



Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Bridge Branch
Notice No. 04/BIMP/2079/80

REQUEST FOR EXPRESSION OF INTEREST (REOI)

Date of first publication: 2023/04/04 AD (2079/12/21 BS)

Name of project: Second Bridges Improvement and Maintenance Program (BIMP II)

IDA Credit No.: 6317-NP

Assignment Title: Environmental and Social Screening of Chandrta - Gaddachauki Road section including Bridges of East-West Highway (Mahendra Highway) and Environmental and Social Impact Assessment (ESIA) of selected priority subsection/s within Chandrta - Gaddachauki Road and Bridges of East-West Highway (Mahendra Highway) including Environmental and Social Plans and Cumulative Impact Assessment

Reference No. (as per procurement Plan): NP-DOR-BIMP-II-CS-QCBS-ESIA-02

The Government of Nepal has received financing from the World Bank toward the cost of the **Second Bridges Improvement and Maintenance Program (BIMP II)** and intends to apply part of the proceeds for consulting services. The main objective of the consulting services (the Services) is to Environmental and Social Screening of Chandrta - Gaddachauki Road section including Bridges of East-West Highway (Mahendra Highway) and Environmental and Social Impact Assessment (ESIA) of selected priority subsection/s within Chandrta - Gaddachauki Road and Bridges of East-West Highway (Mahendra Highway) including Environmental and Social Plans and Cumulative Impact Assessment. The specific objectives:

- Conduct an Environmental and Social Impact Assessment (ESIA) and prepare an ESIA and Environment and Social Management Plan (ESMP) report in accordance with the World Bank Environmental and Social Framework (ESF);
- Prepare a stand-alone Biodiversity Assessment that includes a critical habitat assessment following the criteria in ESS6 and IFC PS6 threshold;
- Prepare a Resettlement Action Plan in accordance with WB ESS5 and Resettlement Framework (RF) for the project;
- Prepare an Indigenous Peoples Development Plan in accordance with WB ESS7 and in accordance with the Indigenous Peoples Policy Framework (IPPF) for the project.

Terms of Reference (ToR) is available in the website of the Department of Roads: <https://dor.gov.np/home/notices>

Anticipated date for commencement of the services is August 2023 and the tentative duration of the assignment is about **10 months**.

Second Bridges Improvement and Maintenance Program (BIMP II), Bridge Branch, Department of Roads under the Ministry of Physical Infrastructure and Transport now invites eligible International Consulting firms ("Consultants") to indicate their interest in providing the services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the services. The short listing criteria are:

- Business objective and years in business (minimum 5 years)
- Organizational capability of the firm for the assignment
- General Experience of the Firm
- Specific Experience relevant to the assignment.

The attention of interested Consultants is drawn to paragraphs 3.14, 3.16, 3.17 of the World Bank's Procurement Regulations for IPF Borrowers, dated July 2016, revised November 2020 ("Procurement Regulations") setting forth the World Bank's policy on conflict of interest.

A consultant will be selected in accordance with the Quality and Cost Based Selection (QCBS) method set out in the Procurement Regulations. It is intended that short listed consultants will be invited to submit their technical and financial proposal as per the Request for Proposal document to be issued to them.

Consultants may associate with other firms in the form of a joint venture or a sub-consultancy to enhance their qualification. Consultants shall clearly state their association if any whether in the form of joint venture or sub consultancy in the Expression.

Interested Consultant may obtain further information about the service from the address given below during office hour.

Expression of interest must be delivered in written form to the address below (in person, or by mail, or by e-mail) by **April 17, 2023 AD (2080/01/04)** within office working hour.

Second Bridges Improvement and Maintenance Program (BIMP II), Bridge Branch, Department of Roads, Chakupat, Lalitpur, Nepal, Tel: +977-1-5520107; Email: infobbpcu@gmail.com

**Terms of Reference
for
Environmental and Social Screening of Chandrauta - Gaddachauki Road
section including Bridges of East-West Highway (Mahendra Highway) and
Environmental and Social Impact Assessment (ESIA) of selected priority
subsection/s within Chandrauta - Gaddachauki Road and Bridges of East-
West Highway (Mahendra Highway) including Environmental and Social
Plans and Cumulative Impact Assessment**

UNDER
Second Bridges Improvement and Maintenance Program (BIMP-II)

Department of Roads
Kathmandu, Nepal

Date:

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ABBREVIATION

BIMP- II	Second Bridges Improvement and Maintenance Program
BMP	Biodiversity Management Plan
BES	Brief Environmental Study
CG	Chandrauta - Gaddhachauki
CIA	Cumulative Impact Assessment
CFUGs	Community Forest User Groups
CHMP	Cultural Heritage Management Plan
DOR	Department of Roads
DCID	Development Cooperation Implementation Division
DSC	Design and Supervision Consultant
DPR	Detailed Project Report
DPs	Displaced Persons
ESIA	Environmental and Social Impact Assessment
E&S	Environmental and Social
ESSs	Environmental and Social Standards
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
EWB	East West Highway
ESMP	Environmental and Social Management Plan
EPA	Environmental Protection Act
EPR	Environmental Protection Rule
EHS	Environmental Health and Safety
ESSs	Environmental and Social Standards
FPIC	Free, Prior and Informed Consent
FECOFUN	Federation of community Forestry Users Nepal
FGD	Focus Group Discussion
GoN	Government of Nepal
GBV	Gender Based Violence Risk Mitigation Plan
IDA	International Development Association

IUCN	International Union for Conservation of Nature
IP	Indigenous Peoples
IPDP	Indigenous Peoples Development Plan
IFC	International Finance Corporation
KDP	Kamala- Dhalkebar-Pathlaiya
NGOs	Non-Governmental Organization
INGOs	International non-governmental organizations
NDRRMA	National Disaster Risk Reduction and Management Authority
NTNC	National Trust for Nature Conservation
RoW	Right of way
RAP	Resettlement Action Plan
RP	Resettlement Plan
SIA	Social Impact Assessment
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SS-EMAP	Site Specific Environmental Management Action Plan
ToRs	Term of References
VECs	Valued-Environmental Components
WB	World Bank
WBG	World Bank Guideline
WWF	World Wildlife Federation

1. Background

The Government of Nepal (the Government) is implementing Second Bridges Improvement and Maintenance Program (BIMP- II) under International Development Association (IDA) credit support from World Bank. The objective of BIMP -II is to provide safe, resilient, and cost-effective bridges on the Strategic Roads Network of Nepal. One of the project components of BIMP - II operation is to acquire consultancy support for institutional development to Department of Roads (DOR) to prepare potential future projects for improvement of the Strategic Roads Network, such as, including but not limited to, preparation of baseline assessments, engineering studies, feasibility studies, environmental and social impact assessments and technical designs.

The Government is committed to upgrade the entire East-West Highway (Mahendra Highway) from existing two-lane road to four-lane standard in order to enhance road capacity and efficiency along the highway corridor. The East-West Highway is the major strategic road of the country running from east (Kakarbhitta) to west (Gaddhachauki) side of the entire country with length of 1027 km. The upgrading to four-lane standards from Kakarbhitta to Chandrouta (653 km) section are currently in different stages ranging from project preparation, detail design through to construction. The remaining section is approximately 375 km from Chandrouta to Gaddhachauki (CG).

The Government of Nepal, Department of Roads (DoR), intends to upgrade the CG Section (375 km) of East-West Highway from existing 2-lane to 4-lane standards (including roads and bridges along this section) **to build a more climate-resilient, safe, cost effective, environmentally friendly and inclusive road transport infrastructure**. The DoR, under the financing of BIMP- II, intends to procure consulting services for conducting Environmental and Social Impact Assessment (ESIA) of **Chandrouta-Gaddachauki Section** (375 Km) of East-West Highway and comprehensive Environmental and Social Plans of selected priority subsection/s within the CG Section.

The existing road from Chandrouta to Gaddachauki is 375 km in length comprising of bituminous surfaced two-lanes and shoulders. The route has 210 no. bridges (117 minor, 92 major and 1 Signature type). The road surface generally has good riding quality. As per the record in Department of Roads (DOR) Bridge Management System (BMS); the condition of 1 no. (1227.95m) bridge are in good condition; 77 no. (1,099.45m) in fair condition, 84 no. (1212.4m) in poor condition and 4 no (42.933m) bridges are in critical condition. The road section passes through the national park / buffer zones including Banke National Park, Bardiya National Park and Shukla Phanta National Park as well as biological corridor and forest areas. The road section passes through the following junctions/ intersections/ places: Chandrouta, Dhankhola, Bhaluwang, Lamahi, Ameliya, Shivakhola, Kohalpur, Ramapur, Muda, Syauli Bajar, Attariya, Sama Daiji, Mahendranagar and Gaddachauki.

Feasibility Study of improvement of the CG Section and Detail Design of the selected priority road sub-section within CG Section will be carried out through a separate consulting services contract.

The Design Consultant (DC) and the ESIA Consultant are required to coordinate with each other sharing information and findings and insight. The ESIA Consultant is expected to collaborate, share information and coordinate with the *DC* to ensure that the specific findings from ESIA are taken into account by the feasibility study and detail design study. The goal of the coordination is to ensure that environmental and social issues are timely and appropriately factored into decisions about the scope of improvement works and their plan and designs, so as to avoid and/or minimize negative impacts and maximize positive impacts, as well as to make sure that the environmental and social assessments are based on relevant and current information about the proposed works and their designs.

It is necessary to ensure that the specific findings and recommendations of the ESIA, Environmental and Social Management Plan (ESMP), Social Action Plan (SAP), Resettlement Action Plan (RAP), Indigenous People Development Plan (IPDP), and any other environmental and social plan/ actions are integrated into the planning and decision processes, and are included in bid documents and Bill of Quantities (BoQs), etc.

2. Project Description

The **Chandrauta- Gaddachauki** (CG) road passes through Kapilvastu, Arghakhanchi, Dang, Banke, Bardiya, Kailali and Kanchanpur districts of Lumbini province and Far western province and having road length of 375 km. The existing Right of Way (RoW) is 25m on either side of road center line and the pavement surface is bituminous. The road passes through three major national parks or their buffer zones namely (i) Banke National Park (ii) Bardiya National Park and (iii) Shukla Phanta National Park as well as biological corridor and forests.

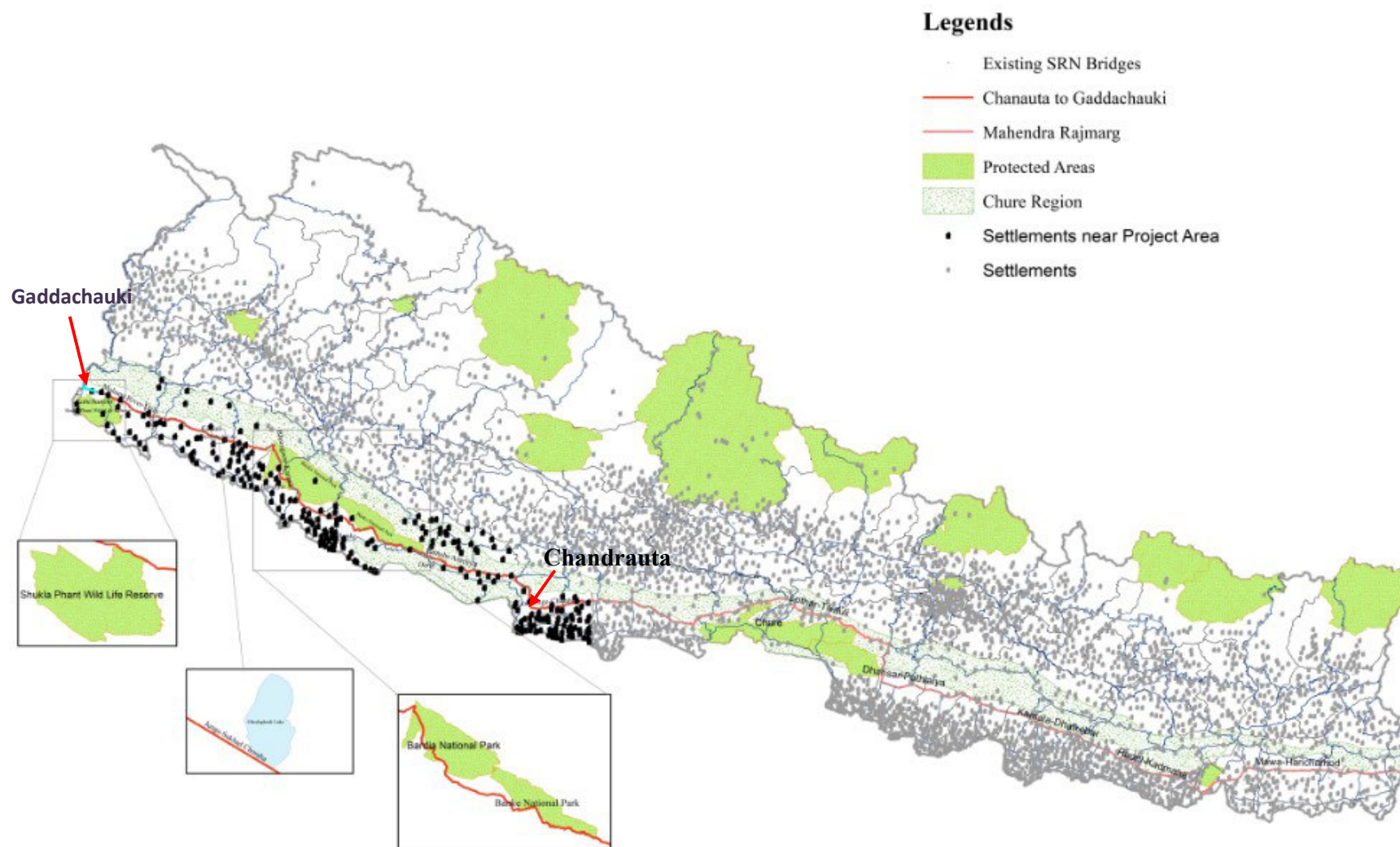


Figure1: Project Alignment Map of Chandrauta- Gaddachauki road Section

The major river covers Rapti, Babai, Karnali, Khutia, Manhara, Banara etc. The major forest species are Sal (*Shorea robusta*), Asna (*Terminalia alata*), Khair (*Acacia catechu*) and Sisso (*Dalbergia sissoo*). Tropical climate is most dominant along the periphery of the alignment. Besides, there are holy places/ cultural sites at the peripheral areas of the proposed section. The Ghodaghodi Tal, which is recognized as one of the Nine Ramsar sites of Nepal lies between Bardaiya National Park and Sukla Phanta National Park close to the CG Section of the East-West Highway.

