Pannonian and Mediterranean regions. Like the rest of Bosnia and Herzegovina, RS is divided into a Bosnian region in the north and a Herzegovinian region in the far south. The geomorphology of Republika Srpska is marked by three distinct physiognomic units: though landlocked there is the Adriatic region with coast-impacted landscapes, the mountain-valley region with rugged terrains, and the Peripannonian rim with hilly plains. The Dinarides dominate the geology, with complex sub-units including the karstified Outer Dinarides and sedimentary Inner Dinarides.[70] The northeast features fertile plains, while the east has notable limestone formations. The area is also characterized by landslides, distributed quite unevenly on the territory, with significant occurrences in specific geological areas. Additionally, the RS experiences earthquakes due to its tectonic autochthonous origin, with the highest epicenter concentration in the area of Herzegovina and the wider area of Banja Luka. The last strong earthquake in Banja Luka occurred in 1964.

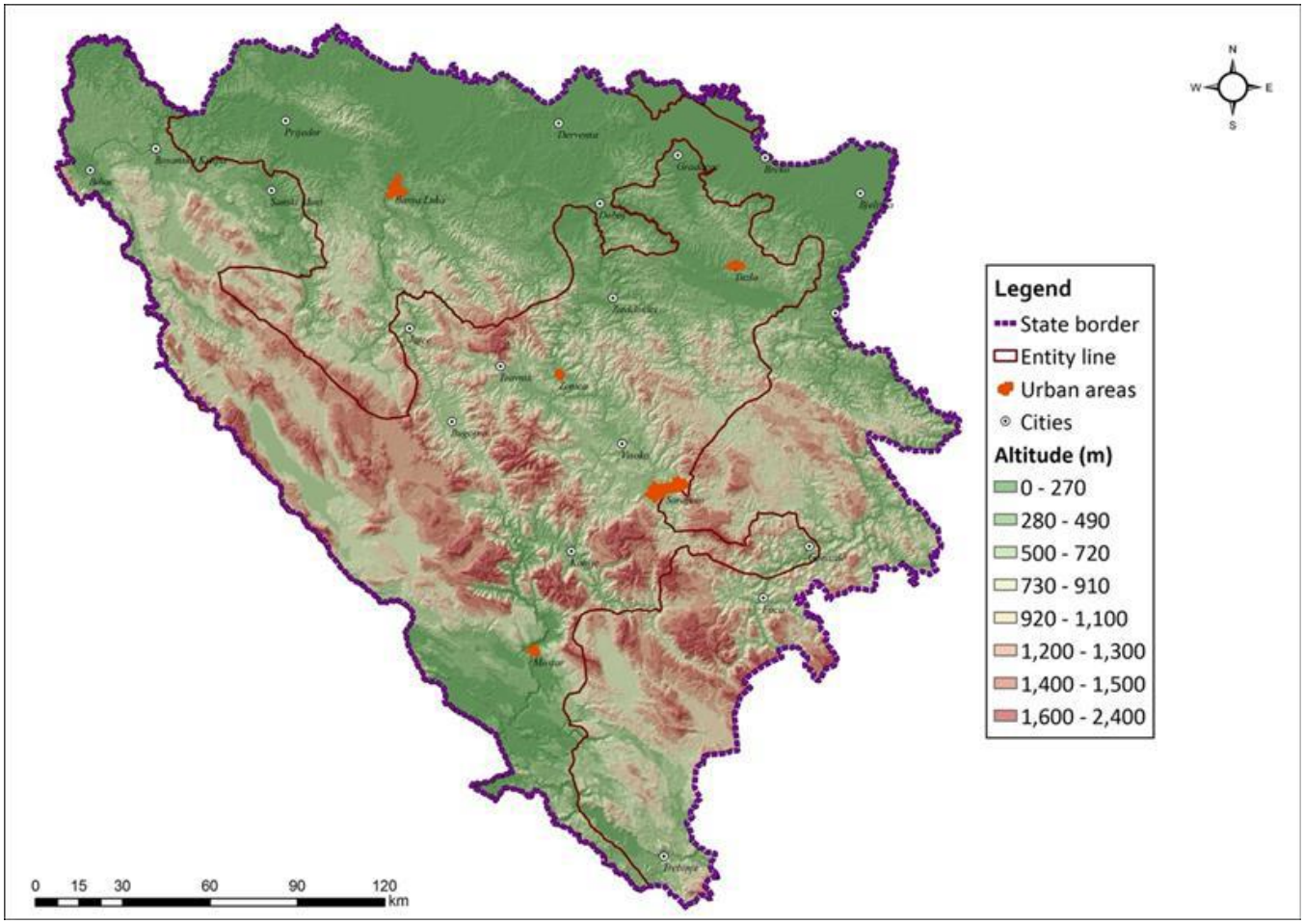


Figure 8: Topographic map of BiH[71]

[70] BiH Water and Sanitation Services Modernization Project ESMF, 2021

[71] Ibid

10.13.2 Climate and climate change

Republika Srpska (RS) exhibits diverse climates and weather patterns due to its varied geographical features. The climate of RS is influenced by factors such as its geographical position, relief, proximity to the Adriatic Sea, and flora cover. According to the research conducted for Adjustable and Competitive Agriculture Project, the region experiences a temperate continental climate in the north with average annual temperatures around +10 °C. Summer temperatures can exceed 40 °C, while winter temperatures may drop to -30 °C. In the southwestern part of RS, a Mediterranean climate prevails, with January temperatures ranging from +3 °C to +6 °C in lower areas and dropping to -15 °C in higher elevations. The mountainous and sub-mountainous areas have mainly two seasons, winter and summer, with temperatures ranging from -35 °C to +35 °C. The southwestern part of RS also experiences a temperate mountain-Mediterranean climate, with temperatures varying based on altitude and distance from the sea. Precipitation in RS is influenced by air masses from the west and the south. Areas with temperate continental climate receive the highest precipitation in the warm months, while mountainous and sub-mountainous areas experience rainfall in the summer and snowfall in the winter. The Mediterranean climate in the Adriatic hinterland is characterized by abundant rainfall in autumn and winter, with rare snowfall occurrences. The relative humidity is highest in late autumn and the first half of winter, with the lowest levels during summer, particularly in July. Republika Srpska is rich in surface and underground hydrological networks, with the major river flows belonging to Drina, Danube and consequently, Black Sea basin. The relative humidity is influenced by characteristic winds such as bura (north), jugo (south), and fen (north warm wind) wind in different parts of the entity. [72]

Bosnia and Herzegovina, and Republika Srpska as its entity, is taking significant steps to address the impact of climate change, with the *Strategy for Adopting to Climate Change of Low-Emission Development for BiH* adopted in June 2013 focusing on low-emission development. Data from the Strategy indicate a noticeable increase in average temperatures, with the highest recorded increase of 0.7 °C in the spring and winter months in Banja Luka for the period 1981-2010. Over the last decade, there has been a consistent rise in temperatures, as reported by the Republika Srpska Hydrometeorological Institute. The prediction for the future suggests even higher temperatures, with expectations of a rapid growth trend. By the period 2031-2060, temperatures in certain areas are estimated to increase by 1 °C to 3 °C, with the maximum summer temperature potentially rising by 5 °C. Additionally, changes in precipitation patterns are anticipated, with a potential halving of summer precipitation levels. The impact of these changes on water resources is a cause for concern. Forecasts indicate that increasing air temperatures and reduced rainfall during spring and summer could lead to droughts and water shortages, while heightened autumn and winter rainfall may result in flooding, soil erosion and landslides. Furthermore, these climatic shifts could lead to water quality deterioration, stressing aquatic ecosystems and impacting biodiversity. The effects of climate change extend beyond temperature and precipitation changes. It is predicted that 15-37% of currently present terrestrial species could become extinct within the next fifty years due to climate change, with a corresponding impact on freshwater species, showcasing the extensive reach of climate change on biodiversity. The comprehensive approach outlined in the strategy recognizes the urgency of addressing climate change and underscores the importance of coordinated efforts both domestically and internationally to mitigate these challenges.

10.13.3 Water quality and management

The hydrographic network in the Republika Srpska (RS) consists of two main river basins: the Black Sea basin (the Sava river basin) and the Mediterranean Sea basin. The Sava River Basin covers 20,455 km2, including sub-basins such as Una, Vrbas, Ukrina, Bosna, and Drina. The TrebiSnjica river basin district covers a total area of 4,058 km2. The area has numerous watercourses, with 565 watercourses larger than 10 km2 in the Sava RBD and 47 in the TrebiSnjica RBD. [73] The Drina River Basin spreads over 20,320 km2 5. It is almost evenly distributed between Montenegro (32% of the river basin), the east of

[72] Preparation of design and studies for improvement of the road on the SEETO Route 2b: Brod na Drini (Foca) – Hum (Scepan Polje) and Sarajevo – Foca (Brod na Drini), 2017

[73] Water Management Plan for Sava River Basin in RS (2016 – 2021), Water Management Plan for Trebišnjica River Basin in RS (2016 – 2021)

Bosnia and Herzegovina (36% of the river basin), and Serbia (31% of the river basin). A very small part of the basin is located in Albania (less than 1%)[74].

The Drina River Basin in Bosnia and Herzegovina is rich in water resources and is crucial for the eastern part of BiH. However, the water quality in this basin can vary due to industrial and agricultural activities, urban wastewater, and hydrological conditions. The region faces challenges related to water scarcity, with drought affecting agricultural production almost every year from June to September. Additionally, flooding occurs due to uneven precipitation distribution. The Public Institution "Vode Srpske" in the Republika Srpska (RS) is responsible for monitoring the surface water quality in line with the EU Water Framework Directive and entity legislation made efforts to monitor and improve water quality, but economic development pressures and the need for regional cooperation in managing transboundary water resources remain challenging.

The surface water quality is categorized into five classes, ranging from high quality to bad status, based on the Regulation on water classification and categorization of watercourses. Systemic monitoring of surface water quality in the Republic of Srpska is carried out in accordance with the Law on waters of the Republic of Srpska, (OG 50/06 dated 31.05.2006 and 92/09 dated 16.10.2009) by the Decision on determining regional river basins and basins in the territory of Republika Srpska, Regulation on Water Classification and Categorization of Watercourses, ("Official Gazette of RS" No. 42/01) Framework Directive on EU Waters and other relevant directives and by-laws. Monitoring results are used to assess the water quality, and annual reports on the classes of quality are available on the official website of the Public Institution "Vode Srpske." In 2019, regular monitoring was conducted on 49 water bodies according to annual reports on the classes of quality are available on the official website of the Public Institution "Vode Srpske"75.

Water quality monitoring of watercourses in the Republika Srpska is carried out at certain locations "profiles" water bodies preliminarily defined in the Regional River Basin Management Plans of the Sava River I of the Trebisnjica river, and are necessary for:

1. Assessment of the status of water bodies of surface waters,
2. Supplement and validation of the risk assessment procedure,
3. Fulfillment of international obligations of Bosnia and Herzegovina and Republika Srpska.
4. Assessment of long-term changes in natural conditions,
5. Assessment of the pollution load caused by polluters crossing international borders.

However, UNECE in 2017 reports that surface water quality monitoring of Drina River Basin is not regular and systematic while water quality data is not being sufficiently shared. The monitoring conducted showed that ecological status of Drina River Basin ranges from good to moderate, including chemical status. Having noted that, the trends show that water quality is declining in the downstream of Drina. Again, this is due mostly to organic and nutrient pollution that can be contributed to agriculture. In addition, low metal content increased recently ,correlating with works of antimony mines and exploration of mineral material such as sand and gravel. [76]

[74] UNECE, Assessment of the water-food-energy ecosystems nexus and benefits of transboundary cooperation in the Drina River Basin (International Sava River Basin Commission (ISRBC), Sava River Basin Analysis Report (Zagreb, ISRBC, 2009)); 2017.

[75] ESMF for BiH Water and Sanitation Services Modernization Project; 2022

[76] UNECE, Assessment of the water-food-energy ecosystems nexus and benefits of transboundary cooperation in the Drina River Basin; 2017.

The aquifers in Drina River Basin located in vicinity of settlements and agricultural areas (e.g. Macva) face high risk of pollution caused by agriculture induced use of fertilizers.[77] During summer, some parts of the basin experience a lowering of the groundwater table caused by filling in the adjacent hydropower reservoirs.[78]

The monitoring results are also used to assess the status of waters according to the Water Framework Directive, and tailor necessary measures and activities for the Water Management Plans to achieve a minimum of good water status for all water bodies in RS by 2039.

The number of people or households connected to potable water supply system is unknown for the RS.

10.13.4 Waste and wastewater management

Only 36% of the population is connected to public sewage network in RS, and 11% of wastewaters are being treated before discharging[79]. Therefore, large quantities of wastewater are still not captured by the existing collection systems and is released without any treatment to the natural recipients. Data for collection and management of surface runoff water (on roads or in general) is not available.

The solid waste management in the RS is based on regional concept where several municipalities are served by one regional landfill. According to the Municipal Solid Waste Management Sector Review: Strategic Directions and Investment Planning up to 2025, there are 4 regional landfills operational in RS i.e. Bijeljina, Banja Luka, Prijedor and Zvornik servicing in total 23 municipalities including 9 municipalities from FBiH. These regional landfills serve a total of 716.715 inhabitants in the RS (64% of total population). There are 22 non-sanitary single municipal landfills in operation, and one non-sanitary regional landfill in Doboj serving 6 municipalities, including 4 municipalities from FBiH[80]. Approximately 8% of the total waste quantities disposed of at landfills is coming from private industrial enterprises as non-hazardous waste. The Draft Strategy for Waste management in Republika Srpska 2016 – 2025 elaborates shortcomings in the waste management system that include:

- insufficiently developed system of collecting and systematizing data and flows of all kinds waste,
- lack of efficient organization of separate collection of waste for recycling from households,
- absence of facilities for processing and/or utilization of waste,
- non-implementation of the environmental monitoring program regarding emissions from landfills,
- the existence of unregulated official and illegal landfills,
- disposal of hazardous waste together with municipal, non-hazardous waste.

Organized waste is disposed of in municipal landfills, which are mostly not meet the basic requirements. According to the data, 43 municipal ones are used in the territory of the RS (local) landfills. Also, waste is disposed of in "wild landfills" (dumping sites) usually near their settlements. Uncontrolled municipal landfills, as well as "wild landfills", represent a danger, both for the environment and for human health. Exact number of illegal landfills is difficult to determine. There is no hazardous waste landfill or processing available in RS.

Again, according to published Draft Strategy for Waste management in Republika Srpska 2016 – 2025, about 75,000 tones of construction and inert waste was generated in RS in 2016. Construction and inert waste is considered to be that from

[77] World Bank, Support to Water Resource Management in the Drina River Basin. Serbia – IWRM Study and Plan – Background Paper (World Bank, 2016)

[78] UNECE, Assessment of the water-food-energy ecosystems nexus and benefits of transboundary cooperation in the Drina River Basin (GEF SCCF, Technical assistance for the preparation of the West Balkans Drina River Basin Management Project. Environmental and social management framework (GEF SCCF, 2015)), Sava River Basin Analysis Report (Zagreb, ISRBC, 2009)); 2017;

[79] Republika Srpska, Strategy of integrated management of water in Republika Srpska during 2015-2024

[80] Municipal Solid Waste Management Sector Review: Strategic Directions and Investment Planning up to 2025, 2018

production of construction products or semi-finished products, construction, demolition or reconstruction of buildings. The composition of construction waste is: material from excavations makes 75% of the total category (including excavated soil from contaminated sites), demolition waste and construction make for 15-25%, asphalt, tar and concrete 5-10%. Most (95%) is inert waste (waste from ceramics, demolition of buildings, plaster, plaster, crushed concrete, iron, steel, other metals, wood, plastic, paper, etc.) and minor hazardous waste (e.g. binder for asphalt or waste containing asbestos, which requires special control and processing).

There is no systematic monitoring of the characteristics and flows of construction waste, even in large quantities combustible waste (wooden, paper and plastic waste) generated during construction, is they usually burn on the construction site. Depending on trends in economic activities in the RS, annually reported about 31,500 t of soil and waste from the excavation. According to data on weighing of this type waste at the common landfill "Ramici" in Banja Luka, in 2013, 7,966 tons of construction waste were brought to the landfill. It is estimated that the specified amount contains an average specific amount of construction and inert materials waste in the Banja Luka region is about 20 kg per year per inhabitant. It is assumed that the listed the recorded specific amount of construction waste represents about 35% of the total amount which are produced annually.[81]

10.13.5 Biodiversity and nature protection

The great biodiversity of Republika Srpska is attributed[82] to its diverse geography. The Red List of Endangered Species of Flora of Republika Srpska includes 818 species of vascular plants, showcasing the region's richness. The area is home to a wide variety of forests, ranging from sessile oak and hornbeam to black alder, narrow-leaved ash, and tall willows. Republika Srpska also features a diverse range of communities, including deciduous forests, alluvial forests, and subalpine spruce or beech forests. The municipality of Trebinje in the south and the Orjen Nature Park are especially noteworthy for their unique ecosystems, especially its sub-endemic Bosnian pine forests[83]. Additionally, the area of Istocno Sarajevo is home to several endangered and protected plant species such as Arnika montana, Lycopodium clavatum, and Gentiana lutea.[84]

Just as plant, the fauna biodiversity in the region of Republika Srpska (RS) in Bosnia and Herzegovina is rich and diverse. The area is home to a variety of invertebrates, including 25 dragonfly species and the protected Rosalia alpina[85]. The region's creeks and rivers host European crayfish, which are important indicators of healthy water ecosystems. The most significant fish species in the area is the endangered Danube Salmon, along with other species such as rainbow trout, grayling, and European mud minnow. It should be noted that the Danube Salmon is one of the endangered European fish species (IUCN Red List) and endemic for the Danube drainage[86]. The Sava River is one of the significant aquatic ecosystems in RS and BiH. During the research conducted on the lower reaches of the Sava River in 2013, a total of 15 species from six fish families were collected. Additionally, the presence of invasive fish species in the rivers is a growing concern[87].

[81] World Bank, Swedish International Development Agency, in BiH; Municipal Solid Waste Management Sector Review: Strategic Directions and Investment Planning up to 2025, 2018

[82]Nase ptice (2012). Program IBA – Medjunarodno znacajna podrucja za ptice u BiH. [IBA Programme – Important Bird Areas of International Importance in BiH]. Avaliable at: https://ptice.ba/wp-content/uploads/2018/04/Program-IBA-Medjunarodno-znacajna- podrucja-za-ptice-u-BiH.pdf [in Bosnian].

[83] As of September 2020, after proclamation of Orjen-Bijela Gora Nature Park (www.nasljedje.org)

[84] http://www.opstinasokolac.net/dokumenti/planoviprogrami/LEAP-opstinasokolac.pdf

[85] Pavlek, M., & Ozimec, R. (2009). New cave-dwelling species of the genus Troglohyphantes (Araneae, Linyphiidae) for the Croatian fauna. *Nat. Croat.*, 18*(1)*, 29-37.

[86] http://www.opstinasokolac.net/dokumenti/planoviprogrami/LEAP-opstinasokolac.pdf

[87] International Sava River Basin Commission (ISRBC) in cooperation with the Parties to the Framework Agreement on the SRB (2009). The Sava River Basin Analysis Report, Zagreb

With at least 230 bird species, the region is ornithologically significant as well as attractive for birdwatchers (and related tourism development). Notable species include the golden eagle, peregrine falcon, and black grouse. The Rock partridge, the only endemic Balkan bird species, whose population is declining is also present in the region. Nesting species at IBA site Bardaca in the northern RS that are of conservation concern include purple heron, black-crowned night heron, little egret, common little bittern, squacco heron, glossy ibis, Euroasian spoonbill, common tern and whiskered tern[88].

The Drina River has been confirmed as a corridor for the migration of bats. Important bat species are Barbastella barbastellus and Myotis bechsteinii, as they are indicators of the quality of forest habitats and both species are common in forests of eastern RS. The presence of 11 bat species in Kozara National Park was confirmed[89], with some of them with registered large maternal colonies.[90]

The area is also home to various mammals, such as the brown bear, Eurasian wolf, and European otter, all of which are endangered.[91] The conservation of these species is crucial, and continuous monitoring is needed to ensure their protection. Development of infrastructure especially habitat and migration routes fragmentation can further deteriorate their living and number.

Protected areas

In accordance with the current legislation, the area under protection is 48,822.63 hectares, which covers 2.96% of the RS territory[92]. In total, 27 areas are protected: two nature reserves (IUCN category Ia), three national parks (IUCN category II), 14 nature monuments (IUCN category III), two protected habitats (IUCN category IV), three nature parks (IUCN category V) and three areas with sustainable use natural resources (IUCN category VI). Protected areas in RS are shown in *Figure 10* and *Table 3*.

Spatial Plan of RS (2015-2025) envisages further establishment of a total of 310 protected areas with spatial coverage of 15-20% of the area of RS.

[88] Nase ptice (2012). Program IBA – Medjunarodno znacajna podrucja za ptice u BiH. [IBA Programme – Important Bird Areas of International Importance in BiH]. Avaliable at: https://ptice.ba/wp-content/uploads/2018/04/Program-IBA-Medjunarodno-znacajna-podrucja-za-ptice-u-BiH.pdf [in Bosnian].

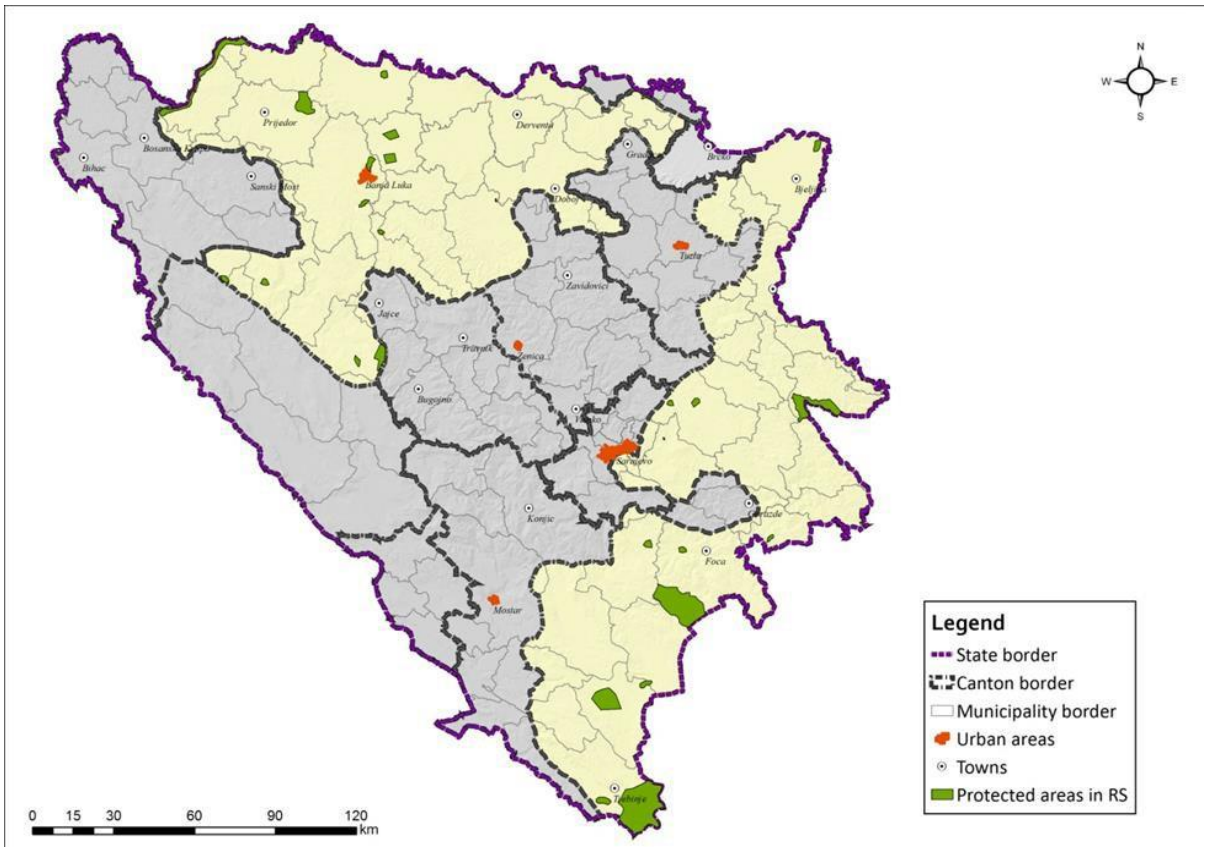
[89] Project *Researching bat fauna of Kozara National Park*