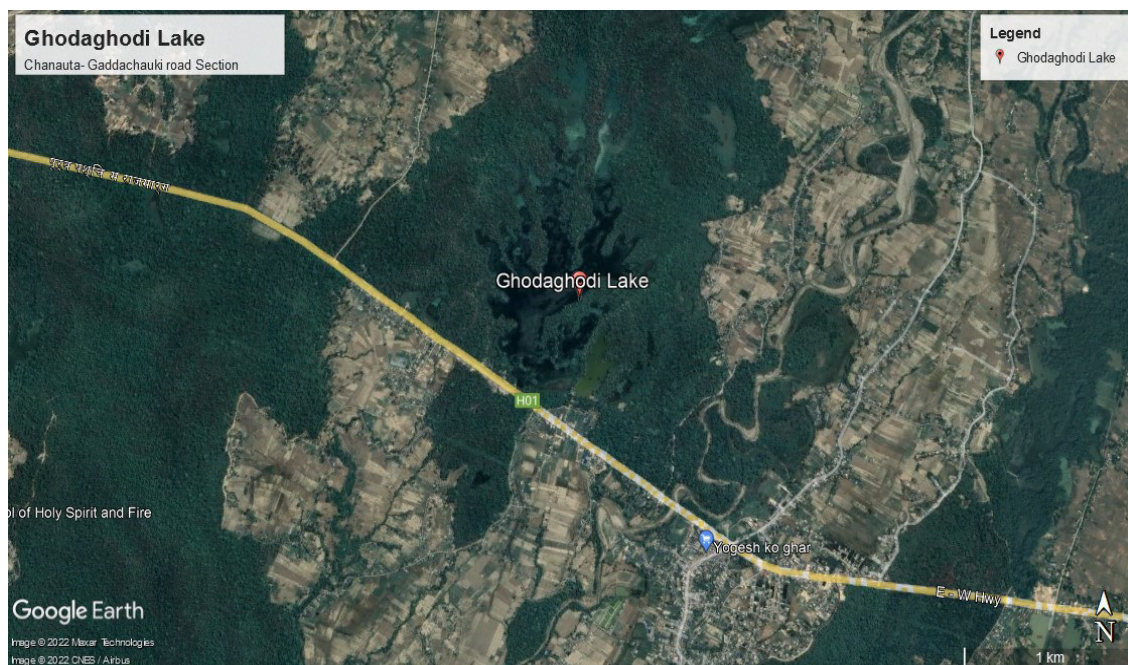


Figure 2: Google image of Ghodaghodi Tal along CG road section

Topographically, the CG Section is located in the Terai, a plain area, immediately south of the Churia/ Bhabhar zones. Some subsections near or within Churia/ Bhabhar zones may include geologically and hydrologically vulnerable zones including landslides/ soil erosion and flood prone zones, and areas under human pressures. This corridor crosses a number of streams and rivers many of which are characterized by significant flash floods during the Monsoon rainy season (June-August). These floods inflict significant damages each year, bring huge amount of debris/ sand/ gravel, cause erosion of riverbanks & inundation of settlements/ agricultural lands etc and also poses risks to road and bridges. During monsoon rainy season, the terai area including the East-West Highway corridor and its vicinity also faces water drainage problems, causing waterlogging & ponding (which also create breeding places for water borne disease vectors). The presence of the highway has also attracted land clearing and settlements along its right of way (RoW). The study should cover directly-affected populations including as those who need to be physically or economically displaced from within the RoW, people who make their livelihoods around the project site, and people affected by the construction. Over the past few decades, several settlements have developed haphazardly and grown rapidly all along the highway corridor. These settlements are both urban and rural with significant socio-economic activities in the

urban towns of Lamahi, Kohalpur, Basgadhi, Barbardiya, Thakurbaba, Lamkichaha, Gaurigang, Krishnapur, Bhimdatta and thus presents the potential for economic displacements when the road is considered for expansion from 2 to 4 lanes. The ESIA will include a detailed social impact assessment (SIA), and determine land requirements for the proposed project and related physical and economic displacements.

3. Environment and Social Impact Assessment (ESIA):

It has been noted in the previous paragraphs that the proposed upgrading of the CG Section of the E-W Highway includes widening from existing 2-lane to 4-lane standards as well as construction and replacement of bridges. The CG Section traverse through protected areas, biological corridor, forests, agricultural land, settlements, commercial and cultivating area, landslides/ soil erosion and flood prone spots. The construction and improvement activities of roads and bridges in the proposed sections are likely to have several environmental and social risks, impacts, concerns/issues. As per Word Bank Environmental and Social Framework (ESF), this is an operation with **High** environmental and social risk.

Improvement of the CG Section is proposed to follow programmatic and phased approach, by bringing the whole CG Section into one program of improvement but carrying out detailed preparation and implementation in various sections in a phased manner over a period. The feasibility study will be conducted by a separate Design Consultant (DC). The feasibility study, among other things, will prioritize and define sequence for improving subsections within the CG Section. The DC will prepare detailed plans and designs of the improvements including Detailed Project Report (DPR) for the selected priority subsections (the priority sections will be selected on the basis of the feasibility study).

The ESIA will be conducted by an independent consultant. The processes and stages of ESIA will be aligned with the phased approach of feasibility study of whole CG Section and DPR of selected priority subsections. Hence, the ESIA stages and processes will align with the technical feasibility study and Detailed Design including preparation of DPR as follows:

ESIA Stage and process	Technical Stage and Process
• Screening • Scoping • E&S initial baseline assessment for the CG Section (detailed baseline assessment to be done for the priority section as part of detailed ESIA) • Preparation of ToRs for E&S instruments (for detailed and specific assessments) • Confirm CIA's Scope, ToR, VECs, and detailed methodology including preliminary CIA. The CIA will review, build and expand	During Feasibility Study of the CG Section

on the currently ongoing CIA for the EWH ¹ and also benefit from the ongoing ESIA of KDP ² Road.	
- Detailed ESIA/SIA and ESMP, RAP, IPDP, and Biodiversity Assessment as required and confirmed by the Screening and Scoping exercises. (for the selected priority subsection only) - CIA for the whole CG Section	- During detailed technical design and preparation of DPR of the selected priority subsections of which DPR will be prepared. - During DPR, building on the preliminary CIA undertaken earlier.

4. Objective of ESIA Consulting Service

The overall objectives of the consulting services (the Services) is to carryout Environmental and Social Impact Assessment (ESIA) including Screening, Scoping, Biodiversity and Critical Habitats Assessment, Resettlement Action Plan (RAP), Indigenous Peoples Development Plan (IPDP), and Cumulative Impact Assessment (CIA) of the **Chandrauta-Gaddachauki** road section and selected priority subsections as shown in Table-1 below:

Table 1: Over all objectives of the Assignment

S.N	Description	Length	Lane
1	Carry out environmental and social screening, scoping and initial baseline assessment as well as identification of VECs and scope of the Cumulative Impact Assessment (CIA) of the Chandrauta- Gaddachauki (CG) Road Section with associated Bridges. CIA will review, build and expand on the currently ongoing CIA for the EWH and also benefit from the ongoing ESIA of KDP Road to avoid duplication and create synergy.	375 Km Road Section including 210 Bridges. As explained in the previous table, Preliminary CIA will be prepared in parallel with feasibility study, and full CIA aligning with the timeline of DPR and ESIA.	4
2	Carry out Environment and Social Impact Assessment Study (ESIA) including detailed baseline assessment, Biodiversity and Critical Habitats Assessment, preparation of ESMP, RAP and IPDP of selected priority subsections within Chandrauta- Gaddachauki (CG) Section with associated Bridges. The priority subsections will	About 80 Km priority section of Road	4

¹ This is ongoing under the Consultancy Services for Green and Resilient Strategy for Nepal's Selected Highway Corridors

² Consultancy Service for Environment and Social Impact Assessment Study (ESIA) of the Kamala- Dhalkebar-Pathlaiya (KDP) Section with associated Bridges of the Mahendra Highway

	be identified by the feasibility study. The ESIA will focus on the selected priority subsection, will be detailed and site specific to the extent possible, and build on and guided by the findings, analysis and recommendations of the screening and scoping exercises.		
3.	Prepare reports regarding Environment and Social Impact Assessment (ESIA), CIA, SIA, Biodiversity and Critical Habitats Assessment and Management Plan, Gender Based Violence Risk Mitigation Plan (GBV) in relation to Construction and Labor Influx, Resettlement Action Plan (RAP) and IPDP for approval by WB in accordance with World Bank's Environmental and Social Framework (ESF) as well as to prepare reports/ environmental and social documents as per the EPA, EPR and other acts and rules of Nepal for the selected priority section (about 80 km) of the highway of which detailed engineering design including DPR will be prepared.		

The objective of the ESIA is to conduct and complete environmental and social impact assessment with associated environmental and social management plans, as well as cumulative impact assessment in accordance with relevant environmental and social laws and policies of the Government of Nepal (GoN) and the Environmental and Social Framework (ESF) and Environmental and Social Standards (ESSs) of the World Bank as well as WBG EHS Guidelines. Specific objectives of the consultancy include.

- To carry out site investigations to collect primary data and review all available relevant secondary data to establish a comprehensive environmental and social baseline (including physical, biological, social, cultural and economic environments) for the Project Area of Influence.
- To screen, identify and assess potential positive and adverse environmental and social impacts, including direct, indirect, and induced and environmental and social impacts associated with all Project activities, as well as cumulative impacts of the Project when taken together with impacts associated with other similar activities planned or underway in the area. This will include determining land acquisition requirements for the project and related physical and economic displacements.
- To develop proposed measures, following mitigation hierarchy, to avoid, reduce, mitigate, manage and/or compensate for such impacts, including the institutional arrangements and required capacity building to implement all such measures and monitor their effectiveness.

- To identify potential opportunities and design appropriate measures to maximize complementary economic, financial, environmental and social benefits of the Project.
- To ensure that all affected people receive assistance to enable them to improve or retain their living standards and be able to participate and share the benefits of the development.
- To ensure that impacts on vulnerable and indigenous communities are avoided, minimized, mitigated and/or compensated, and that mechanisms are designed to ensure their meaningful participation during planning and implementation, and that they receive culturally appropriate benefits under the Project.
- To conduct a stakeholder consultation process that ensures that Project affected people and other stakeholders are informed about the Project and its possible impacts, as well as offered the opportunity to share their opinions and feedback so as to input into these environmental and social assessment, planning and design studies and their implementation. Through this process, to confirm that the Project enjoys broad support from indigenous and local communities and stakeholders through free, prior and informed consultation.
- To document all of the above mitigation and development interventions in appropriate forms and formats to be further discussed and agreed upon with DoR and in line with World Bank ESF and ESSs as well as WBG EHS Guidelines.
- To prepare environmental and social documents and reports to meet World Bank's requirements and Government of Nepal's requirements. This assignment is considered complete only upon approval of the EIA report from the Ministry of Forests and Environment (MoFE) and clearance of the final versions of the required environmental and social assessment and planning documents from the World Bank

The Consultant shall ensure that the environmental and social assessment, planning and design outputs of this assignment will comply with and meet the legal and technical requirements of the Government of Nepal including EPA/ EPR and DoR's Environment and Social Management Framework (ESMF 2007/ bridge addendum 2013) as well as World Bank Environmental and Social Framework (ESF) and Environmental and Social Standards (ESSs) as applicable. The ESSs that may be applicable in this project includes ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS7, ESS 8 and ESS10.

It is emphasized that considering the environmental and social risks, the ESIA shall be prepared by an independent consultant that has no conflict of interest resulting from having been the lead consultant and/or member of a consortium or joint venture responsible for undertaking the feasibility and detailed design studies for the project.

During the Screening and Scoping, an Initial Baseline Assessment will be carried out for the whole CG Section (375 km including 210 bridges) which will identify and assess potential risks and impacts, conduct preliminary assessment of cumulative impacts including identification Valued-Environmental Components (VECs) and preparing detailed methodology for the CIA. The CIA will build and expand on the currently ongoing CIA for

the EWH under the Consultancy Services for Green and Resilient Strategy for Nepal's Selected Highway Corridors. The CIA will also benefit from the ongoing ESIA of KDP Road Consultancy Service for Environment and Social Impact Assessment Study (ESIA) of the Kamala- Dhalkebar-Pathlaiya (KDP) Section with associated Bridges of the Mahendra Highway scope of which includes CIA of the KDP Section of the EWH. The screening and scoping will define/ confirm requirements and provide detailed and comprehensive guidance for next steps in the assessment of, and for preparing detailed environmental and social instruments/ documents for selected priority subsections. The ESIA will focus on the selected priority subsection(s) and will be more detailed and specific to activities and sites in the priority section. Hence, separate ESIA's will be prepared for different priority subsection, in a phased manner consistent with technical feasibility and detail design of the relevant subsections. The priority subsection specific environmental and social instruments/ documents may include ESIA and ESMP, SIA, as well as documents required by the Nepal's acts and regulations (e.g. EIA, IEE, BES etc.). Cumulative Impact Assessment (CIA) of the CG Section (about 375 km) will be completed building on the preliminary assessment carried out and methodology detailed during the screening and scoping processes.