[90] Available at: https://www.rufford.org/files/23263-2%20Bats%20of%20Kozara%20Booklet.pdf [in Bosnian]

[91] http://www.opstinasokolac.net/dokumenti/planoviprogrami/LEAP-opstinasokolac.pdf

[92] Republic Institute for Protection of Cultural, Historical and Nature Heritage; As of September 2020, after proclamation of Orjen-Bijela Gora Nature Park (www.nasljedje.org)

Figure 9: Protected Areas in RS [93]



[93] BiH Water and Sanitation Services Modernization Project ESMF, 2021

Table 21: Protected Areas in RS with IUCN category and surface

No.	Name of protected area	IUCN Category	Area in hectares
1.	Lom Virgin Forest Strict Nature Reserve	I a	295,00
2.	Janj Virgin Forest Strict Nature Reserve	I a	297,82
3.	Sutjeska National Park	II	3.907,54
4.	Kozara National Park	II	16.052,34
5.	Drina National Park	II	6.315,32
6.	Ljubacevo Cave Nature Monument	III	45,45
7.	Zuta Bukva Nature Monument	III	27,01
8.	Orlovaca Cave Nature Monument	III	0,50
9.	Rastusa Cave Nature Monument	III	11,39
10.	Jama Ledana Nature Monument	III	28,26
11.	Vaganska Cave Nature Monument	III	12,00
12.	**Djatlo** Cave Nature Monument	III	43,42
13.	**Pavlova Pecina** Nature Monument	III	13,40
14.	**Girska Cave** Nature Monument	III	25,37
15.	Pecina Pod Lipom (Cave) Nature Monument	III	6,10
16.	Ledenjaca Cave Nature Monument	III	7,40
17.	**Great Cave Nature Monument**	III	820,92
18.	**Kuk Cave Nature Monument***	III	- ***
19.	**Lijevcanski Knez Nature Monument**	III	0,34
20.	Protected Habitat Gromizelj	IV	831,30
21.	Protected Habitat Tisina	IV	196,49
22.	Una Nature Park	V	2.772,60
23.	**Cicelj** Nature Park	V	330,76
24.	**Orjen** Nature Park	V	16.715,83
25.	"University City Banja Luka" Protected Area for Sustainable Use of Nature Resources	VI	27,38
26.	Slatina Forest Park	VI	35,73
27.	Jelica Brdo Forest Park	VI	2,96

*exact area has not been made official as of November 2020

Additional four protected areas in RS are envisaged by the ongoing project implemented by UNEP in BiH[94]:

5. Orjen-Bijela Gora,
6. Cave of the Mokranjska Miljacka Spring,
7. Cave system Govjestica,
8. Tisina.

There are a total of 11 Key Biodiversity Areas (KBA) in BiH out of which five are found in RS. These sites have qualified for KBA as IBA sites as a site identified in the CEPF Ecosystem Profile of the Mediterranean Hotspot[95]. Bardaca is the only IBA and Ramsar site in RS, while the other four KBA are characterized as potential biodiversity hotspots: Dabarsko and Fatnicko fields, Trebinjsko lake, Orjen-Bijela Gora and North Travunija. North Travunija covers the area of Popovo field and river Trebisnjica and part of this KBA is in FBiH.[96]

[94] Project *Achieving Biodiversity Conservation through Creation and Effective Management of Protected Areas and Capacity Building for Protection of Nature in BiH*

[95] *Avaliable at: https://www.cepf.net/sites/default/files/mediterranean-basin-2017-ecosystem-profile-summary-english.pdf*

[96] BiH Water and Sanitation Services Modernization Project ESMF, 2021

10.13.6 Potential Natura 2000 sites

Former Nature Protection Law of RS [97] is harmonized with the respective EU Directives on Habitats and on Birds[98].

A total of 62 potential Natura 2000 sites have been identified in RS[99]. They cover 11.96% of RS territory (Figure 11). Considering the fact BiH is not part of the EU, Natura 2000 sites are still not mandatory for preservation management in RS. Nevertheless, they have been made a part of the RS ecological network[100]. With the formal processes of Natura 2000 designation in BiH and entities as the county approaches EU Candidate status, it is expected that the numbers and surface area of protected areas will increase.

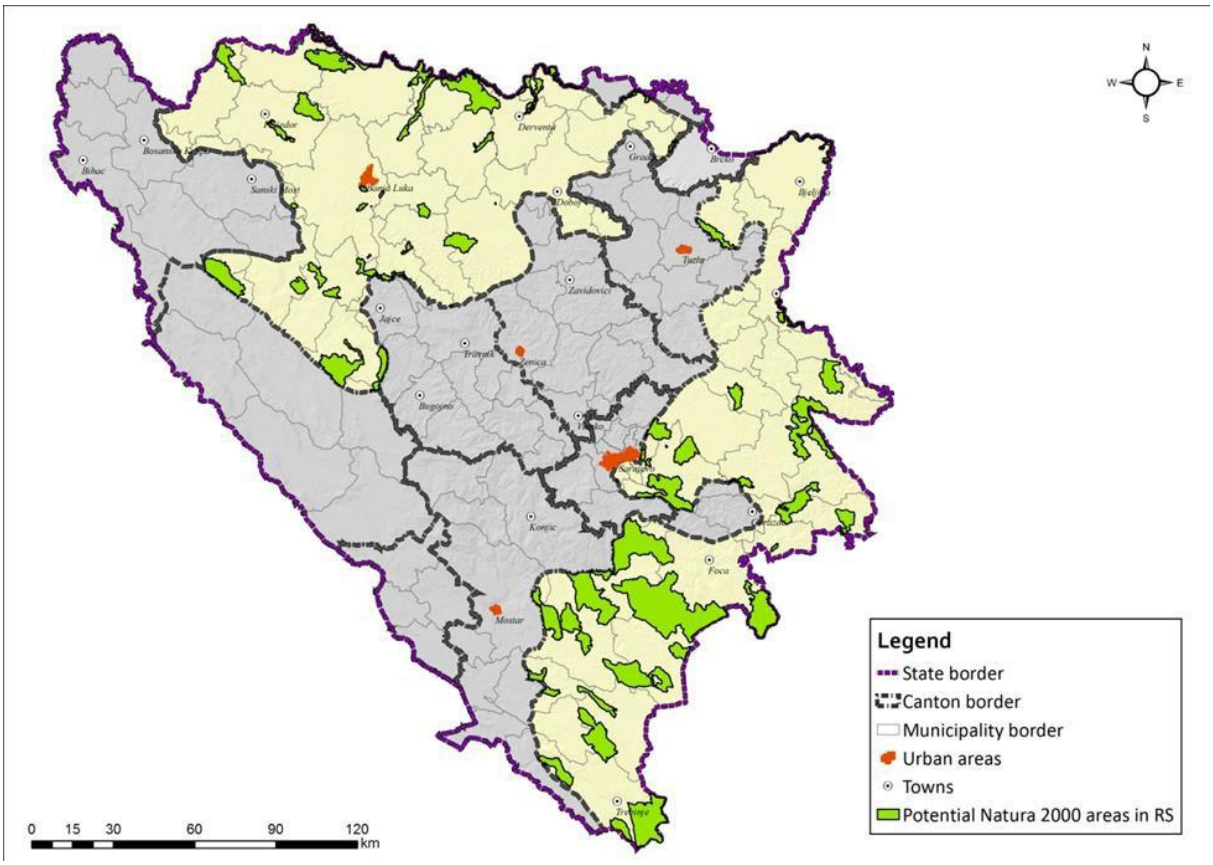


Figure 10: Potential Natura 2000 sites in RS

[97] Nature Protection Law of RS – Official Gazette of RS, No. 20/14
[98] Directive 2009/147/EC, and the Directive 92/43/EEC
[99] Project Support to Implementation of the Birds and Habitats Directives in Bosnia and Herzegovina
[100] Amendments to Spatial Plan of RS by 2025

Table 22: Potential Natura 2000 sites in Project municipalities[101]

Project Municipality	*Potential Natura 2000 Area*	
	Code	*Name*
Laktasi	BA7300002	Bardaca-donji Vrbas
Istocno Sarajevo	BA7300033	Jahorina-Ravna planina
	BA7200003	Bentbasa-Miljacka
	BA7200011	Crepoljsko-Bukovik
	BA7200074	Romanija
Zvornik	BA7300096	Zvornicko jezero
Prnjavor	BA7300070	Ribnjak Prnjavor
Trebinje	BA7200076	Sozina
	BA7300054	Orjen-Bijela gora
	BA7200090	ViduSa
	BA7300062	Popovo polje-Vjetrenica

10.13.7 Cultural heritage

The cultural waves on the territory of today's RS region have interlaced and reconciled, manifesting the specific historical coexistence and resulting of great cultural diversity. Due to richness in natural resources and the favorable geographic and significant geopolitical position, different cultures and civilizations have passed or/and existed in this area for a various period of time, each of which has left significant monumental buildings that testify to the distant past. The monuments and remains are present that date from Illyrian civilization, Roman Empire, Ottoman Empire and later, the Austro-Hungarian Monarchy, Kingdom of Yugoslavia and Socialist Yugoslavia.

There are many cultural and historical sites in the RS including old fortresses, mosques, churches, monasteries, old towns, memorials and other sites and structures having archaeological, historical, architectural, religious significance, as well as natural sites with cultural values. According to the List of National Monuments of BiH, there are over 200 cultural heritage sites registered in RS.[102]

RS has one property inscribed on the World Heritage List which is the Mehmed-Pasha Sokolovic Bridge in Visegrad. As of 2020, BiH has recorded ten sites on the tentative list, of which one is located in RS.

Annex X contains the list of the cultural and heritage sites in the area for sub-project 1.1 while for other components and sub-components the geographical scope includes the whole of territory of RS and will rely on the List of National Monuments of BiH (available at web pages of Commission to Preserve National Monuments of BiH, List of National Monuments of BiH).

10.13.8 Soil quality

According to Soils of Republika Srpska (Kapovic Solomun, M., Markovic, M., 2022) Republika Srpska has a very heterogeneous land cover, different in the way of formation, depth, physical, chemical and biological characteristics, fertility, classification, but also in production capacity. In RS, the basic soil types are brown soils, litisol, alluvial soils and black soils (please see figures below).

[101] BiH Water and Sanitation Services Modernization Project ESMF, 2021

[102] Commission to Preserve National Monuments of BiH, List of National Monuments of BiH

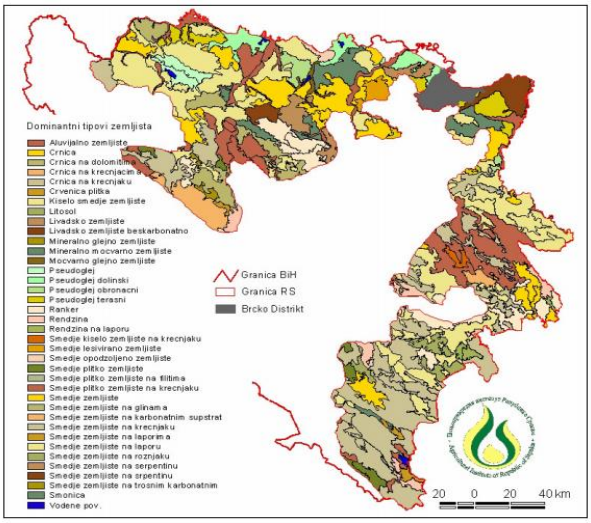


Figure 11: Dominant soil types in RS[103]

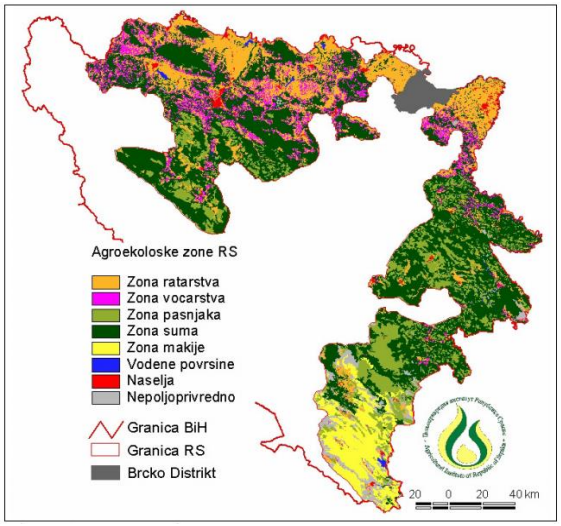


Figure 12: Agro-environmental zones in RS[104]

Soil pollution can be attributed to inappropriate agricultural practices, such as the uncontrolled use of fertilizers and pesticides, as well as the contamination of irrigation water. Additionally, heavy metals may sporadically occur in the soil due to untreated leachate from landfills and mining operations. Soil pollution is prevalent in areas with high industrial activity, inadequate landfills, ecologically underperforming and illegal mines, and areas affected by various accidents. The use of mineral fertilizers and pesticides has been consistently increasing in RS and poses a significant risk to soil pollution. Furthermore, land degradation resulting from mineral exploitation and industrial waste disposal is a concern. Natural and man-made soil acidification negatively affects soil properties and vegetation. Another source of pollution is the deposition of pollutants from vehicle exhaust along roadways, particularly motorways and main roads.[105]

Soil quality varies in Republika Srpska. In terms of the benefits of agricultural production, the northern part of RS is more favorable for farming, the central part of the country for fruit growing, while the southern part of RS is more suitable for viticulture. According to the data referred to in the RS Agriculture Strategy, until 2015, the agricultural area of RS is owned by 221,000 agricultural households, which is 53.88% of the total number of households in the RS. About 800,000 inhabitants or 75% of the total population in RS live within these households. The average area of one rural household is only 2.65 ha.

10.13.9 Climate change

In 2010, BiH declared climate change a threat[106]. Climate change brings more extreme weather conditions, floods, droughts and other catastrophes, therefore they have a direct impact on the population, infrastructure and economy of BiH. As solving this problem is strategically important to BiH, but also to RS as an integral part thereof, the Strategy for Adaptation to Climate Change and Low Emission Development for BiH was adopted in June 2013, and then updated in the Strategy for Adjustments to Climate Changes and Low-Emission Development for Bosnia and Hercegovina in the period 2020-2030.

[103] The Basis Protection, Use and Arrangements Agricultural Land Republika Srpska as Components of the Planning Process Land Use, 2009; http://www.poljinstrs.org/sadrzaj/dokumenti/ostalo/osnova_zastite_koristenja_uredjenja_polj_zemljista_rs.pdf
[104] Ibid

[105] Agriculture Resilience and Competitiveness Project ESMF, 2021
[106] Causevic et all, Bosnia and Herzegovina Climate Change Impacts and Risk, 2020

Climate change is impacting Bosnia and Herzegovina. Both the population of BiH and RS are already feeling these effects through increased temperatures, unfavorable changes in weather patterns, prolonged droughts, and frequent floods. These changes are projected to intensify until the end of the 21st century. From 1961 to 2014, meteorological data shows a continuous increase in mean annual temperatures across the entire territory, with a particularly pronounced upward trend in the last 30 years. The increase in annual air temperature ranges from 0.4 to 1.0 °C, and during the agricultural season (April - September), the increase can be as high as 1.2 °C. In the past fourteen years, the increase in temperatures has been even more significant. During this period, all indices of warm temperature extremes have shown positive trends, while indices of cold temperature extremes have shown negative trends. The most significant changes have been observed in the number of cold days and warm days. The number of cold days has decreased over time, with the reduction being more pronounced in the central mountain areas compared to the south of the country. Consequently, the number of warm days has been increasing.[107] If the trend continues, this could not only create general discomfort of living and change in weather patterns, but also impact water supply, energy availability and possibly negatively impact food production.

The Strategy further points out evidence for warming of climate in BiH and RS; out of the ten warmest years in the observed period 1961–2015, nine years were recorded from 2000 (only 1994 was among the ten warmest) and four warmest occurred after 2005. 2014 was the warmest year in the larger part of Bosnia and Herzegovina. In Banja Luka and Prijedor, the coldest years were in the ancient past of 1962 and in 1964. In the area from Doboj to Bijeljina, the coldest was in 1980, and in the area Sarajevo and Sokolac, as well as in Herzegovina, in 1976. In all scenarios tested by the Strategy, number of cold days will continue to decrease and number of warm days increase. The same is expected with slow decrease in precipitation.
At the same time, with the changes in weather patterns, occurrence of storms, heavy rains and consequent floods seem to have increased; The most recent significant flooding took place in the spring of 2014, when the typical two-month amount of rain fell in less than 48 hours. A bit earlier, in February 2012, heavy snow and avalanches led to shortages of potable water, food, fuel, and medicine. These events also resulted in power and telecommunication outages, as well as transport disruptions across the country. Moreover, such occurrence present a risk for human health and favorable ground for development of water borne (and mosquito spread) diseases. At the same time, in January 2017, RS experienced the coldest winter since 1963, with temperatures dropping to -20 °C for almost two weeks. Again, in February and May 2019, heavy rain caused floods that significantly damaged infrastructure, albeit to a lesser extent than the 2014 floods.

Climate change trends continue: According to the latest report of Copernicus service for climate change July 2024 was the second hottest month ever recorded globally, just after the July 2023. The same EU Program informs that June 2024 was warmer globally than any previous June in the data record, with an average surface air temperature of 16.66°C, or 0.67°C above the 1991-2020 average for June and 0.14°C above the previous high set in June 2023.

10.13.10 Air quality

The air quality in the Republic of Srpska is influenced by various factors including urbanization, industrialization, traffic, fuel quality, geography, climate, and weather conditions. The air quality is categorized[108] based on pollution

[107] Strategy for Adaptation to Climate Change and Low Emission Development for BiH for the period 2020-2030

[108] Article 21 of the Law on Air protection (RS Official Gazette, 124/11) establishes the following air quality categories: a) first category – clean or insignificantly polluted air where no value limits for any pollutant were exceeded; second category – moderately polluted air where limit values for one or several pollutants were exceeded, but tolerant values for any pollutant were exceeded and c) third category - excessively polluted air where tolerant values for one or several pollutants were exceeded.

levels, in accordance with prescribed limit values as defined by the Regulation on Air Quality Limits (OG 124/12) and measured results. he Republic Hydrometeorological Institute, as well as local governmental units, monitor air quality using measuring stations equipped with automatic methods. The report on the Strategic Environmental Impact Assessment for the Republic of Srpska's Environmental Monitoring Program indicates that air quality in most parts of the region falls into the 1st category. However, in urban areas, major cities, and areas near significant energy and industrial sources, the air quality is often in the II category, especially during winter.

Air quality in urban areas is a historical problem of BiH and RS due to concentrated development of industry and mining during the 20th century. The fact that many cities are placed in the valleys of rivers and geographical basins with impeded natural circulation, aggravates the issue in many cities. E.g. Sarajevo is suffers heavy fog in winter that converts into smog when mixed with high pollution levels. UNDP Factsheet on Air Quality in Bosnia and Herzegovina further reports that according to the WHO's database of annual air pollution readings in 2017, Tuzla was the second most polluted city in Europe after Tetovo. The two largest polluters (Kakanj's thermal power plant and ArcelorMittal steel plant) in the Zenica area emit an annual 90,000 tons of SO2, which accounts for over 20% of the total SO2 emissions in BiH. In some areas of Republika Srpska, issues are similar: number of daily exceedances in 2015 of the PM10 limit value registered in Brod are 142, Ugljevik 26, Gacko 61 and Banja Luka - Center 67.[109]

According to 2017 WHO statistics, Bosnia and Herzegovina (BiH) has the highest European mortality rate attributed to air pollution. However, there are no official national data to support or deny this finding.110 However, according to the Report on Strategic Environmental Impact Assessment for the RS Environmental Monitoring Program[111], most parts of the Republic of Srpska have air quality in the 1st category. Though, in larger urban areas, major cities, and areas near significant energy and industrial sources, air quality is often in the II category, especially in winter (due to low quality heating fuels and lack of district heating), and sometimes drops to the III category during adverse weather conditions such as temperature inversion and fog. Air quality results are based on the pollutant levels (suspended particles PM10 and PM2.5, sulfur dioxide SO2, soot, total suspended particles) prescribed by the Law on Air Quality. The Republic of Srpska experiences air pollution primarily from thermal energy facilities (including thermal power plants and heating plants), oil refineries, chemical industry facilities, fuel combustion in households and industries, traffic, construction, inadequate storage of raw materials, and landfills. Outdated technologies, the absence of flue gas treatment plants, low energy efficiency in industrial and energy sectors, and poor fuel quality are among the main reasons for excessive pollution.[112]

The main sources of air pollution in the Republic of Srpska are thermal energy facilities (such as thermal power plants and heating plants), oil refineries, chemical industry facilities, fuel combustion in households and industries, traffic, construction, inadequate storage of raw materials, and landfills. The causes of excessive pollution are outdated technologies, the lack of flue gas treatment plants, low energy efficiency in industrial and energy sectors, and poor fuel quality.

10.13.11 Mineral resources extraction

The extraction of minerals in Republika Srpska is a significant sector that contributes to the region's economy. The area is rich in a variety of minerals , including bauxite, quartz sand, as well as metals such as lead, and zinc[113], which are extracted from its diverse geological formations. The mining industry in Republika Srpska has a long history, with some mines dating back to the period of the Austro-Hungarian Empire. Reportedly, in Republika Srpska there are over 50 mines,

109 UNDP Factsheet on Air Quality in Bosnia and Herzegovina
[110]Agriculture Resilience and Competitiveness Project ESMF, 2021
[111] Draft Report on Strategic Environmental Impact Assessment for the RS EMP, July 2019

[112] Agriculture Resilience and Competitiveness Project ESMF, 2021
113 Boin, U., Schwartz, A., Brief Study: Mining and the Chemical Industry in Bosnia and Herzegovina, 2001

however, data is largely not available to the public.

The bauxite mines in particular are among the most productive in Europe, and the aluminum produced from these bauxite deposits is a major export product. Lead and zinc mines also play a crucial role, with the Sase mine in Srebrenica being one of the most prominent. Additionally, there are explorations and developments in the extraction of precious metals like gold and silver, which add to the region's mining portfolio.

The geological features of the region allow for the extraction of various types of stone suitable for construction, decoration, and industrial use. Quarries located throughout the area extract limestone and other decorative stones, which are used both locally and exported. Stone quarrying in Republika Srpska has a long tradition, with some quarries operating for decades. The extracted stone is renowned for its quality and durability, making it a preferred material for construction and architectural projects. Sand production is also a significant industry in Republika Srpska. Sand is a crucial component in construction, essential for concrete production, and utilized in various industrial processes. Typically, the sand is sourced from riverbeds and alluvial deposits, where natural erosion processes have created fine grains suitable for diverse applications. The stone quarrying and sand production industries are vital to the economy of Republika Srpska, providing employment opportunities and contributing to the local and national economy through the sale of raw materials.