The ESIA consultant shall coordinate with other consulting teams separately contracted for carrying out the feasibility and Detailed Design of up-gradation of the same section of the highway and bridges. The goal of the coordination is to ensure that there is information sharing and crossbreeding of technical plan/ designs and environmental & social assessments and mitigations, early project information as well as environmental and social concerns are appropriately disclosed to the local communities; provide avenues for uptake and redress of their concerns; and ensure inclusive project design. Consultant shall identify and consult with appropriate stakeholders and competent authorities throughout the ESIA processes. It is necessary to ensure that the specific findings and recommendations of the ESIA including CIA, Environmental Management Plan, and any other environmental and social plan/ actions are fully integrated into the detailed design process, and are fully coasted and included in bid documents and Bill of Quantities (BoQs), etc.

5. Scope of ESIA Consulting Service

Broadly, the scope of work for ESIA includes activities for completing Environmental and Social Screening & Scoping, Baseline Assessment and Cumulative Impact Assessment (CIA) for the entire 375Km Chandrouta-Gaddhachowki (CG) Section and Environmental and Social Impact Assessment (ESIA) of about 80 km priority subsection(s) within the CG Section in relation to proposed up-gradation of CG section of the East-West Highway from existing 2-lane to 4-lane carriageway including roads and bridges. Necessary environmental and social reports as required by the World Bank's ESF and ESSs as well as by the government acts and regulations will be prepared. The assessments and reports will cover all environmentally- and socially sensitive areas within the influence area; Land acquisition and resettlement, focusing on land requirements for the project and its potential impact.

5.1 Environmental and Social Screening and Scoping

The Environmental and Social Screening and Scoping exercise will focus on understanding the key environmental and social sensitivities in the project influence area, and identifying likely/ potential environmental and social impacts (i.e., land acquisition, physical and economic displacements, sexual exploitation and abuse/sexual harassment, construction jobs, and other positive externalities) which should be taken into account as detailed planning gets underway and as activity specific ESIA and ESMP processes are carried out for specific works on the selected priority subsections. This exercise will inform the feasibility study on the environmental and social sensitivities and contribute to the alternative analysis by providing insights and information related to potential environmental and social impacts. In the cases where technical design is underway the potential environmental concern/risks also need to be assessed considering alternative design options. The environmentally- and socially sensitive areas for the entire CG Section include Banke, Bardiya and Sukla Phanta National Parks and Buffer Zones, Ghodaghodi Tal (Ramsar Site) and different types of forests and wetlands recognized internationally as key biodiversity areas. The scoping exercise will provide initial ideas around land requirements for expansion of the road, current population activities along the RoW, and related risks and impacts. Also areas with significant risks of disaster such as from landslides and flood etc needs to be particularly considered.

The screening and scoping stage activities will include environmental and social baseline analysis of the project influence area. The baseline will be analyzed based on secondary information, reconnaissance visits and rapid survey, interviews to relevant specialists and consultations with stakeholder, etc. This will result in the high-level characterization of the full project area of influence and identification of environmental or social sensitive areas and key issues to be focused on the environmental and social impact assessment. Field reconnaissance visit and rapid assessment will be important element of screening and scoping in addition to secondary data collection and analysis. As per when required additional fieldwork and secondary source information review would be required to complete the baseline analysis as well as screening and scoping.

The baseline assessment covers the full project area of influence, in the CG sections considering alternatives under consideration, bridges as well as considering Cumulative Impact Assessment.

The Screening and Scoping Exercise will define the scope and collect baseline information for CIA including potential VECs, and detailed methodology for CIA tailored to the CG Section.

Therefore, the screening and scoping exercise will include screening, field visit and consultations, baseline assessment of physical, biological, cultural and socio-economic and socio-environmental conditions along the whole CG Section and surrounding areas, Screening and Scoping stage alternatives analysis, identification of potential impacts and sites of concerns that detailed feasibility and technical assessment/ design need to consider as well as CIA scoping, baseline, VECs and detailed and tailored methodology for CIA for the CG Section, and detailed specification of next steps and requirements to complete the assessment for all project activities.

More specifically, the consultant, as part of Screening and Scoping Exercise, shall complete the following tasks:

A. Screening and Scoping, including TOR-stage consultations

The process of screening and scoping shall consist of the following steps:

- a. **Literature review:** Review of published and unpublished readily available relevant information. The potential sources of information include, but are not limited to; topographical maps, Department of National Parks & Wildlife Conservation and respective warden offices, including Management Plans, IBAT reports, Ramsar sites and other wetlands, biological corridors e.g. Basanta Corridor, President's Chure-Tarai Madhesh Conservation, IUCN Red List Data, Nepal national Red List Data, Terai Arc Landscape documents, Department of Forests & Soil Conservation, Forest Research and Training Centre, Divisional Forest Offices, NGOs & INGOs including IUCN and WWF, FECOFUN, Department of Hydrology and Meteorology, Department of Water Resources and Irrigation, Department of Geology & Mines, satellite images including google image, etc. The consultant shall review available national or provincial database on cultural heritage and consult local authorities on availability and locations of sensitive cultural artifacts and heritage sites.
- b. **Consultation, and discussion:** The ESIA team shall consult with different stakeholders i.e groups and communities, especially households that are likely to be affected adversely by proposed road widening, local government/municipalities as well as branch/division/unit/regional offices and DRO of the Department of Road, Forest Offices, CFUGs, Protected Area and conservation authority (National Parks and Wildlife Conservation/ Wetland/ Lakes), local bodies along the corridors, heads of schools, hospitals, Guthis, local/national and international NGOs (including conservation NGOs) active in the project area, and other concerned agencies to get information about the project site and associated issues in relation to the proposed project. The consultation will be organized on the ESIA ToR, as well as a draft ESIA Report. Adequate evidence and records of consultation should be included in the final ESIA report.
- c. **Preparation of checklist:** An information collection checklist/guideline for field work on Screening and Scoping for stakeholder consultation, and relevant planning will have to be prepared based on literature review and consultation and discussion.
- d. **Site visit, drive/Walk-through survey:** The Screening and Scoping team will drive/walk through the CG Corridors, known bridge locations and other potential improvements, carry out site visits to the key sections and sites with potential of having significant environmental and social features and/ or concerns, and collect necessary information through observation and discussion with the local stakeholders as well as by conducting a site visit in surrounding locations/settlements/market area, etc. This survey will also note areas where additional fieldwork and data collection will be required for the baseline assessment (e.g. environmentally or socially sensitive

areas), and will also identify the potential issues and verify local stakeholders (groups, communities, local government, offices, etc.) for consultations at a later stage. The site visits will collect and review primary and secondary data to establish a comprehensive environmental baseline (including physical, biological, social, cultural and economic environments) for the Project Area of Influence including information needed for CIA.

- e. **Focus Group Discussion (FGD):** The team will also conduct consultation with concerned stakeholders, the local communities and organize FGD at different locations along with the CG corridor and bridge locations. The FGD will discuss about the issues related to environmental and social sensitivity and concern in the area, the importance of environmental/social features located in the area, present status, likely problems or difficulties that may emerge due to the proposed project. FGD meeting minutes comprising of key issues discussed and potential or agreed mitigation measures/actions should be included with their view and suggestion in the annex. Some of the key stakeholders relevant or consultations also include; Department of Roads, Geo-Environment and Social Unit (GESU), Development Cooperation Implementation Division (DCID), Bridge Branch, Division Road Office, Divisional Forest Offices, Community Forest Groups, local Traffic Police, National Parks and Wildlife offices (Banke National Park, Bardiya National Park, and Sukla Phanta National Parks), representatives of local bodies, local communities and I/NGOs (e.g. WWF, IUCN, etc) active/ working around the CG Section. Separate FGDs for women must be held to determine the gender implications of the proposed project, focusing on adverse impacts and economic opportunities.
- f. **Briefing and debriefing meeting:** The Screening and Scoping team will organize an initial briefing meeting prior to the field visit and a debriefing meeting after the field visit at DoR. The initial briefing meeting will be based on a desk review of initial information about the potential environmental features and social issues of significant importance, existing problems, and potential impact of proposed improvements in the CG Section as well as interactions/ consultations with central stakeholders (e.g. Department of National Park & Wildlife Conservation, IUCN, WWF, Federation of Community Forest Users Group, NDRRMA, NTNC, President Chure-Tarai Conservation Program, Department of Hydrology & Meteorology, Department of Water Resources & Irrigation, Water-Induced Disaster Prevention Centre, Department of Mines & Geology, tc). The debriefing will discuss the team's findings from the screening and scoping stage including preliminary assessment of potential impacts and mitigation, and enhancement measures of biological, physical, socio-economic, and cultural environment based on the information obtained from screening and scoping stage field visit and consultations with different stakeholders.

B. Environmental and Social Baseline

Building on the screening/scoping stage field reconnaissance, rapid assessment and secondary data collection and analysis, carry out additional fieldwork and secondary source information review as required completing the baseline assessment for the full project area of influence, in the CG sections considering alternatives under consideration, bridges as well as considering Cumulative Impact Assessment. The baseline should provide a high-level characterization of the full project area of influence and focus more extensively on identified areas of particular environmental or social sensitivity. The baseline information and assessment shall be presented in two categories: (a) relevant for the ESIA, and (b) relevant for CIA.

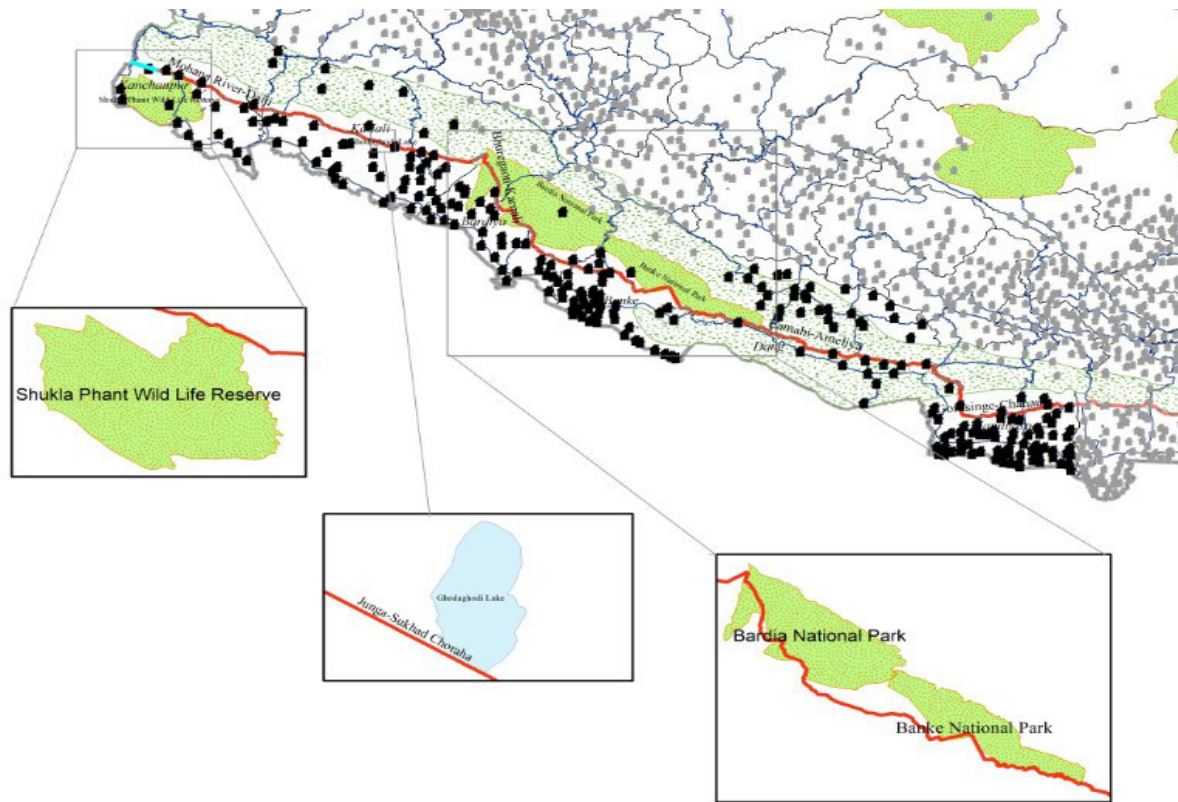
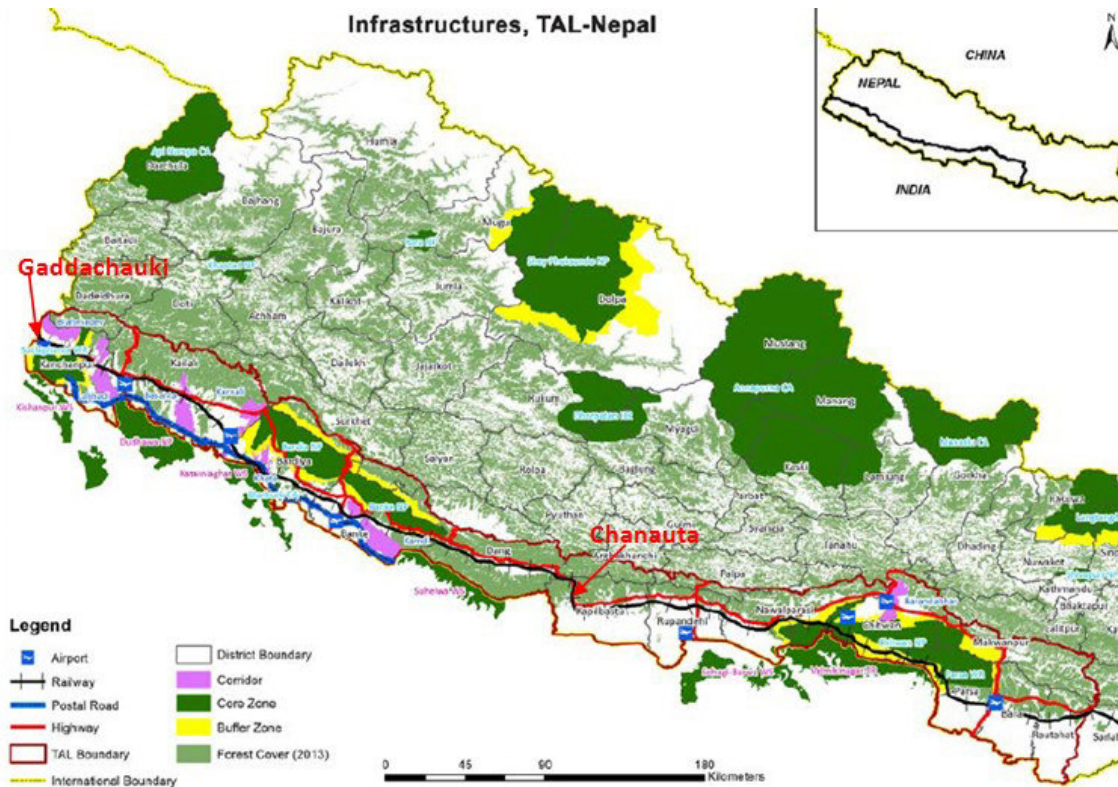