However, these industries also face challenges, particularly in terms of environmental impact, capacity, and monitoring:

- Quarrying activities may lead to landscape alteration, habitat destruction, and dust generation, while excessive sand extraction from rivers can result in riverbed deepening, erosion, and ecological disruption.

- According to the RS Law on Mining, exploitation of raw mineral materials is permissible exclusively under a valid concession. However, reports of mineral resource exploitation without concession are common.

- The same law also mandates expert monitoring and technical management, a requirement that is increasingly difficult to fulfill due to a lack of experts.

- Exploitation of sand and gravel is often labeled as problematic in RS and citizens initiatives for greater control of extraction and dredging in this sense are frequent. Concessions present legal basis for extraction of materials from water beds. However, reports on exploitation without concession are frequent.

10.14 Project relevant socioeconomic baseline information

This section provides an overview of key socio-economic features for Project environmental aspects on the territory of RS, which is the overall Project scope.

10.14.1 Population and demographics

According to the official results of the census published by the BiH Agency for Statistics, in 2013 (the last census), the Federation BiH had 2,219,220 inhabitants (62.8% of the total population), Republika Srpska had 1,228,423 (34.8%), while Brcko District had 83,516 inhabitants (2.4%). Bosnia and Herzegovina, with 64 inhabitants per square kilometer in 2021[114], belongs to the group of countries with a low population density. Population density is conditioned by natural and geographical factors, but also different overall social, economic and demographic developments. In this connection, it is possible to say that it is the main feature, but also the biggest challenge, of the contemporary population distribution in Bosnia and Herzegovina striking unevenness and disparities in regional development.

Currently, RS accounts for 35% of population of BiH. As in many countries of developed world, BiH is experiencing aging of population, migrations and decline in birthrates resulting in decrease in population. According to Institute of Statistics of RS

114 World Bank population data pages (https://data.worldbank.org/indicator/EN.POP.DNST?view=chart-NA&locations=BA)

(This is Republika Srpska 2023), the number of newborns declined in 2022 by 1.7% in comparison to 2021, and almost 5% in comparison to 2018. Life expectancy at birth also decreased. Further decline is likely due to consequent lower potential in natural renewal of population. The largest population movements in Republika Srpska were recorded in the population group of 20 to 34 years of age and this is mostly between municipalities (52.9%) entities (42.2%), however, data for migration to other parts of Europe and World are not available. When it comes to this age group, women opt for moving more often than men do. In the age group of 35 years and older, participation of men in migration is higher than that of women.

In RS the urban parts include major cities: Banja Luka, Foca, Gacko, Trebinje. In total 45 villages are urban while the rest of RS is mainly rural (2.700 rural villages). According to Census 2013, 499.558 (40.7%) RS inhabitants live in urban areas, while the rest (1.257.603) lives in rural areas. Urban and rural parts considerably differ in overall development, availability of services and care (including health care), availability of employment, etc. This further emphasizes the importance of efficient transport and road connectivity in RS.

Republika Srpska consists of 62 municipalities and two cities, Banja Luka and East Sarajevo (it consists of municipalities: East Stari Grad, East Ilidža, East Novo Sarajevo, Pale, Sokolac and Trnovo. The city of Brcko (38,479) is located in the Brcko District, which is under the joint administration of the Republika Srpska and the Federation of Bosnia and Herzegovina.

According to the data of the Republic Institute of Statistics, the overall population of Republika Srpska recently started an increasing trend.

10.14.2 Education

According to Institute of Statistics, 50% of all employed persons in Republika Srpska work in the sections Manufacturing, Wholesale and retail trade; repair of motor vehicles and motorcycles and Public administration and defense; compulsory social security. Every second employed person has completed secondary education, and every fourth has completed a higher education school or has a university degree.

10.14.3 Production and employment

In terms of its scope, the economy of Republika Srpska is very small. It comprises of activities that rely on domestic resources, such as agriculture, forestry, mining and energy. As such, it is not flexible, and if unlikely to dramatically change in the next period[115]. According to the Central Bank's 2019 Annual Report, industrial production has seen the sharpest decline in the last decade. By industry, annual decline in industrial production was primarily driven by a decrease in production of manufacturing industry (production of coke, oil refinery, textiles and leather products) and by the decrease of electricity and gas production and distribution. Furthermore, in the second part of the year, a sharp decline in the production of base metals was recorded, following the business termination of the strategic company in the field of aluminum processing. However, things picked up by 2022 and according to Institute for Statistics, economic activity of Republika Srpska, measured with the real growth rate of GDP, increased by 3.9% in 2022 though growth rate in energy sector remains negative - Electricity, gas, steam and air-conditioning supply (-3.5%) and Agriculture, forestry and fishing also reached negative results (-1.9% decline). On the other hand, services such as Wholesale and retail trade; repair of motor vehicles and motorcycles (12.5%) Arts, entertainment and recreation (13.1%), Transportation and storage (10.9%) and Administration support and services (10.5%) all made a significant increase of over 10% in 2022.

The labor market in Bosnia is facing challenges due to low employment levels and aging population. In 2022, the employment rate for people aged 15-64 was 44.7%, with significant differences between men (55%) and women (35%). This makes Bosnia one of the Balkan countries with the lowest female employment and labor force participation rates. [116]

However, the labor market, according to administrative data and the 2019 Labor Force Survey data, reports a significantly reduced number of unemployed persons (unemployment rate 15.7%), while it further decreased by 2022 (in total 11.2% while female unemployment rate in 2022 was 14.3%, and male unemployment rate was 9.0% according to RS Institute of Statistics).

[115] Institute for Statistics of Republika Srpska; This is Republika Srpska, 2023

[116] ILO 2024 (https://www.ilo.org/ilo-bosnia-and herzegovina#:~:text=The%20share%20of%20informal%20employment,cent%20(ILO%2C%202024).)

Nominal net wages report strong growth, with somewhat slower growth of real net wages.
The structure of employed persons by group of sections of economic activity in 2022 was as follows: agricultural 13.4%, industrial (non-agricultural) 32.5% and services 54.2%. By type of employment, the structure was as follows: employed persons working for a wage (employees) 82.0%, self-employed persons 15.5% and unpaid supporting family members 2.5%.[117]

The economy of Republika Srpska relies on agriculture, forestry, mining, and energy but lacks flexibility. Despite a decline in industrial production, the GDP saw a 3.9% increase in 2022, driven by growth in services such as wholesale and retail trade, arts, entertainment, transportation, and administration support.[118] The labor market also improved, with a decreased unemployment rate of 11.2% in 2022. The nominal net wages showed strong growth. In 2022, the structure of employed persons was: agricultural 13.4%, industrial (non-agricultural) 32.5%, and services 54.2%. In terms of employment type, 82.0% were wage employees, 15.5% were self-employed, and 2.5% were unpaid supporting family members. 119

Bosnia is relatively small country that exchange goods mostly with countries in the Region and the EU, which amplifies importance of good road connectivity for further economic viability and development. According to the European Commission Report for Bosnia and Hercegovina for 2023, the main export destinations for the BiH are still EU countries (predominantly Germany, Italy, and Croatia), but also CEFTA countries, such as Serbia. Between 2018 and 2023, trade moved towards the neighboring region, especially Croatia and Serbia. Share of exports in EU in the total export of goods increased from some 71.4% in 2017 to 73.5% in 2022. Exports to CEFTA countries also increased their share of total exports, from 16.1% in 2017 to 18.3% in 2022. In addition, according to RS Institute for Statistics, tourism traits are rapidly increasing especially in the realm of sports tourism (rafting and kayaking, skiing), and again, large proportion of tourist are coming from the Region – Serbia, Montenegro and Croatia, as well as the resto of the EU.

Although the need for communication and the transportation of goods and people can, in general, be fulfilled by other means of transport, such as railways and river transport, the topography and hydrogeology in most of RS do not support these alternatives. Steep terrains, shallow rivers with karst features, and other landscape characteristics significantly increase the costs of such investment endeavors, making them realistically unattainable. This points to road transport as the most economically viable option for transportation in this region.

10.14.3.1 Agriculture

The share of gross value added of agriculture, fishing and forestry in the formation of the gross domestic product of the Republic of Srpska in 2022 is 7.5%, with a drop of 1.9% in comparison to the year 2021. With amost 8% share in the formation of gross domestic product and 13.3% of all employed persons in primary production (over 54,000), agro-industry, production and processing of agricultural products, is one of the most important areas of the economics in Republic of Srpska. Of those working in agriculture, 90.7% were full-time employees, while the remaining 9.3% were part-time employees. The average weekly working hours for those in agriculture in 2022 was 42.3 hours, with men working an average of 43.9 hours per week and women working an average of 39.4 hours per week.120

In 2022, the total value of external trade of agricultural products was BAM 350.8 million, which showed an increase of 37.6% or BAM 95.8 million compared to the previous year. Agricultural products accounted for 2.8% of the total external trade of Republika Srpska in 2022, with a higher share in total imports (4.1%) than in exports (1.0%).[121]

[117] Ibid
[118] Institute for Statistics of Republika Srpska; This is Republika Srpska, 2023
[119] Ibid
[120] Labour Force Survey in 2022, Institute for Statistics of Republika Srpska; This is Republika Srpska, 2023
[121] Ibid

Cultivable areas in the Federation of Bosnia and Herzegovina cover 721,000 hectares, while in the Republic of Srpska there are about one million hectares of agricultural land, of which 46 percent is not used for food production.
As of the end of last year, 119,000 hectares of arable land owned by farms were registered in the register of agricultural holdings in FBiH.
The Federal Ministry of Agriculture, Water Management and Forestry states that the provisions of the Law on Agricultural Land provide that if the land has not been economically functional for more than three years, municipalities and cities should put these resources into operation and adopt measures to stimulate cultivation.
According to the data of the BiH Agency for Statistics, in 2021, 6.3 tons of corn were produced in FBiH per hectare of arable land, while in the RS it amounted to 7.1 tons per hectare. BiH, and RS in particular, have the highest yield of plums, 48,000 tons in the Federation of Bosnia and Herzegovina and 99,000 tons in the Republic of Srpska.

Table 23; Arable land according to the use in BiH (2018 -2019)[122]

	2018	2019	Indeks 2019/2018
Cereales	314.296	306.780	98
Industry plant	15.324	15.225	99
Vegetables	71.758	69.735	97
Fodder crops	127.746	130.605	102
Nurseries	358	340	95
The rest on the field	4.251	6.770	159
Total sown	**533.733**	**529.455**	**99**
The burned land	64.218	77.040	120
Uncultivated land	367.421	410.187	112
Totale arable area	**965.372**	**1.016.682**	**105**

10.14.3.2 Transport sector

The road infrastructure of the Republic as part of the transport infrastructure of the Republika Srpska and Bosnia and Herzegovina is a complex system of exceptional importance for established commodity flows, which are mutually dependent on flow and transport not only at the republic but also at the regional level. In order for road traffic to develop and develop properly, this infrastructure must be constantly harmonized with the development of the various forms of transport infrastructure within the Republic of Srpska, as well as with the environment.

The factual situation that arose as a result of the war and the signing of the Dayton Peace Agreement and the administrative demarcation of the Republika Srpska and the Federation of Bosnia and Herzegovina led to the rerouting of traffic so that the main traffic flows in the Republika Srpska take place on parts of the main and regional roads (currently uncategorized roads) which are not in the earlier period after construction or reconstruction, they did not provide a satisfactory level of traffic services.

According to data of Putevi RS, the road network in the Republic of Srpska and the Federation of Bosnia and Herzegovina is among the least developed in Europe. This can be seen from the data on the density of the network (0.468 km/km2 - which is 2.5 to 4 times less than in the countries of Western Europe), as well as from the technical indicators, route elements, longitudinal and transverse profiles. Despite the efforts made (when 78.5% of the main and regional road network was

[122] Source: Agency for Statistics of BiH

modernized), with limited available funds, the current condition of the roads does not correspond to the increased needs and this situation will worsen every year unless more serious actions are taken.