Figure 3: Map showing the National Parks, Wetlands of C-G Section of the E-W Highway



Source: Strategy and Action Plan 2015-2025, TAL, Nepal

Figure 4: Map showing animal corridor, forest cover, rivers along E-W highway of C-G section

The baseline may be further updated, as required, in the processes completing the ESIA. The baseline should cover, inter alia:

- the biological, physical, socio-economic, and cultural context of CG Section/ influence area (road and bridges)
- Identify potential zone of influence of road and bridges corridor (with map)
- Identify locations/areas of protected part of highway corridor
- Confirm existing and identify additional wildlife movement corridors in the proximity of highway corridor, also to identify locations where corridors intersect the of highway corridor with emphasis on the actual and potential wildlife species, numbers and frequency of use of crossing. Identification of wildlife crossings will require consolidation from multiple data sources including literature review, field observation and road kill monitoring, habitat assessment, consultation with conservation managers and data modeling.
- Identify the potential areas or zone of significance for aquatic biodiversity (eg, Rapti River, Babai River/Bridge, Karnali River/bridge etc) and potential water sources (wetlands/ springs/ ponds, etc).
- Other environmental hot spots, such as Important Bird Areas, other Key Biodiversity Areas, forests, wetlands, etc (e.g, Ghodaghodi Tal, a Ramsar in Kailali district)
- Disaster risk sites e.g. spots where there is a risk of significant flood damage, fragile slopes/ landslide risk areas, etc.

- Possible construction materials locations and related issues
- Possible reforestation areas
- Important historical, cultural, religious and archeological sites e.g. temples, shrines, graveyard, cremation yard, holy bath place, religious inns, etc. and associated risks/concerns
- Areas/ sites of aesthetic value, touristic value etc.
- Settlement/territory of indigenous people/communities/tribal group /occupational group
- Private and community assets (e.g. land, structure, trees, crops likely to be affected)
- Settlement/locations having RoW being temporarily used/occupied by the local community, squatters/ encroachers for business/shelter or other purposes, and associated issues/conflicts if any
- Public facilities along ROW viz electricity cables, drinking water supplies, telephone cables, trails/tracks, etc.;
- Periodic *haat bazaars* (markets) that use public lands including road ROW and potential sites for shifting them
- Major junctions in market/commercial/ and residential areas with options to control haphazard growth of markets and settlements along the highway
- Built-up areas having heavy traffic also due to local traffic
- Locations having bus stops for local routes in adjoining villages with economic importance and towns/ dense settlements where overhead/ underground crossings will be needed for the public to access social services viz education, health, markets, etc.
- Economically important area/section of the road (e.g. corridor extensively used by local people for carrying their products to market, like; milk, vegetable, grains, etc. and sections used by local people to take their cattle for grazing and indicative adverse impacts on them due to road widening/ improvement, etc.
- Any market area and other special location containing a significant flow of pedestrians crossing the highway

C. Screening and Scoping Stage Impact Assessment

Conduct assessment of potential impacts³ of possible scenarios of improvements (e.g. road widening/ improvement options at various segments). Identification of key potential mitigation measures, and high-level estimate of the possible cost of mitigations for all road and bridge-related activities for which feasibility and design assessments are not yet available but road widening/improvement has been envisaged/or planned within the project implementation period. At the Screening and Scoping stage, the assessment will be informed by feasibility level project descriptions and options under consideration.

The assessment will be updated for the selected priority subsections as technical design/details progresses or more details become available, and ESIA or specific assessment (e.g. IEE or BES) and management plan is prepared for a particular priority subsection during which time a final ESMP with site-specific details will be prepared. The Screening and Scoping will be tailored to the level of information available about the expected scope of

³The assessment will be scenario based, looking at likely road improvement options .

works for CG Section of road including bridge locations (e.g., upgrading within existing ROW vs. expansion and/or realignment). For areas where it is not yet known what type of work may be required, the assessment would focus on the scenario-based impacts and associated potential E&S-related costs for alternative upgrading options/ scenarios under consideration.

Key areas to focus the assessment on include, inter alia, impacts/ issues/ concerns/ risks, and mitigations related to:

- Sensitive environmental and social sites / receptors in the area likely to be impacted by improvement of the CG Section of E-W Highway. This may include protected areas and their buffer zones, known and potential wildlife movement corridors, important bird areas, valued wetlands, forests, physically fragile land/ slopes, flood prone zones, historical/ archeological/ cultural sites, school and hospital zones, aquatic habitat (e.g. Rapti, Babai, Karnali Rivers etc)
- Land acquisition and resettlement, focusing on land requirements for the project, land use characteristics, and the potential for physical and economic displacements.
- Improving the highway sections (widening or re-alignment or other alternatives under considerations) and potential mitigations (including alternatives)
- Replacement of existing bridge by new bridge or construction of new bridges in parallel to the existing bridge either in upstream or downstream, or construction of bridge where there was no bridge before
- Construction of approach or diversion roads,
- River training/flood protection works in the upstream and downstream (embankments etc.)
- Quarrying/extraction of sand, gravel, soil, and other construction materials
- Construction wastes (solid as well as liquid waste, any hazardous waste)
- Construction disturbances (noise, dust, pollution, etc.)
- Labour camps and its associated impacts on SEA/SH
- Community and workers health & safety

D. Screening and Scoping Stage Preliminary Cumulative Impact Assessment (CIA)

Carry out scoping for Cumulative Impact Assessment of the CG Section improvement based on multiple alternative scenarios for project activities when taken in conjunction with other existing and planned development activities in the influence area of CG Section. Define the scope and provide guidance for carrying out the CIA. The scope and level of analysis will be relative to the level of definition of proposed project activities along the CG Section of the E-W highway in combination with impacts from other relevant past, present, and reasonably foreseeable developments. Nonetheless, the proposed CIA may refer to IFC Good Practice Handbook - Cumulative Impact Assessment and Management. Further, the CIA will build and expand on, as well as benefit from the two ongoing consultancies; (i) *Consultancy Services for Green and Resilient Strategy for Nepal's Selected Highway Corridors*, and (ii) *Consultancy Service for Environment and Social Impact Assessment Study (ESIA) of the*

Kamala- Dhalkebar - Pathlaiya (KDP) Section with associated Bridges of the Mahendra Highway scope of which includes CIA. The key steps should include:

- i. suggest detailed methodology for CIA tailored to proposed improvement of the CG Section
- ii. Determine spatial and temporal boundaries of CIA study.
- iii. collect baseline information regarding past, ongoing and future projects to be considered by the CIA, identify potential stakeholders for CIA
- iv. Identify and prioritize Valued Environmental and Social Components (VECs) in consultation with affected communities and stakeholders.
- v. Determine present conditions of VECs (collect baseline information related to identified VECs and analyze trend).
- vi. Identify all developments and external natural and social stressors affecting the priority VECs within the project area.
- vii. Design: (a) adequate strategies, plans, and procedures to manage cumulative impacts, (b) appropriate monitoring indicators, and (c) effective implementation and supervision mechanisms and responsibilities.
- viii. Prepare a preliminary Cumulative Impact Assessment Report.
The Preliminary CIA will be further updated by collecting additional data/information and conducting additional analysis in parallel with ESIA process and timeline.

E. TORs for activity and site-specific detailed E and S documents for selected priority subsections (about 80 km).

Based on the findings of the screening and scoping stage baseline, risks and impacts assessment including preliminary CIA, develop TORs for activity and site-specific E&S documents that need to be prepared for the priority subsections selected for improvements and of which Detailed Technical Assessment and Detailed Project Report (DPR) is being prepared in parallel. Consultant will prepare intervention specific Scoping Report and ToR to meet World Bank and GoN environmental requirements, and support DoR in their approval. The Scoping Report and ToR, for each intervention (priority subsections including bridges), will identify intervention specific and relevant issues, define potential influence area, identify the priority issue/ risks or most significant issues/ subjects to be covered in the assessment, and confirm applicable policies, requirements and standards. The E&S documents shall be consistent with the Risk Category under the World Bank's ESF and ESSs as well as government requirements. The E&S instruments that may be needed include ESIA/ ESMP, EIA/EMP, IEE, BES, SIA, SEA/SH/RAP, etc. The ToRs should also provide a table of contents of these specific documents.

F. Initial Capacity Assessment for E&S Management

As part of Screening and Scoping exercise, the consultant will conduct initial review and assessment of the institutional arrangement and capacity for the management of E&S risks and impacts. The consultant will consider, inter alia, the following aspects:

- a. Provide an overview of the institutional setup and accountabilities for environmental and social management of the project, including staffing requirements and minimum qualifications. Show within the organogram of DoR.

- b. Carry out a capacity assessment of GESU
- c. Develop a proposal for capacity building and institutional development program.
- d. Institutions relevant for managing Cumulative Impacts and overview of their capacity to do so.

The results of the Screening and Scoping include the following (which will be further updated, refined and finalized during the ESIA processes and timeline).

- a) Delineation of the area of influence to be considered, with sound justification,
- b) Establish environmental and social baseline condition within the area of influence (current status as well as historical trends) and identification of factors affecting the social and environmental conditions, positively or negatively, including an analysis of how these factor lead to positive or negative implications.
- c) Identify potential positive and adverse environmental and social impacts including direct, indirect, and induced impacts indicating potential magnitude, extent and duration, and provide specific guidance and recommendation for further environmental and social assessment.
- d) Scenario-based analysis of Potential environmental and social impacts, taking into account of the risks and issues, and corresponding with the level of project details known at the time of the screening and scoping (more detailed and site-specific information will be collected and analyzed during ESIA process),
- e) Identifications of high priority and critical risks, impacts and concerns and sites (to the extent possible at the screening and scoping stage) including critical habitat, wildlife crossing, wetlands, etc., and providing guidance to/ recommendations for further assessments on these risks, impacts and concerns.
- i. Guidance and recommendations including specific outlines for detailed impact assessment and preparation of various social and environmental instruments, including full or site-specific ESMPs together with pragmatic social plans/ social and environmental impact mitigation measures to mitigate the RoW issues,
- ii. A clear outlining of additional work to be required to complete the assessment, for example preparation of site-specific mitigation plans or activity specific assessment as required by government regulation, specific study e.g. Biodiversity Assessment, etc.,
- iii. Provide Screening and Scoping stage environmental and social guidance and recommendations for technical planning and design process for forthcoming investments for which detailed feasibility and design studies (e.g. DPR) will be completed later following programmatic and phased approach
- iv. Prepare detailed scoping document and ToRs for detail ESIA and other environmental and social assessment (e.g. biodiversity assessment, if relevant) needed for selected priority subsections.
- v. Scenario-based Preliminary Cumulative Impact Assessment (CIA). Carry out scoping for Cumulative Impact Assessment (CIA) of CG Section improvement, define the scope of and provide guidance for carrying out the CIA, collect/present baseline information regarding past, ongoing and future projects to be considered by the CIA, identify potential Valued-Environmental Components (VECs), collect/ present baseline information related to identified VECs, identify potential stakeholders for CIA, and suggest detailed methodology for CIA tailored to proposed CG Section improvement

- vi. Arrangements and budget for implementation, monitoring and reporting on environmental and social mitigation and management measures, including capacity assessment, human resources and training needs, and capacity building measures, for the proposed project, and
- vii. Legal and institutional issues and gaps in planning and implementation of social and environmental plans and areas for reforms and enactment.

5.2 Environmental and Social Impact Assessment

The consultant will conduct Environmental and Social Impact Assessment (ESIA) of priority subsections (about 80 km long) selected for the up-gradation from existing 2-lane to 4-lane carriageway (including roads and bridges along this section). The ESIA will be undertaken in compliance with world Banks's ESF and ESS1 requirements and other relevant ESSs (see **Annex 4**). The ESIA will build on and guided by the Environmental and Social Screening and Scoping conducted for the CG Section of the E-W Highway. The ESIA will collect additional information/ data (site specific and detailed than in the Screening and Scoping stage) needed for comprehensive and in-depth assessment for the selected priority subsection (about 80 km). The risks, impacts, issues covered in 5.1 Screening and Scoping will also be applicable at the ESIA Stage but focusing on the selected priority subsection (about 80 km) and more comprehensive, detailed and in-depth than the screening and scoping.