The unfavorable traffic functionality of the BiH road network is also contributed to by the poor construction of roads with a higher level of service and connections with neighboring countries. In the road network of the RS, there are also local roads of special importance, which gained traffic importance with the new administrative division of Bosnia and Herzegovina, and in the meantime their recategorization has not been carried out. Their length is 223.14 kilometers, of which 123.95 kilometers are covered with asphalt (55.55%) and 99.19 kilometers are covered with macadam and earth (44.45%). The basic road network of the Republika Srpska consists of a network of main and regional roads. The road network in the Republic of Srpska consists of the highways (106 km), main roads (1,781km), regional roads (2,183 km) and local roads (approx. 6,030 km).[123]

10.14.3.3 Tourism

In 2022, tourism made a strong recovery after the COVID-19 pandemic was finally declared over. A new record in overnights was set: over one million tourist overnight stays was recorded for the first time; 53% of overnight stays were by domestic tourists, while 47% were by foreign tourists. The number of tourist arrivals increased by 49.1% compared to 2021, and the number of overnight stays increased by 38.5%; however, overnight stays by foreign tourists were a bit more modest and increased by approximately 11% compared to 2021. Republika Srpska continued to provide support for the tourism sector by offering tourist vouchers for its citizens and introducing various aid and support measures. Serbian tourists accounted for the highest number of stays, followed by tourists from Croatia, Slovenia, Montenegro, Germany, Turkey, Austria, and Italy.[124]

10.14.4 Poverty

According to the 2017 Social Inclusion Report, a large share of BiH population is affected by poverty. Children, people with low education, elderly and weak, as well as rural population are the ones who are most likely to live below poverty line. As production declines in the agricultural (hence rural) sector where educational levels are traditionally lower, and with the aging population and decline in population, consequently the risk of poverty is likely to increase in the rural areas of RS. Therefore, it is of utmost importance that this Project focuses on enhancing connectivity of such areas to urban settlements and larger markets (than the reachable local ones) especially in the areas where alternatives are not available (e.g. for infrastructure investments are too costly). In addition, the Project should take into account (in designs, selection of routes, etc.) the current and future need for public transport that is likely to increase due to increasing cost of living, trends in energy prices, climate change and other.

Unemployment rates show that in 2022 % total unemployment was 11.2%, male 9.0%, and 14.3%, meaning that women unemployment is about 50% higher than men. By sector, the employment distribution in 2022 includes employed in agriculture that amount to 13.4%, in industry (non-agricultural) 32.5% and services 54.2%. By type of employment, employed persons working for a wage (employees) created 82.0% of all employed, self-employed persons 15.5% and unpaid supporting family members 2.5%.[125]

10.14.5 Labor and Occupational Health and Safety (OHS) issues

About 20% of total employment in BiH is informal[126], with young, old, unskilled workers, and those in the agricultural sector being most affected.

[123] Putevi RS

[124] Institute for Statistics of Republika Srpska; This is Republika Srpska, 2023

[125] Ibid

[126] ILO 2024 (https://www.ilo.org/ilo-bosnia-and herzegovina#:~:text=The%20share%20of%20informal%20employment,cent%20(ILO%2C%202024).)

According to the official report published by the RS Administration for Inspection Affairs within the Informative Bulletins for the first two trimesters of 2019, the Labor Inspection visited 2,589 organizations in the first six months of 2019, and labor law breaches were found in 32%; 198 workers were found without signed employment contract and without health and social insurance (mandatory by law). In this period, 42 serious work-related injuries were recorded, of which 5 deaths.

The most frequent breaches of the labor legislation are related to calculations and payments of wages and compensations, termination of employment, long working hours, lack of employment contracts, and holidays and leave. Under-declaration of wages or unregistered wages are widespread, particularly in construction and sectors with a lot of cash use (hospitality, logistics, retail). Labor inspectorates are understaffed, and the sanctions they issue are not dissuasive due to low fines and long delays in delivering court decisions.

Informal work is common, especially amongst vulnerable groups such as Roma, women and elderly. Informal economy according to IMF in Bosnia and Hercegovina accounts for about 35% of the total GDP. This data corresponds to other countries in the Western Balkans Region, even some members of the EU (Croatia is assessed at 30% GDP while EU-28 average is 17%). Though there are no numbers to relay on, the high cut of grey economy in the total GDP, indicates also high share of informal employment.

According to the Employment Office of Republika Srpska, 2,034 work visas were issued for foreign nationals in ten months of 2023, and most of these permits were issued to citizens of Turkey, Serbia, and Bangladesh. As far as activities are concerned, the most permits were issued in the field of labor construction, art, entertainment and recreation, processing industry, wholesale and retail trade, and service activities.
Work permits are usually issued for a period of one year, but there are also those that are issued for a period of up to 90 days when it comes to temporary and casual jobs. The annual quota of work permits for foreign citizens for 2013 in the Republic of Srpska is 1,400, of which 1,000 are new and 400 are extended work permits. In the middle of last month, the Management Board of the Employment Office of the Republic of Srpska made a decision on changes to the decision on establishing work permit quotas for the employment of foreigners and stateless persons.

10.14.6 Gender-based Violence, Sexual Harassment, Sexual Exploitation and Abuse

According to the findings from the research conducted by OSCE55 in 2018, the issue of violence against women is a fairly widespread concern in BiH. This study emphasizes that just under half (48%) of women in BiH have experienced some form of abuse, sexual harassment since the age of 15. More specifically, nearly four in ten (38%) say they have experienced psychological, physical or sexual violence since the age of 15 at the hands of a partner or non-partner (RS: 39%)[127].
Based on the OSCE research on Gender-based violence in 2019 men are cited as the main perpetrators of sexual harassment. Women who reported experiencing sexual harassment they most often point to unknown perpetrators (62%), followed by friends, acquaintances or neighbors (29%), or some other person they know, who not listed in the available categories (23%). Someone from work (colleague or boss) stated 17% of women who were exposed to sexual harassment. According to the employment status victims of sexual harassment are mostly self-employed (43.2% had such experience), students (40.3) and housewives (38.2), while amongst on-salary employed 24% experience sexual harassment. Temporary employed (e.g. in bakeries) and poor are in greater danger of this type of violence. More than one third (32.5%) of women affected by very severe due to lack of income stated that they experienced sexual harassment, in compared to 26.5% of women who said they were comfortably off their current ones of income[128].
BiH has ratified or inherited a number of international commitments on gender equality and GBV prevention, including the

[127] OSCE-led Survey on Violence Against Women, BiH Results Report, 2019
[128] Ibid.

UN Convention on the Elimination of All Forms of Discrimination against Women (1980) and the Council of Europe's Istanbul Convention on Preventing and Combating Violence against Women (ratified in 2014).
There is no law that treats femicide as a criminal offense, neither on BiH level, or entity levels. In Republika Srpska, femicide also does not exist as a separate crime in the Criminal Code of the RS, although there is an article stating that a hate crime is one that is committed, among other things, because of the "gender identity of a person".

10.14.7 Vulnerable Groups

Disadvantaged / vulnerable individuals or groups are potentially disproportionally affected and less able to benefit from opportunities offered by the project due to specific difficulties to access and/or understand information about the project and its environmental and social impacts and mitigation strategies. Such groups are also more likely to be excluded from the consultation process. It also includes groups who may be difficult to reach due to communication barriers (language, illiteracy) and those who are part of informal economy, informal housing, migrants, persons without documents, and those who are very poor and may find it hard to pay regular costs of transport and other services and commodities.

Disadvantaged / vulnerable individuals or groups in the project area include "low-income households"; women; youth; women-headed households; elder-headed households (≥ pension age) without any other household member bringing in income; persons with limited mobility; or persons with disabilities; women in rural communities, low-educated and illiterates, Roma groups, individuals and habitat communities. Various types of barriers may influence the capacity of such groups to articulate their concerns and priorities about project impacts.

The Roma community (assessed to number 3000 in RS according to the last census, carried out in 2013; however, this number is considered to be much higher) is categorized among the most vulnerable social groups, and Roma women, in particular, as they are less educated than Roma men, consequently with less choices for employment, to earn a living or live independently. They are often employed informally, if at all.[129] Illiteracy is substantial amongst this population as well as speaking only one of Roma languages thus communication, citizen engagement and consultations require culturally appropriate methods.
Two alphabets are used in Republika Srpska and Bosnia and Herzegovina and all documents require version in Cyrillic and Latin.
Vulnerable groups within the communities affected by the project, and site-specific sub-projects, will be further confirmed and consulted through dedicated means, as appropriate. Description of the methods of engagement that will be undertaken by the project is provided in the SEF developed for this Project.

[129] ROMED Country Assessment - BiH

10.15 Annex 12 - Overview of World Bank ESF requirements

This annex provides overview of ESF as well as key excerpts from ESSs to facilitate understanding of the Bank's E&S management system. For the full ESF content, please go to the following web pages: www.worldbank.org/en/projects-operations/environmental-and-social-framework .

The World Bank developed an Environmental and Social Framework (ESF) sets out the World Bank's commitment to sustainable development through application of Bank Policy (defined in the ESF) and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity. ESF consists of WB Environmental and Social Policy, Environmental and Social Standards (ESSs) and mandatory application of WB Environmental, Health, and Safety Guidelines (EHSG) and Good International Industry Practice (GIIP). ESF also relays on Technical Notes for Borrowers as well as WB Environmental and Social Directive for Investment Project Financing (IPF) for further guidance on organizing and implementing E&S due diligence of projects, E&S risks identification and classification, internal procedures and more. The General EHSG contain information on cross-cutting environmental, community health and safety, occupational health and safety and construction and decommissioning issues potentially applicable to all industry sectors and it should be used together with the relevant Industry Sector Guideline(s)[130]. GIIP presents technical reference documents with general and industry-specific examples. For BiH and RS, as country candidate for EU membership, this includes relevant E&S Directives and guidelines such as BREFs.

The Environmental and Social Standards (ESS) define mandatory requirements that apply to the Borrower and Project activities. They present set of obligatory guidelines and instructions with the main objective to foster efficient and effective identification and mitigation of potentially adverse environmental and social impacts that may occur in the development projects, with proper stakeholder engagement and sustainable management. **WB ESS, supported by the mandatory consideration of WB ESHG and GIIP are applied in parallel to the national policies where, as a rule, the stricter one prevails.**

The applicability of the EHSG depends on thetype of the project, subject as well as risks determined for each project on the basis of the results of an environmental assessment in which site-specific variables, such as country context, assimilative capacity of the environment, and other project factors, are taken into account.

There are ten (10) WB ESS. Each of the ESSs sets out a number of objectives. The objectives describe the outcomes that each of the ESSs is intended to achieve.
In some circumstances, the Borrower 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 have to be addressed in accordance with the mitigation hierarchy[131] and the objectives of ESS1.
Not all of these ten ESS are relevant for this project, but ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8 and ESS10 are. The summary of the Environmental and Social Standards are described below.

[130] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines#IndustryEHS
[131] (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) Once risks and impacts have been minimized or reduced, mitigate; and (d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.

Detailed overview of WB Environmental and Social Standards (ESS) is available on web site: https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards).

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

ESS1 applies to all projects which are supported by the Bank through Project Financing (IPF) and to which OP/BP10.00 applies. It sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through IPF, in order to achieve environmental and social outcomes consistent with the ESSs. The ESSs are designed to help Borrowers to manage the risks and impacts of a project, and improve their environmental and social performance, through a risk and outcomes-based approach.

The Bank classifies a proposed project, to low, moderate, substantial and high risk for E&S depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental and social risks and impacts. The Bank does not support activities listed in the IFC list of non-eligible projects.

Other areas of risk may also be relevant to the delivery of environmental and social mitigation measures and outcomes, depending on the specific project and the context in which it is being developed. These include IFC legal and institutional considerations; the nature of the mitigation and technology being proposed; governance structures and legislation; and considerations relating to stability, conflict or security.

Within ESS1, the Borrower is obliged to:

- Conduct environmental and social due diligence of the planned project;
- Manage environmental and social risks and impacts of the project throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the project and the potential risks and impacts;
- Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10;
- Jointly with the WB Task Team develop an Environmental and Social Commitment Plan (ESCP), part of the Legal Agreement. ESCP entails material measures and actions required for the project to achieve compliance with the ESSs (and ultimately ESF) over a specified timeframe. The ESCP should be developed as information regarding the potential risks and impacts of the project, it will take into account the findings of the Bank's environmental and social due diligence and the results of engagement with stakeholders. The Borrower is mandated to implement ESCP as the part of Legal Agreement. ESCP can only be changed in agreement between WB and the Borrower;
- Carry out monitoring and reporting on the environmental and social performance of the project against the ESSs, and in line with the ESCP.

Depending on the project, a range of instruments can be used to satisfy the Bank's Environmental and Social Assessment (ESA) requirement: environmental impact assessment (ESIA), regional or sectorial EA, strategic environmental and social assessment (SESA), environmental audit, hazard or risk assessment, environmental and social management plan (ESMP) and its condensed warison usually used for typical small to moderate scale works ESMP Checklist, environmental and social management framework (ESMF), Cultural Heritage Management Plan (CHMP), Biodiversity Management Plan (BMP), Environmental and Social Code of Practice (ESCOP), Pest Management Plan, etc. ESA applies one or more of these instruments, or elements of them, as appropriate, and it is a synonym to E&S instrument. When the project is likely to have sectorial or regional impacts, sectorial or regional ESA is required.

ESS2 Labor and Working Conditions

Labor and working conditions or **ESS2** recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

Main objectives of this standard aim to:

- **Promote safety and health at work;**
- **Promote the fair treatment, nondiscrimination and equal opportunity of project workers.**
- **Protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate.**
- **Prevent the use of all forms of forced labor and child labor.**
- **Support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.**
- **Provide project workers with accessible means to raise workplace concerns.**

The relevance of ESS2, scope, instruments and application is established during the environmental and social assessment described in ESS1 The scope of application of ESS2 will depend on the type of employment relationship between the Borrower and the **project workers**. The precautionary OHS actions are implemented to safeguard project workers from injuries, illnesses (both work-related and otherwise), and impacts due to exposure to workplace hazards. These measures adhere to the ESS2 requirements and national laws on occupational health and safety as applicable to the project. Suitable OHS measures will be integrated into the project's design and implementation to prevent and protect workers from occupational injuries and illnesses.

The term "**project worker**" refers to:

(a) **Direct workers** - people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project;

(b) **Contracted workers** - people employed or engaged through third parties to perform work related to core functions of the project, regardless of location;

(c) **Primary supply workers** - people employed or engaged by the Borrower's primary suppliers; and

(d) **Community workers** - people employed or engaged in providing community labor.

ESS2 applies to project workers including fulltime, part-time, temporary, seasonal and migrant workers.

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable.

ESS3 sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with WB EHSG and GIIP. The term "pollution" is used to refer to both hazardous and nonhazardous chemical pollutants in the solid, liquid, or gaseous phases, and includes other components such as thermal discharge to water, emissions of short- and long-lived climate pollutants, nuisance odors, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts including light.

Relevance of ESS3 is also decided as part of E&S due diligence of the Project. In this ESS, "pollution management" includes measures designed to avoid or minimize emissions of pollutants, including short- and long-lived climate pollutants, measures which tend to encourage reduction in energy and raw material use, as well as emissions of local pollutants. **Objectives of ESS3 include:**

- Promotion of the sustainable use of resources, including energy, water and raw materials.
- Avoiding or minimizing adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.
- Avoiding or minimizing project-related emissions of short and long-lived climate pollutants.
- Avoiding or minimizing generation of hazardous and non-hazardous waste.
- Minimizing and/or managing the risks and impacts associated with pesticide use.

The Borrower will consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention measures in accordance with the mitigation hierarchy. The measures will be proportionate to the risks and impacts associated with the project and consistent with GIIP, in the first instance the EHSGs To meet the above mentioned objectives the Borrower should conduct management procedures and implement measures regarding: resource efficiency, energy use, water use, raw material use, pollution prevention and management, management of air pollution, management of hazardous and non-hazardous wastes, management of chemicals and hazardous materials, and other to address key risks according to the requirements and conditions of ESS3.

ESS4 Community Health and Safety

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

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

The applicability of this ESS is established during the environmental and social assessment described in ESS1.
This ESS addresses potential risks and impacts on communities that may be affected by project activities and may overlap with Occupational health and safety (OHS) requirements for project workers that are set out in ESS2, and measures to avoid or minimize impacts on human health and the environment due to existing or potential pollution are set out in ESS3.

Community health and safety scope area include, but are not limited to infrastructure and equipment design and safety, safety of services, traffic and road safety, ecosystem services, exposure of communities and individuals to health risks, emergency preparedness and response, and management and safety of hazardous materials. Special considerations under ESS4 is given to construction, maintenance and operations of dams as well as security personell.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

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

Objectives of the ESS5 include:

- To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives.
- To avoid forced eviction.
- To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
- To improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure.
- To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant.
- To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.

To ensure that land acquisition, restrictions on land use and involuntary resettlement are timely identified, all sub-projects will be screened to ensure that the involuntary taking of land, displacement (economic or physical) and/or restrictions of access are recognized, recorded and address in the way that achieve the objectives of the sub-project, objectives of the ESS5, national and local legislation, all satisfactory to the WB. In addition to screening questionary provided in Annex 17, while conducting E&S assessment dedicated Template for Land Acquisition, Restrictions on Land Use and Involuntary Resettlement screening provided in the Project Resettlement Policy Framework (RPF) will also be considered.

ESS5 applies to permanent or temporary physical and economic displacement resulting from the following types of land acquisition or restrictions on land use undertaken or imposed in connection with project implementation: (a) Land rights or land use rights acquired or restricted through expropriation or other compulsory procedures in accordance with national law;
(b) Land rights or land use rights acquired or restricted through negotiated settlements with property owners or those with legal rights to the land, if failure to reach settlement would have resulted in expropriation or other compulsory procedures;
(c) Restrictions on land use and access to natural resources that cause a community or groups within a community to lose access to resource usage where they have traditional or customary tenure, or recognizable usage rights. This may include situations where legally designated protected areas, forests, biodiversity areas or buffer zones are established in connection with the project;
(d) Relocation of people without formal, traditional, or recognizable usage rights, who are occupying or utilizing land prior to a projectspecific cut-off date;
(e) Displacement of people as a result of project impacts that render their land unusable or inaccessible;
(f) Restriction on access to land or use of other resources including communal property and natural resources such as marine and aquatic resources, timber and non-timber forest products, fresh water, medicinal plants, hunting and gathering grounds and grazing and cropping areas;

(g) Land rights or claims to land or resources relinquished by individuals or communities without full payment of compensation; and
(h) Land acquisition or land use restrictions occurring prior to the project, but which were undertaken or initiated in anticipation of, or in preparation for, the project.

This ESS does not apply to impacts on incomes or livelihoods that are not a direct result of land acquisition or land use restrictions imposed by the project. Further, it does not apply to activities that have taken place after the formal Project announcement (cut-off date).

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Habitat is defined as a terrestrial, freshwater, or marine geo-graphical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment. All habitats support complexities of living organisms and vary in terms of species diversity, abundance and importance. This ESS also addresses sustainable management of primary production and harvesting of living natural resources.

Objectives of the ESS6: to protect and conserve biodiversity and habitats; to apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity and to promote the sustainable management of living natural resources.

This Standard is relevant to the Project.

ESS7 Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities

RS does not have distinct ethnic, social and/or cultural groups as covered by ESS7 **Thus, this standard is not relevant the Project.**

ESS8 Cultural Heritage

ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. It sets out measures designed to protect cultural heritage throughout the project life-cycle.

ESS8 defines cultural heritage as tangible and intangible heritage, which may be recognized and valued at a local, regional, national or global level, as follows:

- Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water;
- Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

General objectives are as follows: to protect cultural heritage from the adverse impacts of project activities and support its preservation, to address cultural heritage as an integral aspect of sustainable development, to promote meaningful

consultation with stakeholders regarding cultural heritage, to promote the equitable sharing of benefits from the use of cultural heritage.

The requirements of ESS 8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified or disturbed.

While the ESS8 relays on the officially recognized cultural heritage, is not exclusive (community perception is also taken into account, opinion of CH associations, chambers of architects, etc.).

The requirements of ESS8 apply to all projects that are likely to have risks or impacts on cultural heritage. This will include a project which: (a) Involves excavations, demolition, movement of earth, flooding or other changes in the physical environment; (b) Is located within a legally protected area or a legally defined buffer zone; (c) Is located in, or in the vicinity of, a recognized cultural heritage site; or (d) Is specifically designed to support the conservation, management and use of cultural heritage. If previously unknown cultural heritage is encountered during project activities, a chance finds procedure defined in the national/local legislation should be followed, if there is one (and this is the case in RS). It has to be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, etc. The chance finds procedure sets out how chance finds associated with the project has to be managed.

A chance finds procedure is included in relevant procurement documents and instructions to contractors. A chance finds procedure is not a substitute for preconstruction surveys and analyses.

Direct impact ot already identified cultural heritage is not expected. However, it is possible in the case of damage due to e.g. transport of goods and people. In that unlikely case, development of Cultural Heritage Management Plan (CHMP) will be developed to address the issue and tailor corrective measures.

ESS9 Financial Intermediaries is not relevant for the Project.

ESS10 Stakeholder Engagement and Information Disclosure

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

This ESS must be read in conjunction with ESS1. Requirements regarding engagement with workers are found in ESS2. Special provisions on emergency preparedness and response are covered in ESS2 and ESS4. In the case of projects involving involuntary resettlement, Indigenous Peoples or cultural heritage, the Proponent will also apply the special disclosure and consultation requirements set out in ESS5, ESS7 and ESS8.

Objectives of the ESS10 are to establish a systematic approach to stakeholder engagement that will help Borrowers to identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties; to assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance, etc.

This Standard is relevant to the Project.
The Initial Stakeholder Engagement Framework (SEF) is prepared for the Project as the planned sub-project and activities are not uniformed in scope or location. It will be updated periodically as necessary, and in addition site-specific Stakeholder Management Plans (SEPs) will be prepared for individual sub-projects and activities.

The purpose of the SEP document is to define the stakeholder engagement strategy, explain how stakeholder engagement will be implemented throughout the course of the project and which methods will be used as part of the process; as well as to outline the responsibilities of Putevi RS and other actors in project implementation..

The general SEP objectives are:

- Identify stakeholders who are directly or indirectly affected by and/or interested in the Project;
- Outline modalities for information dissemination and stakeholder engagement activities including their purpose, frequency and location during project preparation and implementation;
- Promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life on issues that could potentially create an impact;
- Define the roles and responsibilities of different actors to implement and monitor these activities;
- Ensure functional grievance redress/beneficiary feedback mechanism to raise issues;
- Ensure that appropriate project information on environmental and social risks and impacts is disclosed in a timely, understandable, accessible format; and
- Promote and maintain effective and inclusive stakeholder engagement throughout project life.

In addition to stakeholder engagement, SEF organizes Project's Grievance Redress Mechanisms.