The consulting service will include but not necessarily be limited to the following:

- i. For the selected priority subsection(s), review and reconfirm the area of influence delineated by the screening and scoping, data/information, assessments, and recommendation, main risks/ impacts/ issues to have in-depth assessment and additional data / information need and the stakeholders to be consulted for the purpose of ESIA Stage assessments.
- ii. Carry out site visit to verify screening and scoping stage data / information as well as to collect additional data / information from the selected priority subsection (s)
- iii. Establish a comprehensive environmental and social baseline (including physical, biological, social, cultural and economic environments) for the selected priority subsection (building on, guided by and further to and considering Screening and Scoping Stage information/ data).
- iv. Carry out ESIA stage consultations with various groups of stakeholders.
- v. Conduct an Environmental and Social Impact Assessment (ESIA) and prepare an ESIA and Environment and Social Management Plan (ESMP) report for the selected priority subsections in accordance with the World Bank Environmental and Social Framework (ESF) and Environmental and Social Standard (ESSs) and building on / guided by the Screening and Scoping exercise carried out for the CG Section. The consultant will ensure that all positive and adverse impacts associated with up-gradation/construction and operation of the Project, including all associated/ancillary works and linked activities if any, are taken into account.

- vi. Prepare comprehensive Cumulative Impact Assessment (CIA)⁴ of the project in combination with impacts from other relevant past, present, and planned/ reasonably foreseeable developments in the project area. The CIA will build on and guided by the Preliminary CIA prepared during the Screening and Scoping stage and follow methodologies suggested therein. The CIA report could be a standalone report (or if justified, a chapter of the ESIA Report).
- vii. Prepare Biodiversity Assessment (which could be stand-alone) that includes protected areas, natural habitat and critical habitat assessment following the criteria in ESS6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources). If impacts of the project on biodiversity are adverse and significant, a standalone Biodiversity Management Plan will be prepared following the mitigation hierarchy that includes an assessment of residual impacts that demonstrates achievement of no net loss for impacts to natural habitats and net gain for impacts to the biodiversity values for which critical habitats are designated.
- viii. Prepare Cultural Heritage Management Plan following the mitigation hierarchy and in accordance with the objectives and requirements of ESS8. The plan will include design solutions to accommodate and/or mitigation measures to precede relocation and removal of temples, sacred trees and other cultural structures within the RoW
- ix. Identify and carry out a comparative analysis on “Project Alternative Analysis” with or without project in terms of project location (such as upstream/downstream or no change of location), project design, technology and construction methodology to avoid, minimize or reduce environmental risks associated with site locations and propose potential opportunities and design appropriate measures to minimize environmental impacts and maximize complementary environmental and enhancement measures.
- x. Prepare Site-Specific and detailed Environmental and Social Management Plans (ESMPs) and other instruments, e.g. IEE, BES, SIA etc. as may be required in the format prescribed under the GoN regulations, building on and guided by the Screening and Scoping stage findings and additional site specific investigations, data/ information collection and verification.
- xi. Document all of the above mitigation and development interventions in appropriate forms and formats to be further discussed and agreed upon with DOR/Bridge Branch and in line with World Bank standards.
- xii. Prepare Environmental and Social documents required by the EPA, EPR and other acts and rules of Nepal.
- xiii. Building on the Screening and scoping stage findings and recommendation, conduct detailed institutional assessment and prepare capacity strengthening plan.
- xiv. Prepare SEA/SH prevention and response plan with adequate identification of impacts and corresponding prevention and mitigation measures that are implementable in the project’s area of influence.

⁴ the IFC Good Practice Handbook on CIA may be referred.

- xv. Prepare a Resettlement Action Plan in accordance with WB ESS5, guided by the Screening and Scoping stage findings/ recommendations, and Resettlement Framework (RF) for the project.
- xvi. Prepare an Indigenous Peoples Development Plan, if necessary, in accordance with WB ESS7 and/ or screening and scoping stage findings and recommendations
- xvii. Conduct consultations and stakeholder engagement during the preparation of the ESIA, RAP, etc. in accordance with WB ESS10 and the Stakeholder Engagement Plan for the project and /or building on and guided by the screening and scoping stage findings and recommendations.
- xviii. Coordinate/cooperate/collaborate with separate consultants doing the detailed design and preparation of bidding documents to ensure that mitigation measures in various plans are captured in the bidding documents and factored into and informed the detailed engineering design

An indicative outline of the ESIA Report is provided in the **Annex -5**.

5.2.1 SOCIAL ASSESSMENT

The consultants will carry out the following tasks but are not limited to:

- i. Conduct poverty & social assessment taking into account socioeconomic and poverty status of the project area of influence that is needed to be identifying during E&S screening, including the nature, extent and determinants of poverty in the project area during E&S screening stage. Identify and estimate the likely socioeconomic and poverty reduction impacts of the project. Assess local demand for the proposed road investments, employment opportunities, child labor, affordability, gender specific capacity to take advantage of the likely socioeconomic opportunities that would result from the project. This will be in accordance with WB's Guidelines for the Incorporation of Social Dimensions.
- ii. Identify project-related interests of key stakeholders, likely barriers to their participation in and benefiting from the project resources and suggest possible strategies for addressing their concerns.
- iii. Conduct studies by using participatory approaches. With the participation of stakeholders, identify and analyze the reasons behind the vulnerability of at risk groups, including their exposure to risks. Suggest participatory development strategies for key stakeholders to apply when designing and implementing the project.
- iv. Prepare a gender analysis. Identify project design elements (policy, investment, or implementation) in which women can participate in and thus benefit from the project.
- v. Conduct assessment of labor working condition and risks of human trafficking and HIV/AIDS due to the project. Provide suggestions for measures to be incorporated in the project to mitigate possible adverse impacts through human trafficking and HIV/AIDS and identify possible partners for assisting in implementing such measures.
- vi. Identify opportunities for inclusive road and transport designs with focus on ensuring benefits for the poor and vulnerable along the RoW through construction and operation of the road.

- vii. In coordination with the economic analysis, design a time-bound benefit monitoring and evaluation program, including monitoring indicators and baseline data, to assess the project benefits to local communities before and after the construction of project. The program should address not only the economic benefits but also poverty reduction impacts and other social benefits such as stability of the region and integration with other parts of the country.
- viii. Conduct and Submit a draft final social baseline assessment report to WB and DoR for review and comments.

5.2.2 RESETTLEMENT AND INDIGENOUS PEOPLE ASSESSMENT

The consultants will carry out Resettlement and Indigenous People Planning of the project road in accordance with the WB's environmental and social standards as well as relevant Government's laws, regulations and policies. The major tasks include, but are not limited to, the following:

- i. Conduct a preliminary social impact assessment for the project including assessment of possible land acquisition/resettlement impacts for the candidate road alignments in accordance with WB's ESF 2018. Prepare and complete screening and impact categorization form for involuntary resettlement for the candidate road alignments.
- ii. Identify whether the project will be located in, or pass through, areas of significant indigenous people's settlements, and if this is the case propose how to specifically include indigenous peoples in project planning and implementation in accordance with WB's ESF 2018. If relevant, make an overview of population characteristics in the project area and anticipate project impacts. Prepare and complete checklist for indigenous people screening and impact categorization for the candidate road alignments.
- iii. Prepare a resettlement plan (RP) and indigenous people plan (IP) as necessary acceptable to the Government and WB in compliance with the WB's ESF 2016, and Government related acts and policies. RP and IP should be based on a 100% census which covers a complete enumeration of all Displaced Persons (DPs) and their affected assets.
- iv. Assess the Resettlement budget requirement for acquisition of land of different width from the footprint of the road to the full Right of Way (RoW) of the road and recommend the best alternative.
- v. Define categories for impact including construction induced impacts and eligibility of affected people for compensation and prepare a matrix of entitlements covering compensation and other assistance for all types of impacts to fully replace lost assets, income, and livelihood. Assess whether the compensation standards for all types of assets, crops, and trees are based on replacement value and discuss in detail the valuation methodology used.
- vi. Prepare a comprehensive income and livelihood restoration program, supported by adequate budget, to help DPs improve, or at least restore, their incomes and livelihoods. Identify specific measures for the affected poor, ethnic minorities, or other vulnerable households.

- vii. Ensure that (a) the compensation standards are based on replacement value, and (b) the overall resettlement budget is sufficient to implement the resettlement plan based on the proposed entitlements and rehabilitation plans with resettlement and rehabilitation assistance.
- viii. Assist Government officials to initiate and expand consultation with the affected communities, local leaders, proponents, and stakeholders who may be opposed to the Project. Prepare a consultation plan for the DoR and a format for documenting consultation with affected people.
- ix. Assess the capacity of the Government in implementing the proposed RAP and IP, recommend improvements and actions required before land acquisition, and proposed necessary training to enable the DoR and the Government to implement the RAP and IP and assess the social and resettlement issues of the follow-on subprojects, if required. Assist the DoR to (i) prepare a resettlement implementation schedule, (ii) recruit NGO/Agency for RAP and IP implementation (if required), and (iii) recruit consultants for external monitoring and evaluation.
- x. Assist the DoR to develop a computerized database management system for recording DPs and lost assets. The system should reflect the present impact on DPs and accordingly the entitlements for DPs are planned. The system should be in place from the beginning of the resettlement survey.
- xi. Develop cadastral mapping of affected plots for construction of new alignments using road inventory map developed under the engineering study. Also, prepare file map (fact sheet) and trace map of individual plot of land that needs to be acquired.
- xii. While preparing IPs (FPIC if required), conduct (a) social impact assessment, (b) meaningful consultation and (c) ascertain consent of affected IP communities. For items (b) and (c), proper recording and full documentations are required. These documents must be attached to IPs as annex. This IPs should also incorporate the findings of the resettlement census.
- xiii. Prepare a final RP and IP, and summary RP and IP based on detailed design, taking into account comments from WB and the Government, and based on 100% census survey. The RP and IP should include a record of consultation with affected persons.
- xiv. Conduct a workshop training to provide guidance to the DoR on Project-related social issues and WB's ESF 2018 procedural requirements during Project preparation and implementation. The scope of training should include the differences between the provisions of the WB policy and the relevant country laws.

6. Consultations and Disclosure

Following are the minimum requirements regarding consultations and disclosure:

- Central level consultation with DoR, Department of National Park & Wildlife Conservation, Department Forest, NGOs/INGOs (IUCN, WWF, FECOFUN, NTNC, etc) prior to site visit,
- Consultation on ToRs and draft Reports including Draft ToR for ESIA report
- Consultation at sites (with CFUG, site offices of protected area authority, forest offices, municipalities/local authority, communities, etc.)

- Disclosure of Draft Report including ToR for ESIA (High Risk operation) and social and environmental impact management instruments
- The Stakeholder Engagement Plan for ACCESS Nepal project should be referenced when the stakeholder consultation approach and methodologies are developed.

7. Reporting requirement and time schedule

The consultants shall keep full records relating to all aspects of the work covered by his service contract. Such record shall be available for inspection and use by DoR. All original drawings, work sheets, field notes, computer program, reports and other documents relating to the study shall become the property of DoR.

Reports required to be submitted by the consultant during the course of his services are as follows:

a. Inception Report (Eight copies in paper and soft copy in original version)

Within one month of appointment, the consultant shall submit an Inception report covering the whole services and shall include the consultant's detail work program, for task related to ToR with the content and format acceptable to DoR. It will also include methodology for the conduct of the screening, ESA and ESIA, including detailed methodology for Biodiversity and Critical Habitats Assessment. Refer Annex-3 for tentative content of an Inception Report. The Table of Content mentioned by Client in ToR is indicative outline for the study report. However, Consultant shall propose their actual TOC for the study report in Inception Report.

b. Draft Screening and Scoping Report of CG Section (Eight copies in paper and soft copy in original version)

The consultant shall submit the draft screening report including all findings, in a format acceptable to DoR and in accordance with requirements for World Bank ESF and ESSs compliance as well as government approval as per the Environment Protection Act (2019) and Regulations (2020) within 2.5 months after the commencement.

c. Draft Baseline report

The consultant shall submit the draft baseline report in a format acceptable to DoR and in accordance with requirements for World Bank ESSs compliance as well as government approval as per the Environment Protection Act (2019) and Regulations (2020).

d. Final screening and Scoping report, and final Baseline Report reflecting feedback received from DoR in a content and format acceptable to DoR (Ten copies in paper and soft copy in original version)

e. Draft and Final Preliminary CIA Report

The consultant shall submit the draft preliminary CIA report within 5 months from the commencement and the final preliminary CIA report within 6 months from the commencement for the work.

- f. Draft Scoping and ESIA ToR for selected priority subsection (Eight copies in paper and soft copy in original version)

The consultant shall submit the draft scoping report including all findings of the scoping stage, outline for the full ESIA to be carried as per ToR, natural and critical habitats assessment that outlines project implications for no net loss and net gain requirements, resettlement policy framework and vulnerable peoples development framework, and detailed work plan for undertaking all environment and social assessment studies, in a format acceptable to DoR and in accordance with requirements for World Bank ESF compliance as well as government approval as per the Environment Protection Act (2019) and Regulations (2020).

- g. Final Scoping report and ESIA ToR for selected priority subsection, reflecting feedback received from DoR as well as during scoping-stage consultations and including documentation in a content and format acceptable to DoR (Ten copies in paper and soft copy in original version)

- h. Draft ESIA Baseline Study of the selected priority subsection

The consultant shall submit the draft ESIA Baseline Study report focused on the selected priority subsection in accordance with requirements for World Bank ESSs compliance as well as government approval as per the Environment Protection Act (2019) and Regulations (2020).

- i. Final ESIA Baseline Study of the selected priority subsection

The consultant shall submit the final ESIA Baseline Study report focused on the selected priority subsection, incorporating the feedback from DoR

- j. Draft Environment and Social Impact Assessment and Environmental Impact Assessment of priority sections, if required by the Nepal acts (Eight copies Draft and Ten Copies Final Report each in paper and soft copy in original version).