10.16 Annex 13 – Template for Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement Screening

TEMPLATE FOR LAND ACQUISITION, RESTRICTIONS ON LAND USE, AND INVOLUNTARY RESETTLEMENT SCREENING

Entity:			
Municipality:			
Cadastral municipality:		*Cadastral parcel*:	
Name of the project			
Name of the sub-project			

Does implementation of sub-project require involuntary resettlement (land acquisition, restriction on land use) [132] *and/or voluntary land donation??*	*YES* ☐	*NO* ☐
Non-exhaustive list of criteria for screening:		
- *Has the land required for the sub-project or will the sub-project require the acquisition or expropriation and/or conversion of land (changes in access or use)?*	*YES* ☐	*NO* ☐
- *Has the land required for the sub-project or will the sub-project require the physical displacement of informal occupants or land uses and/or landowners or otherwise restrict or deprive them of land use/access?*	*YES* ☐	*NO* ☐
- *Has the land required for the sub-project or will the sub-project cause impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?*	*YES* ☐	*NO* ☐
- *Has the land required for the sub-project or will the sub-project require economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?*	*YES* ☐	*NO* ☐
- *Has the land required for the sub-project or will sub-project require any disputed ownership, claims, by renters, users, squatters, or encroachers?*	*YES* ☐	*NO* ☐
- *Has the land required for the sub-project or will the sub-project include land donation?*	*YES* ☐	*NO* ☐
If the land is being voluntarily sold or donated:		

[132] Land acquisition" refers to all methods of obtaining land for project purposes, which may include outright purchase, expropriation of property, and acquisition of access rights, such as easements or rights of way. Land acquisition may also include: (a) acquisition of unoccupied or unutilized land whether or not the landholder relies upon such land for income or livelihood purposes; (b) repossession of public land that is used or occupied by individuals or households; and (c) project impacts that result in land being submerged or otherwise rendered unusable or inaccessible.
"Land" includes anything growing on or permanently affixed to land, such as crops, buildings and other improvements, and appurtenant water bodies
"Restrictions on land use" refers to limitations or prohibitions on the use of agricultural, residential, commercial, or other land that is directly introduced and put into effect as part of the project. These may include restrictions on access to legally designated parks and protected areas, restrictions on access to other common property resources, restrictions on land use within utility easements, or safety zones. "Livelihood" refers to the full range of means that individuals, families, and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource-based livelihoods, petty trade, and bartering.

- *Did/will the land donation or sale take place without threat of expropriation?*	*YES* ☐	*NO*☐
- *Did the landowner/user provide their informed consent to donate/sell the land?*	*YES* ☐	*NO*☐
- *Did the landowner/user have the right to refuse the sale/donation or change in land use and access?*	*YES* ☐	*NO*☐

If answer is yes to any of screening criteria, please describe land that will be taken/converted/sold/donated (provide description of current use of the land, status/information on ownership relevant for the sub-project and impact of sub-project)			
Area affected	*Total landholding area*	*Ratio of land affected to total land held*	*Map*
Describe any other assets that will be lost or must be removed to implement the sub-project			
Value of land			

Enclose all relevant official documentation (e.g. contracts, court decisions, extracts from land cadaster, etc.).

Enclose, minutes of meeting/consultations with potentially affected stakeholders.

10.17 Annex 14 - Relevant Environmental and Social Regulation Overview

The applicable and relevant legislation regulating the field of environmental protection, physical planning, occupational health and safety, labor rights and cultural heritage is fairly developed. However, it is to the large extent outdated (some date from the 1980s), not EU harmonized, and still does not cover all environmental and social aspects of the Project (e.g. removal, management and transport of special wastes such as asbestos, public consultation requirements, and more). This is why reliance on Borrower's framework is not recommended.

Key Environmental, Social and Construction Regulation in Republika Srpska	
Laws	
Environmental Protection Act (OG 71/2012, 79/2015 and 70/2020) Law on Waste Management (OG 111/13, 16/1870/20, 63/21) Law on Air Quality (OG 124/11, 46/17) Law on Spatial Planning and Construction (OG 40/13, 2/15, decision 106/15, 3/16, 104/18, 84/19) Law on National Parks (OG XX) Law on National Park Drina (OG 63/17) Law on Environmental Protection Fond and its Financing (OG 117/11, 90/16) Law on National Park Kozara (OG 121/12) Law on National Park Sutjeska (OG 121/12) Nature Protection Act (OG 20/14) Water Protection Act (OG 50/06) Fishing Act (OG 72/12), Fire Protection Act (OG 71/12), Law on protection from non-ionising radiation (OG 02/05), Law on Cultural Goods of RS (38/22) Law on Chemicals (OG 21/18) Law on Substances used for Plant Protection (OG 52/10) Law on Mining (OG 62/18) Law on Transport of Dangerous Substances (OG 51/15) Law on the Safety of Critical Infrastructures in the Republic of Srpska OG 58/19) Law on Transportation of Dangerous Goods (OG 15/16)	Labor Act (OG 1/16, 66/18, 119/21, 112/23) Law on Mediation (OG 91/16) Law on Strike (OG 111/08) Law on Labor Councils (26/01) Law on Employment of Foreign Citizens and Stateless Persons (OG 24/09, 117/11, 56/22) Law on Retirement and Disabled Persons Insurance (OG 134/11, 82/13, 103/15, 111/21, 15/22) Law on Occupational Health and Safety (OG 1/08, 13/10) Law on Protection from Harassment at Work (OG 90/21) Law on Protection of Population from Infectious Diseases (OG 90/19) Law on agencies for security of persons and property and private detective activity (OG 4/12) Law on Police and Internal Affairs of Republika Srpska (OG 57/2016, 110/2016, 58/2019, 82/2019, 18/2022, 55/2023 i 48/2024) The Law on Real Property Rights of RS (OG 124/ 08, 3/09, 58/09, 95/11, 60/15 and 107/19) Law on Agricultural Land of RS (OG 93/06, 86/07, 14/10, 05/12 and 58/19) Law on Legalization of Illegal Buildings of RS (OG 62/18) Law on Extra-Judicial Proceedings of RS (OG 36/09, 91/16) Law on General Administrative Procedure of RS (OG 13/02, 50/10 and 66/18) Law on Land Survey & Cadaster of Property in RS (OG 6/12, 110/16 and 62/18)

<table>
<tr><td>Law on the Traffic of Explosive Substances, Flammable Liquids and Gases (OG 78/11, 58/16)

Law on protection and rescue in emergency situations (OG 121/12, 46/17, 111/21)</td><td>The Law on Social Protection of RS (OG 37/12, 90/16, 94/19 and 42/20)</td></tr>
<tr><td colspan="2">Bylaws</td></tr>
<tr><td>Rulebook on the content and control of technical documentation (OG 101/13)
Rulebook on the form, content and manner of issuing location conditions (OG 69/13)
Rulebook on protection measures during the use of explosives in mining (OG of SFRY 9/67)
Rulebook on conditions for planning and designing facilities for the unhindered movement of children and persons with reduced physical abilities (OG 93/13)
Rulebook on the method of preparation, content and formation of spatial planning documents (OG 69/13Rulebook on the creation and adoption of spatial planning documents by abbreviated procedure (OG 69/13)
Rulebook of conditions to discharge waste waters into surface waters (OG 44/01),
Decree on waters classification and watercourses categorisation (OG 42/01)
Rulebook of waste categories with the waste catalogue (OG 39/05),
Rulebook of methods of maintaining river beds and water land (OG 34/03),
Rulebook on limit values of noise intensity (OG 2/23)
Rulebook on Conditions for Performing Activities in the Field of Environmental Protection (OG 28/13, 74/18, 63/22)</td><td>Decision on the Lowest Salary in Republika Srpska (OG 114/23)
Rulebook on Positions and Workplaces for Priority Employment of Disabled Persons (OG 61/12)
Rulebook on monitoring of Employment of Disabled Persons (OG 23/05)
Rulebook on the list of professional illnesses (OG 84/18)
Rulebook on the list of physical injuries (OG 84/18)
Rulebook on risk assessment at the workplace and in the working environment (OG 66/08)
Rulebook on the procedure and deadlines for preventive and periodic inspections and tests of work equipment and preventive and periodic tests of working environment conditions (OG 68/08)
Regulations on the content and method of issuing reports on work-related injuries, occupational diseases and work-related diseases (OG 68/08)
Regulations on previous and periodic medical examinations of workers at workplaces with increased risk
Rulebook on Work Licensing (OG 20/24)
Rulebook on professional examination in the field of occupational safety (OG 70/08, 78/15)
Rulebook on the procedure for determining the fulfillment of prescribed conditions in the field of occupational health and safety (OG 53/12)</td></tr>
</table>

- Rulebook on measures to prevent and reduce air pollution and improve air quality (OG 3/15, 51/15, 47/16, 16/19)
- Rulebook on the Procedure for Reviewing and Renewing Environmental Permits (OG 104/17)
- Decision on single charges for environmental pollution for motor vehicles (OG 116/18, 119/18)
- Rulebook on limit and remediation values of polluting, harmful and dangerous substances in the soil (OG 82/21)
- Rulebook on the content of the remediation and recultivation project (OG 97/20)
- Regulation on dealing with substances that damage the ozone layer and substitute substances (OG 66/20)
- Rulebook on the conditions for issuing a permit for air quality monitoring (OG 3/18)
- Regulation on air quality parameters (OG 124/12)
- Regulation on conditions for air quality monitoring (OG 124/12)
- Rulebook on facilities that can be built and put into operation only if they have an environmental permit (OG 124/12)
- Rulebook on projects for which environmental impact assessment is carried out and criteria for deciding on the obligation to carry out and scope of environmental impact assessment (OG 124/12)
- Instructions on the content of the environmental impact study (OG 108/13)
- Rulebook on activities and methods of developing the best available techniques (OG 108/13)
- Rulebook on criteria for deciding on the need to conduct a strategic environmental impact assessment (OG 28/13)
- Rulebook on the content of the strategic environmental impact assessment report (OG 28/13)
- Regulations on the method and procedure of training workers for safe and healthy work (OG 70/08 and 78/15)
- Rulebook on preventive measures for safe and healthy work at the workplace (OG 42/11)
- Regulations on preventive measures for safe and healthy work when using means and equipment for personal protection at work (OG 79/11)
- Regulation on preventive measures for safe and healthy work during manual load transfer (OG 30/12)
- Rulebook on preventive measures for safe and healthy work when exposed to noise (OG 79/13)
- Regulation on preventive measures for safe and healthy work when exposed to vibrations (OG 03/18)
- Rulebook on preventive measures for safe and healthy work when using work equipment (OG 53/12)
- Rulebook on occupational safety when loading cargo into motor vehicles and unloading cargo from such vehicles (OG SFRY 17/16)
- Rulebook on technical norms for handling explosives and blasting in mining (OG SFRY 26/88, 63/88)
- Rulebook on occupational safety when using electricity (OG SFRY 34/88)
- Rulebook on providing first aid in case of injuries and illnesses of workers at work (OG SFRY 38/86)
- Instructions on the procedure for supervising the application of regulations in the field of occupational safety during the construction of tunnels (OG SFRY 65/91)
- Regulation on technical standards for cranes (OG SFRY 28/88)

• Rulebook on the emission of volatile organic compounds (OG 39/05) • Rulebook on the system of monitoring the deliberate keeping and killing of protected animals (OG 85/05) • Rulebook on the method of establishing and managing the information system for nature protection and the monitoring system (OG 85/05) • Rulebook on the methodology and manner of keeping the register of facilities and polluters (OG 92/07)	

10.18 Annex 15 - Grievance Redress Form

SUSTAINABLE, INTEGRATED AND SAFE ROAD PROJECT

Project Grievance Form

Designation (entered by the Project Implementation Unit)	
First name and Surname (not obligatory) ▪ I would like to lodge a complaint anonymously. ▪ Please do not disclose my identity without my consent.	
Contact data Signify the desired manner of contact (by mail, by telephone, by email).	• By mail: *Provide an address for mail delivery:* • _____ • _____ • _____ • By telephone: _____ • By email: _____
Description of event to which the complaint relates	What occurred? Where did it happen? To which person did it happen? What came out as a consequence of the problem?
Date of the event / complaint	
	• Event that occurred once/complaint (date _____) • It occurred more than once (how many times? __) • Ongoing (a problem that currently exists)
What would you want to be undertaken?	

Signature: _____ Date:
_____

Please send this Form to the following address:

Attention, Attention: Branka Đukić – Social Specialist at PIU in Putevi RS, Putevi RS

Address: Trg Republike
Srpske 8, Banja Luka

Phone: +387 051/334-500

Fax: +387 051/334-545

E-mail: info@putevirs.com