Environment, Biodiversity and Socioeconomic Baseline Assessment Report as required by the country regulation (Ten copies in paper and soft copy in original version) will also be prepared. The consultants shall conduct Environmental and Socio-economic study and prepare baseline assessment report accordingly as per ToR and in consultation with DoR.

As per the requirement, the consultant is to carry out ESIA Study. Process of approval of Terms of Reference (ToR), study and report preparation shall be carried as described above and in accordance with World Bank ESSs and, Environment Protection Act (2019) and Regulations (2020). Draft ToR, final ESIA reports shall be submitted to the DoR. In the approval process of ESIA report, the Consultant is required to present ESIA report including their findings and recommendations to DoR, World Bank, and Ministry level committee for necessary review and comments. The Consultant shall prepare and present the report in close coordination with Geo-Environmental and Social Unit of DoR. After receiving the comments, the Consultant shall finalize the report and submit for final approval from the ministry. The report must have Site Specific Environmental

Management Action Plan (SS-EMAP) prepared based upon the overall project-level Environment Management Plan but tailored to each contract package. The SS-EMAPs must have strip map showing spots of environmental impacts or risks/hazards and provide site-specific information/data as well as designed mitigation and management measures, in addition to all generic/general environmental, health and safety related management measures which pertain to the contractor.

- k. Biodiversity Assessment and Management Plan (Eight copies Draft and Ten Copies Final Report each in paper and soft copy in original version).

A standalone Biodiversity Assessment and Management Plan including critical habitat assessment will be prepared. Key findings and recommendations from the Biodiversity Assessment and Management Plan will be integrated into the ESIA. The Management Plan will follow the mitigation hierarchy and will involve practical measures to achieve not net loss of natural habitats and net gain for the biodiversity values for which critical habitats are designated. If biodiversity offsets are required, these will be justified in the plan as a last resort option.

Cumulative Impact Assessment (CIA): The CIA Report could be standalone report for the whole CG Corridor.

- l. Resettlement Action Plan (RAP) and Indigenous People Development Plan (IPDP) Reports (Eight copies Draft and Ten Copies Final Report each in paper and soft copy in original version)

The Consultant shall prepare and submit Draft Resettlement Action Plan (RAP), SEA/SH Prevention and Response Plan and Indigenous People Development Plan (IPDP) Report for review and comments to DoR. The consultant is required to integrate key findings into the ESIA and recommendations to the DoR and World Bank. The Consultant shall prepare and present the report in close coordination with Geo-Environmental and Social Unit of DoR. After receiving comments, the Consultants shall submit the Final version of the reports

- m. Cultural Heritage Management Plan (CHMP) if required and as part of the ESMP.
- n. Final Environment and Social Impact Assessment and Environmental Impact Assessment of priority sections, if required by the Nepal acts

The consultant shall submit the final ESIA report and EIA report (as per Nepal act) focused on the selected priority subsection, incorporating the feedback from DoR. The consultant is required to make sure the final Approval of EIA report of selected priority subsection as per GoN.

- o. Monthly Progress Reports (Eight copies in paper and soft copy in original version)

The consultant shall prepare a monthly progress report on the project activities. The report shall include the Consultant's detail activities and progress status with the content and format acceptable to DoR.

The Consultants shall submit the Reports illustrated in bullet above (a-o) as per the time frame enumerated in Table 2 below:

Table 2: Time frame for Report Submission

No.	Preparatory Outputs	Submission Deadline (no. months after the commencement date)
Screening and Scoping of Chandrauta -Gaddachauki Road improvement		
1	Inception Report (A tentative content of which is provided in the Annex 3).	1
2	Draft Screening and scoping Report for CG	2
3	CG Draft Environmental and Social Baseline Report for CG	2.5
4	Final Screening and Scoping Report and Final Baseline Report for CG	2.5
5	Draft Preliminary Cumulative Impact Assessment (CIA) for CG Highway Corridor	2.5
6	Final Preliminary CIA Report for CG	3
ESIA Study of priority subsection of Chandrauta - Gaddachauki road		
7	Preparation of Scoping and ToR of ESIA for the selected priority subsection. Preparation of Scoping and ToR of EIA for the selected priority subsection and its approval as per GoN rules.	4
8	Draft ESIA Baseline Study of the selected priority subsection	4.5
9	Final ESIA Baseline Study of the selected priority subsection	6
10	Draft Biodiversity Management Plan (BMP), RAP, IPDP and others Report of priority road subsections of Chanauta-Gaddachauki	7
11	Draft ESIA report and EIA report (as per Nepal acts) including Biodiversity Assessment, ESMP etc	7
12	Draft Cumulative Impact Assessment Report (building on the preliminary CIA) for CG Section	7.5
13	Final BMP, RAP and IPDP Report of priority subsection of Chanauta-Gaddachauki road section	7.5
14	Final CIA Report (CG Section)	8

15	Public Hearing and all other remaining Work	8.5
16	Final ESIA Report of Road and Bridge (selected priority subsection)	10
17	Final Approval of EIA report of selected priority subsection as per GoN	10
18	Monthly Report	Within one week of the end of each calendar month

DoR and World Bank will review and clear each of the draft Report. The Consultant is to carry out ESIA Study adhering to policies and procedures of the GoN and those of the World Bank. Process of approval of Terms of Reference, study, and report preparation shall be carried out as described above and in accordance with World Bank ESF and ESSs and, Government of Nepal's requirements including the Environmental Protection Act (2019) and Regulations (2020). Final reports shall be submitted to the DOR. In the approval process of the reports, Consultant is required to present their findings and recommendations to the DOR, World Bank, and Ministry level committee, as needed, for necessary review and comments. The Consultant shall prepare and present the report in close coordination with Geo-Environmental and Social Unit (GESU) and Bride Branch of DOR. After receiving the comments, the Consultant shall finalize the report and submit for final approval. Each contract package must have a Site-Specific Environmental and Social Management Action Plan (SS-ESMP) prepared based upon the overall project-level Environmental and Social Management Plan but tailored to each contact package. The ESMPs and SS-ESMPs must have corridor/strip-maps or areal map showing spots of environmental impacts or risks/hazards and provide site-specific information/data as well as designed mitigation and management measures, in addition to all generic / general environmental, health and safety related management measures which pertain to the contractor.

8. Time Frame and Consultants Qualification Requirements including Key Expert

The consulting firms with at least one (1) number of Environmental and Social studies (ESIA, ESA) and similar studies for roads and bridges in last Ten (10) years are encouraged to participate.

The tentative total duration of Consulting Service for all the works is Ten (10) months from the date of commencement. It is to be noted that the Consultants shall work in close co-ordination with the Design Consultant of the same Road section in order to incorporate the findings of ESA and ESIA report into the Design Report.

During the overall period it is estimated that **in total** at least 9 person-months of key experts with international experience and 25 person-months of key experts with experience in Nepal with familiarity of local language will be required to carry out the assignment. The consultant is expected to cover aspects such as cultural resources, GIS mapping, stakeholder engagement and consultation, cultural heritage, community health etc. Incorporation of

appropriate required support staff resources for baseline fieldwork, administrative and office support, logistic etc. are also responsibility of the consultant.

The qualification requirement for evaluation of key experts who will be evaluated and non-key experts, who should meet the qualification and experience requirements are set out in Annex 1. The person-month required for assignment is enumerated under Table-3, Staff Input.

Table-3: Staff Input

A. Key Experts

Position	Quantity	Number of Person-Months		Total Person Months	Remarks
		E&S Screening	ESIA Study		
Key-Experts with international experience					
Team Leader/ Environment Specialist (with international experience)	1	1.5	4.5	6	
Biodiversity Specialist / Road Ecologist (with international experience)	1	1	2	3	
Sub-total	2	2.5	6.5	9	
Key Experts having work experience in Nepal with familiarity of local language					
Deputy Team Leader/ Environmentalist Specialist	1	3	7	10	
Social Development Specialist	1	2	4	6	
Health and Safety Specialist	1	1	2	3	
Biodiversity Specialist / Road Ecologist/ Fish & Aquatic life specialist	1	1	2	3	
Sr. Forest Expert	1	1	2	3	
Sub-total	5	8	17	25	
Non-Key Experts					
Highway Engineer	1	1	2	3	
Geotechnical Engineer	1	1	1	2	
Hydrologist	1	1	1	2	
Legal Expert	1	1	1	2	
Cadastral Surveyor	1	2	3	5	
Sub-total	6	6	8	14	

B. Non-Key Para-professional staff

Position	Quantity	Number of Person-Months	Total Person	Remarks
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		E&S Screening	ESIA Study	Months	
Technical Assistant (Physio-Chemical)	1	3	4	7	
Technical Assistant (Biological)	1	3	4	7	
Technical Assistant (Socio-Economic)	1	3	4	7	
Surveyor	1	12	8	20	
Sub-total	4	21	20	41	

Note:

- a) *The above Key experts composition and estimated total staff person-month is client's estimate. The consultant, in the technical and financial proposal, is advised to assess their own requirement and propose their own staff composition and staff input requirement for efficient performance of their job as per the Terms of Reference. If the proposed consultant's team is found inadequate or not sufficient during the performance of the services, then additional staff shall be provided by the Consultant at their own cost*
- b) *The Key experts composition and estimated total Key Staff man month for ESIA study has been estimated for ESIA study of improvement of about 80km of priority subsection/s. The Key Staff composition, total Key Staff person month input and the reimbursable cost will be subject to adjustment depending upon the final scope for ESIA study as per outcome of feasibility study which will be carried out by another consultant.*
- c) *A Technical Proposal shall be considered unsuitable and shall be rejected for further evaluation if it does not respond to important aspect of ToR.*

9. Technology Transfer

The Consultants shall consider the technology transfer as an important aspect in carrying out the assignment. The consultant should provide one (1) number of training to at least Twenty (20) numbers of DoR officials. Training should be conducted by Key-Experts with international experience on their respective topic upon consultation with client..

10. Consultant's Facilities

The consultant should manage themselves, all the administrative, technical and support staff needed to carry out the services. The inputs provided in this TOR are the minimum inputs required. If the consultant thinks that additional inputs are required (Key expert, Technical Support, Administrative Support, specialists etc.), they should propose the additional inputs in their technical proposal and financial proposal. The consultant shall also be responsible for providing all other necessary facilities and logistical support for its staff including accommodation, transportation, office equipment, communications, utilities, office supplies and other miscellaneous requirements that are required to complete all the tasks to fulfill the objective and scope of works, and it shall be included in their financial proposal.

The consultant shall arrange the necessary air transportation, land transportation including necessary vehicles for all type of surveys to deliver their services, effectively. The

consultants shall also arrange accommodation, travel and visas necessary for international staffs.

The consultant shall also be responsible to arrange and manage the necessary consultation workshops with the related stakeholders that required as per requirements to fulfill the objective. The Consultant shall be fully responsible to manage the necessary tax/ VAT registration and necessary payment and clearance on the same.

11. Data and assistance to be provided by the client:

- The client will provide the consultants with all other available studies and reports available with the client.
- Client shall support the consultant for necessary coordination with the related stakeholders and other government agencies, as necessary.

12. Consultant's additional liabilities

The Consultants shall provide the DoR, BIMP-II all the documents related with E&S screening, ESIA Study viz. Questionnaires, public consultation documents, public notice, public deed (Muchulka) of pasting public notice, and recommendation letters from concerned municipality. The Consultant shall also be responsible for providing necessary input even after the completion of the contract period; till the reports get approved from Government Nepal, Ministry of Forests and Environment (MoFE).

Annex 1: Preferred Qualification Requirements of key staff

Key Personnel Qualification Requirement

The working team for field and office works should necessarily consist of the following Key Personnel with qualification and experiences as indicated in the following table. These key professionals shall be:

A. Key Experts

I. Team Leader /Environment Specialist (with international experience)

(Experience of the last 20 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Environmental science or Environmental Engineering or Environmental Planning / Management, or relevant subjects etc.
B. Experience	
B1. General Experience	
Minimum	15 years
Preferable	20 years
B2. Specific Experience in road/bridge works	
Minimum	10 years
Preferable	15 years
B3. Specific Experience (In the capacity as a Team Leader in proposed field of Expertise works)	
Minimum	5 years
Preferable	10 years
C. Experience in the Proposed Field of Expertise	
C1. Shall have international experience of having completed at least environmental assessment in two road projects as Team Leader.	
C2. Shall have experience of preparing environmental assessments/management plans in at least five projects funded by World Bank or other donor agencies	
C3. Have conducted cumulative impact assessment following IFC Good Practice Handbook on CIA or other internationally-accepted methodology on CIA.	
D. Language	
Communicate fluently in English Language	

II. Biodiversity Specialist/Road Ecologist (Experience of the last 18 years will only be considered) (with international experience)

A. Education Qualification	
Minimum	Master's degree in Biodiversity / Wildlife /Ecology/Zoology
B. Experience	
B1. General Experience	
Minimum	15 years
Preferable	18 years
B2. Specific Experience in road/bridge works	
Minimum	7 years
Preferable	10 years
B3. Specific Experience (In the capacity as a Biodiversity Specialist/Road Ecologist)	
Minimum	5 years
Preferable	10 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 5 projects of similar nature (Road /Bridge Projects) as Biodiversity Expert. Familiar with IFC PS6 and ESS6 requirements and methodology Have applied IFC PS6 in similar assignments. Experience in minimum two highway projects in non-native country.	
C2. Experience in wide geographic regions	
D. Language	
Communicate fluently in English Language	

B. Other Key Staffs

I. Deputy Team Leader/Environment Specialist (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Environmental Science or Environmental Engineering or Environmental Planning & Management or relevant subjects
B. Experience	
B1. General Experience	
Minimum	15 years
Preferable	20 years
B2. Specific Experience in road/bridge works	
Minimum	10 years
Preferable	15 years

B3. Specific Experience (In the capacity as an Environmental Specialist in road and bridge works)	
Minimum	8 years
Preferable	12 years
C. Experience in the Proposed Field of Expertise	
C1. Shall have experience of preparing environmental assessments/management plans in at least four road projects funded by World Bank or other donor agencies.	
D. Language	
Communicate fluently in English Language	

II. Social Development Specialist (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Sociology/Anthropology or related field
B. Experience	
B1. General Experience	
Minimum	10 years
Preferable	15 years
B2. Specific Experience in road/bridge works	
Minimum	6 years
Preferable	10 years
B3. Specific Experience (In the capacity as a Social Development/Resettlement Specialist of projects related to road/bridge works)	
Minimum	5 years
Preferable	10 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 6 number of road/bridge projects as Social Development Specialist	
C2. Experience with Donor funded Projects	
C3. Experience in land acquisition , resettlement and consultations	
D. Language	
Communicate fluently in English Language	

III. Health and Safety Specialist (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Public/Community Health with preferred knowledge and experience on Environment and Social Risk and Impact Management
B. Experience	
B1. General Experience	
Minimum	10 years

Preferable	15 years
B2. Specific Experience (In the capacity as a Health and Safety Specialist in road/bridge works)	
Minimum	4 years
Preferable	10 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 4 number of road/bridge projects as Health and Safety Specialist.	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

IV. Biodiversity Specialist/Road Ecologist (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Biodiversity /Wildlife /Ecology /Zoology
B. Experience	
B1. General Experience	
Minimum	12 years
Preferable	15 years
B2. Specific Experience in road/bridge works	
Minimum	6 years
Preferable	12 years
B3. Specific Experience (In the capacity as a Biodiversity Specialist/Road Ecologist)	
Minimum	4 years
Preferable	10 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 5 number of road/bridge projects as Biodiversity/ wildlife Expert, Wildlife Knowledge in riverine/ aquatic life/ fish protection and management. Familiar with IFC PS6 and ESS6 requirements and methodology Have applied IFC PS6 in similar assignments.	
C2. Experience in wide geographic regions	
D. Language	
Communicate fluently in English Language	

V. Sr. Forest Expert (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Forestry
B. Experience	
B1. General Experience	
Minimum	10 years
Preferable	15 years

B2. Specific Experience (In the capacity as a Forest Expert)	
Minimum	5 years
Preferable	7 years
B3. Specific Experience in road/bridge works	
Minimum	3 years
Preferable	5 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 3 number of road /bridge/infrastructure projects as Forest Expert. Familiar with IFC PS6 and ESS6 requirements and methodology Have applied IFC PS6 in similar assignments.	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

VI. Highway Engineer (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Transportation Engineering/ Highway Engineering
B. Experience	
B1. General Experience	
Minimum	10 years
B2. Specific Experience in road/bridge works	
Minimum	6 years
B3. Specific Experience (In the capacity as a Highway and Transport Engineer of projects related to road/bridge works)	
Minimum	4 years
C. Experience in the Proposed Field of Expertise	
C1. Experience as Highway Design Engineer in 4 road/bridge projects	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

VII. Geotechnical Engineer (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Geotechnical Engineering/Engineering Geology or related field
B. Experience	
B1. General Experience	
Minimum	10 years
B2. Specific Experience in road/bridge works	
Minimum	7 years

B3. Specific Experience (In the capacity as a Geotechnical Engineer)	
Minimum	5 years
C. Experience in the Proposed Field of Expertise	
C1. Experience as Geotechnical Engineer in 4 number of road/bridge projects.	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

VIII. Hydrologist (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's degree in Hydrology or related field
B. Experience	
B1. General Experience	
Minimum	10 years
B2. Specific Experience in road/bridge works	
Minimum	7 years
B3. Specific Experience (In the capacity as a Hydrologist)	
Minimum	5 years
C. Experience in the Proposed Field of Expertise	
C1. Experience as Hydrologist in 4 number of road/bridge projects.	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

IX. Legal Expert (Experience of the last 15 years will only be considered)

A. Education Qualification	
Minimum	Master's Degree in Law or equivalent
B. Experience	
B1. General Experience	
Minimum	10 years
B2. Specific Experience in infrastructure related works.	
Minimum	3 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 3 number of infrastructure related works.	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

X. Cadastral Surveyor (Experience of the last 10 years will only be considered)

A. Education Qualification	
Minimum	Certificate level with training or Bachelor level
B. Experience	
B1. General Experience	
Minimum	10 years
B2. Specific Experience in capacity as Cadastral Surveyor	
Minimum	5 years
B3. Specific Experience in road/bridge works.	
Minimum	2 years
C. Experience in the Proposed Field of Expertise	
C1. Experience in 3 number of road/bridge projects.	
C2. Experience with Donor funded Projects	
D. Language	
Communicate fluently in English Language	

Annex 2: List of Bridges at Chandrauta - Gaddachauki road Section

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
1.	Jangali Khola	Kapilbastu	667.715	8.6	8.6	1	RCC Slab	Minor	
2.	Chor Khola	Kapilbastu	668.28	38.8	7.6	1	RCC T-Beam	Major	
3.	Dry Nala (Thade khola)	Kapilbastu	668.61	7.5	9	1	RCC Slab	Minor	
4.	Dry nala	Kapilbastu	669.38	7.1	9	1	RCC Slab	Minor	
5.	Mama Khola	Kapilbastu	669.74	6.7	8.8	1	RCC Slab	Minor	
6.	Kaila khola	Kapilbastu	670.14	7	7.5	1	RCC Slab	Minor	
7.	Dry nala	Kapilbastu	670.61	6.8	8.8	1	RCC Slab	Minor	
8.	Surai naka (Surai Khola)	Kapilbastu	670.84	84	7	3	RCC T-Beam	Major	
9.	Nala no. 1	Kapilbastu	671.26	8.6	8.6	1	RCC Slab	Minor	
10.	Tintre khola(Nala no.2)	Kapilbastu	671.6	10.6	8.5	1	RCC Slab	Minor	
11.	Nala no.3	Kapilbastu	673	10.6	8.3	1	RCC Slab	Minor	
12.	Dry Nala no. 4	Kapilbastu	673.6	10.7	8.9	1	RCC T-Beam	Minor	
13.	Dhan Khola	Dang	675.9	26.5	7	1	RCC T-Beam	Major	
14.	Kali Khola	Dang	677.8	8.7	9.4	1	RCC Slab	Minor	
15.	Jharauni Khola -1	Dang	679.74	9.6	7.9	1	RCC Slab	Minor	
16.	Jharauni Khola -2	Dang	679.865	8.8	7.8	1	RCC Slab	Minor	
17.	Jharauni Khola -3	Dang	680.13	9	6.8	1	RCC Slab	Minor	
18.	Dry Nala	Dang	681	9.9	7.4	1	RCC Slab	Minor	
19.	Dry Nala	Dang	681.15	15.5	W-7	1	RCC T-Beam	Major	
20.	Kunta Khola	Dang	682.355	13.3	7.1	1	RCC T-Beam	Minor	
21.	Rana Sing	Arghakhanchi	683.95	103.2	7	4	RCC T-Beam	Major	
22.	Dhodre Khola	Arghakhanchi	684.26	22	7	1	RCC T-Beam	Major	
23.	Dry Nala	Arghakhanchi	686.77	7.1	9.3	1	RCC Slab	Minor	
24.	Rapti River	Dang	687.72	290.1	7	8	Prestress	Major	
25.	Fairie Khola	Dang	688.4	16.3	7	1	RCC T-Beam	Major	
26.	Moitre Khola	Dang	688.56	19.5	7.1	2	RCC Slab	Minor	
27.	Katesh Nala	Dang	690.44	10.8	7.1	1	RCC Slab	Minor	
28.	Gopi Nala	Dang	696.98	21.5	7.1	1	RCC T-Beam	Major	
29.	Dolai Nala	Dang	700.38	53	7	2	RCC T-Beam	Major	
30.	lathowa	Dang	700.7	10.4	10.2	1	RCC	Minor	

ToR for Environmental and Social Screening and Environmental and Social Impact Assessment (ESIA)

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
	Kulo						Slab		
31.	Shingai Khola	Dang	703.14	70.5	7	3	RCC Slab	Major	
32.	Shingai Khola Branch	Dang	703.29	10.7	7	1	RCC Slab	Minor	
33.	Narte Nala	Dang	703.88	10.75	7	1	RCC Slab	Minor	
34.	Kauria Khola	Dang	706.67	26.4	7	1	RCC T-Beam	Major	
35.	Bagai Sota	Dang	711.22	26.6	7.1	1	RCC T-Beam	Major	
36.	Arnwa Khola	Dang	712.26	26.7	7.5	3	RCC Slab	Minor	
37.	Arjun Khola	Dang	715	165.45	7	5	Prestress	Major	
38.	Padmini Khola	Dang	716.32	11.5	7.35	1	RCC Slab	Minor	
39.	Kari Sota	Dang	720.34	21.2	7	2	RCC Slab	Minor	
40.	Unchanimbhu Khola	Dang	722.8	32	7.5	3	RCC Slab	Minor	
41.	Hattisar Khola	Dang	725.58	10.75	7	1	RCC Slab	Minor	
42.	Bhauka Khola	Dang	726	21.6	7	2	RCC Slab	Minor	
43.	Bathaniya Khola	Dang	729	21.5	7	2	RCC Slab	Minor	
44.	Bhatarkunda Khola	Dang	730.89	26.5	7	1	RCC T-Beam	Major	
45.	Rehar Khola	Dang	733.76	26.65	7.1	1	RCC T-Beam	Major	
46.	Tilkanya Branch	Dang	739.48	11	7.5	1	RCC Slab	Minor	
47.	Chow Khola-1	Dang	741.875	10.8	7	1	RCC Slab	Minor	
48.	Chow Khola-2	Dang	741.95	24.3	7	1	RCC T-Beam	Major	
49.	Chow Khola-3	Dang	743.151	24.5	7	1	RCC T-Beam	Major	
50.	Simal Sota	Dang	745.44	26.5	7	1	RCC T-Beam	Major	
51.	Bakhari Khola	Dang	745.8	21.4	7.1	1	RCC T-Beam	Major	
52.	Kali Khola	Dang	747.79	21.4	7.1	1	RCC T-Beam	Major	
53.	Godia Khola	Dang	749.655	21.9	7	2	RCC Slab	Minor	
54.	Sirangi Khola	Dang	750.5	42.9	7.1	4	RCC Slab	Minor	
55.	Firangi Khola	Dang	751.15	21.6	7	2	RCC Slab	Minor	
56.	Gangari Nala	Dang	753.17	21.4	7	2	RCC Slab	Minor	
57.	Shiv Khola	Dang	753.39	32.1	7	3	RCC Slab	Minor	
58.	Loki Khola	Banke	755.09	16.4	7	1	RCC T-Beam	Major	
59.	Bharley Khola	Banke	756.51	42.8	7	4	RCC Slab	Minor	
60.	Skew	Banke	756.71	15.3	7	1	RCC Slab	Major	
61.	Gothelawa Nala	Banke	756.91	21.2	7	1	RCC T-Beam	Major	
62.	Tilkanya Khola	Banke	758.87	17.6	7	2	RCC Slab	Minor	
63.	Ooj Khola	Banke	761.81	53.75	7	5	RCC Slab	Minor	

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
64.	Bains Khola	Banke	763.98	29.4	7.1	2	RCC Slab	Minor	
65.	Dapariya	Banke	766	10.7	7	1	RCC Slab	Minor	
66.	Ranigajari	Banke	766.68	11.7	7	1	RCC Slab	Minor	
67.	Bairiya	Banke	767.69	42.65	7	4	RCC Slab	Minor	
68.	Dongi nala	Banke	769.04	29.2	7	1	RCC T-Beam	Major	
69.	Skew	Banke	769.99	9	6.8	1	RCC Slab	Minor	
70.	Sauri	Banke	770.88	43.2	7	4	RCC Slab	Minor	
71.	Khochani	Banke	771.32	21.45	7	1	RCC T-Beam	Major	
72.	Kale Khola	Banke	773	10.7	7	1	RCC Slab	Minor	
73.	Gabar	Banke	775.55	53.2	7	2	RCC T-Beam	Major	
74.	Bhatti Khola	Banke	776.37	16.4	7	1	RCC T-Beam	Major	
75.	Lumba Khola	Banke	781.34	64.2	7	3	RCC T-Beam	Major	
76.	Gantahawa	Banke	784.05	17.4	7	2	RCC Slab	Minor	
77.	Thin Kholi	Banke	785.38	21.4	7	2	RCC Slab	Minor	
78.	Jhuri Khola	Banke	785.66	64.2	7	3	RCC T-Beam	Major	
79.	Skew	Banke	786.26	12.6	6	1	RCC Slab	Minor	
80.	Skew	Banke	786.675	11.45	7	1	RCC Slab	Minor	
81.	Gandhali	Banke	787.3	32.1	7	3	RCC Slab	Minor	
82.	Sukhar	Banke	787.39	105.8	7	4	RCC T-Beam	Major	
83.	Khairi	Banke	789.01	104.7	7	4	RCC T-Beam	Major	
84.	Skew	Banke	790.045	12.6	6.98	1	RCC Slab	Minor	
85.	Muguwa	Banke	798.96	44.5	7.5	5	RCC Slab	Minor	
86.	Obhary Bridge	Banke	805.1	20.5	7.5	1	RCC T-Beam	Major	
87.	Paruwa Sota	Banke	807.5	40.3	7	2	RCC T-Beam	Major	
88.	Changai Nala	Banke	811.39	21.3	7.1	2	RCC Slab	Minor	
89.	Naya Gaon	Banke	813.21	10	7	1	RCC Slab	Minor	
90.	Geruaa Nala	Banke	815.19	21.35	7	1	RCC T-Beam	Major	
91.	Jhijhari Khola	Banke	815.74	63.4	7	3	RCC T-Beam	Major	
92.	Rohini	Banke	822.35	43.27	7	2	RCC T-Beam	Major	
93.	Duduwa nala	Banke	823.63	43.2	7	2	RCC T-Beam	Major	
94.	Kiran Khola	Banke	827.14	36	7.35	3	RCC T-Beam	Minor	
95.	Maitihawa Khola	Banke	829	6.2	5.9	2	RCC Slab	Minor	
96.	Khanjua Khola	Banke	829.46	9.4	6.1	2	RCC Slab	Minor	
97.	Jethi Khola	Banke	833.73	36	7.35	3	RCC T-Beam	Minor	

ToR for Environmental and Social Screening and Environmental and Social Impact Assessment (ESIA)

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
98.	Jhamriniya khola	Banke	835.713	7.7	5.8	2	RCC Slab	Minor	
99.	Man Khola	Banke	836.41	72	7.35	4	RCC T-Beam	Major	
100.	Phohiya Khola	Bardiya	836.88	36	7.35	3	RCC T-Beam	Minor	
101.	Dundwa Khola	Bardiya	838.75	72	7.35	4	RCC T-Beam	Major	
102.	3 Cell	Bardiya	842.735	6.9	5.7	3	RCC Slab	Minor	
103.	3 Cell Slab	Bardiya	843.068	7.9	5.9	3	RCC Slab	Minor	
104.	Thulo Kulo Bridge	Bardiya	843.625	7.7	5.9	2	RCC Slab	Minor	
105.	Bokahani Khola	Bardiya	845.08	7.2	6.4	1	RCC Slab	Minor	
106.	Jurinya	Bardiya	846.39	9	5.9	2	RCC Slab	Minor	
107.	Three Cell Slab	Bardiya	848.04	13.6	6.3	3	RCC Slab	Minor	
108.	Gang River	Bardiya	850.72	35.8	7.35	3	RCC T-Beam	Minor	
109.	Double Cell	Bardiya	851.32	7.8	6.2	2	RCC Slab	Minor	
110.	Bhada River	Bardiya	853.99	66	7.4	4	RCC T-Beam	Major	
111.	2 Cell	Bardiya	856.154	7.7	6	2	RCC Slab	Minor	
112.	Pathriya Khola	Bardiya	858.16	45	7.15	3	RCC T-Beam	Minor	
113.	Auri Khola	Bardiya	859.66	36	7.15	3	RCC T-Beam	Minor	
114.	Jakar Khola	Bardiya	860.69	13.4	6	3	RCC Slab	Minor	
115.	Phardangwa Khola	Bardiya	862.57	48	7.15	3	RCC T-Beam	Major	
116.	2 Cell Slab	Bardiya	863.448	7.7	6.1	2	RCC Slab	Minor	
117.	Triple Cell	Bardiya	863.816	9	6	3	RCC Slab	Minor	
118.	Theni Khola	Bardiya	864.56	30	7	2	RCC T-Beam	Minor	
119.	Three Cell Slab	Bardiya	864.974	16.2	6.5	3	RCC Slab	Minor	
120.	Budhi Khola	Bardiya	868.75	44.1	6.2	3	RCC T-Beam	Major	
121.	2 Cell Slab	Bardiya	869.71	7.5	6.7	2	RCC Slab	Minor	
122.	Babai Bridge	Bardiya	870.73	315	7	18	RCC T-Beam	Major	
123.	Janata Khola Bridge	Bardiya	872.404	21.2	6.5	4	RCC Slab	Minor	
124.	Babai Pool	Bardiya	874.417	9.5	6.3	2	RCC Slab	Minor	
125.	Triple Cell	Bardiya	877.884	7.8	5.8	3	RCC Slab	Minor	
126.	Triple Cell	Bardiya	879.483	9	6.3	3	RCC Slab	Minor	
127.	Ambasa River	Bardiya	880.66	50	7.1	3	RCC T-Beam	Major	
128.	Triple Cell	Bardiya	883.91	9	6.2	3	RCC Slab	Minor	
129.	2 Cell Slab	Bardiya	885.782	9.2	4.8	2	RCC Slab	Minor	
130.	AuraiKhola	Bardiya	886.86	76.5	7.55	3	RCC T-Beam	Major	
131.	2 Cell Slab	Bardiya	887.3	7.8	5.8	2	RCC Slab	Minor	

ToR for Environmental and Social Screening and Environmental and Social Impact Assessment (ESIA)

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
132.	4 Cell Slab	Bardiya	887.838	21.8	6.5	4	RCC Slab	Minor	
133.	Triple Cell	Bardiya	888.46	11.5	6.2	3	RCC Slab	Minor	
134.	4 Cell Slab	Bardiya	889.746	22.7	6.5	4	RCC Slab	Minor	
135.	Double Cell	Bardiya	892.265	7.9	6.6	2	RCC Slab	Minor	
136.	Two Cell	Bardiya	892.292	7.9	7	2	RCC Slab	Minor	
137.	Four Cell	Bardiya	892.496	21.5	6.3	4	RCC Slab	Minor	
138.	Gumnaha	Bardiya	894.24	40.8	7.5	2	RCC T-Beam	Major	
139.	Four Cell Slab	Bardiya	895.382	11.8	6.5	4	RCC Slab	Minor	
140.	Karnali	Bardiya	901.115	500	7.2	2	Cable Stayed	Major	
141.	Baula Khola	Kailali	901.4	41	7.5	1	Prestress	Major	
142.	Dry Nala	Kailali	901.5	20.6	7.5	1	Prestress	Major	
143.	Dry Nala 2	Kailali	901.635	6.7	7.3	1	RCC Slab	Minor	
144.	Dry Nala 3	Kailali	901.968	20.6	7.5	1	Prestress	Major	
145.	Dry Nala 4	Kailali	902.145	7.2	7.5	2	RCC T-Beam	Minor	
146.	Dry Nala 5	Kailali	902.338	10.4	7.5	1	RCC Slab	Minor	
147.	Dry Nala 6	Kailali	902.755	41	7.5	1	Prestress	Major	
148.	Dry Nala 7 (Baar Khola)	Kailali	903.171	93.55	7.5	2	Prestress	Major	
149.	Dry Nala 8	Kailali	903.633	93.5	7.5	2	Prestress	Major	
150.	Dry Nala 9	Kailali	904	83.6	7.5	2	Prestress	Major	
151.	Dry Nala 10	Kailali	904.48	15.65	7.5	1	Prestress	Major	
152.	Dry Nala 11	Kailali	904.669	15.5	7.5	1	Prestress	Major	
153.	Dry Nala 12	Kailali	904.86	10.4	7.5	1	RCC Slab	Minor	
154.	Dry Nala 13	Kailali	905.13	6.8	7.3	1	RCC Slab	Minor	
155.	Dry Nala 14	Kailali	905.55	20.6	7.5	1	Prestress	Major	
156.	Dry Nala 15	Kailali	906.817	83.6	7.5	2	Prestress	Major	
157.	Dhobiniya Khola	Kailali	911.46	62.25	7.6	3	RCC T-Beam	Major	
158.	Dry Nala 16	Kailali	911.81	7.2	7.3	1	RCC Slab	Minor	
159.	Rora River	Kailali	915.65	70	7.1	4	RCC T-Beam	Major	
160.	Chori River	Kailali	920	40.9	7.5	1	Prestress	Major	
161.	Charela Khola	Kailali	921.805	96.6	7.5	3	RCC T-Beam	Major	
162.	Pathariya Khola	Kailali	923.415	50	7.2	3	RCC T-Beam	Major	
163.	Karha Khola	Kailali	928.6	96.6	7.5	3	Prestress	Major	
164.	Suktikada Khola	Kailali	931.71	51	7.2	3	RCC T-Beam	Major	
165.	Doda River	Kailali	935.69	50	7.2	3	RCC T-Beam	Major	

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
166.	Ghodaghodi Khola	Kailali	938	13.2	6.35	4	RCC Slab	Minor	
167.	2 Cell Slab	Kailali	938.315	7	6.35	2	RCC Slab	Minor	
168.	Kandra River	Kailali	941.14	240	7.2	8	RCC T-Beam	Major	
169.	3 Cell Slab	Kailali	942	13.6	6	3	RCC Slab	Minor	
170.	Amkhaiya -1	Kailali	944.58	7.8	6.1	2	RCC Slab	Minor	
171.	Amkhaiya-2	Kailali	944.89	7.8	6.2	2	RCC T-Beam	Minor	
172.	Kateni Khola	Kailali	947.16	16.6	6.2	3	RCC Slab	Minor	
173.	Badka Khola	Kailali	948.07	10.2	6.2	3	RCC Slab	Minor	
174.	Likma River	Kailali	950.37	240	7.2	8	RCC T-Beam	Major	
175.	Amkhaiya Khola	Kailali	954.64	12.3	6.2	2	RCC Slab	Minor	
176.	Gauri Ganga	Kailali	957.35	225.4	7.5	7	Prestress	Major	
177.	Chanaura Khola	Kailali	958.9	11.3	6.2	2	RCC Slab	Minor	
178.	2 Cell Slab	Kailali	960	10.3	6.2	2	RCC Slab	Minor	
179.	Chaumala River	Kailali	961.23	55	6.5	3	RCC T-Beam	Major	
180.	ShivGanga River	Kailali	964.58	193.2	7.5	6	Prestress	Major	
181.	Khutia River	Kailali	971.8	257.6	7.5	8	Prestress	Major	
182.	Hardia Khola	Kailali	974	14.2	6.2	2	RCC Slab	Minor	
183.	Gardhobi Khola	Kailali	975.52	9.2	6	2	RCC Slab	Minor	
184.	Gayamadi Khola	Kailali	976	9.3	6	2	RCC Slab	Minor	
185.	Manhara River	Kailali	977.08	225.4	7.5	7	Prestress	Major	
186.	Biyar Khola	Kailali	977.875	9.2	6	2	RCC Slab	Minor	
187.	Narmada Ganga River	Kailali	979	39.2	7.1	3	RCC T-Beam	Minor	
188.	Godabari River	Kailali	981.17	90	7.1	3	Prestress	Major	
189.	Mohana River	Kailali	984.285	50.2	7.1	3	RCC T-Beam	Major	
190.	Baluwa Khola	Kanchanpur	988	11.2	7.7	2	RCC Slab	Minor	
191.	Amkhhaiya Khola 1	Kanchanpur	991.378	9.2	6.2	2	RCC Slab	Minor	
192.	Amkhhaiya-2	Kanchanpur	992.17	6.9	7.2	1	RCC Slab	Minor	
193.	Donda River	Kanchanpur	992.825	181	6.9	6	Prestress	Major	
194.	Band River	Kanchanpur	995.29	40.8	7	2	RCC T-Beam	Major	
195.	Banara River	Kanchanpur	998.4	240.8	7	8	Prestress	Major	
196.	Sunbara River	Kanchanpur	1003.575	70	7	4	RCC T-Beam	Major	
197.	Syali River	Kanchanpur	1006.25	71	7.2	4	RCC T-Beam	Major	
198.	Radha River	Kanchanpur	1010.125	53	7.2	3	RCC T-Beam	Major	
199.	Pathariya River	Kanchanpur	1011.2	50	7.2	3	RCC T-Beam	Major	

ToR for Environmental and Social Screening and Environmental and Social Impact Assessment (ESIA)

S .No.	Bridge / River Name	District	MRM Chainage (Km)	Length of Bridge (m)	Carriageway Width(m)	Span No	Bridge Type	Category	Remarks
200.	Daiji Khola	Kanchanpur	1013.445	10	6	1	RCC Slab	Minor	
201.	Chaudhar Khola	Kanchanpur	1014.85	179.4	7.2	6	RCC T-Beam	Major	
202.	Slab	Kanchanpur	1016.19	11.3	6	2	RCC Slab	Minor	
203.	Suda Chok Khola	Kanchanpur	1016.608	7	7	1	RCC Slab	Minor	
204.	Slab -2	Kanchanpur	1018.05	7	7	1	RCC Slab	Minor	
205.	Kangla River	Kanchanpur	1019.38	22.8	7.3	1	RCC T-Beam	Major	
206.	Bhasi River	Kanchanpur	1020.67	22.5	7.5	1	RCC T-Beam	Major	
207.	Bhansi Khola	Kanchanpur	1021.39	7.3	7	1	RCC Slab	Minor	
208.	Canal Crossing	Kanchanpur	1023.435	21	6.7	3	RCC Slab	Minor	
209.	Bangaun Khola	Kanchanpur	1026	10.2	7	1	RCC Slab	Minor	
210.	Bhujela River	Kanchanpur	1027.8	45.6	7.5	2	RCC T-Beam	Major	

Annex 3: Tentative Content of an Inception Report

The inception Report should, inter alia, include

- Preliminary project description including a list of all bridges and road stretches proposed for upgrading or replacement, and a map indicating their locations
- Definition of the full project area of influence, most likely based on physical distance from the road and population served, natural barriers, and as per good practices and DOR standard
- Table of World Bank ESS and national laws/regulations that apply to the project, with an explanation of why they apply and what is required to fulfill them
- Identification of sensitive areas/pockets where the environmental and social baseline work should focus with maps delineating the environmental, biodiversity and social areas of assessment (these areas are expected to be unique to each discipline).
- Initial information and data from various sources useful for the cumulative impact assessment such as past, current/ongoing and planned projects, environmental and social baseline useful for CIA, trend, existing issues and pressure, long-list of potential VECs, etc.
- Survey approaches and methodologies including selection criteria of settlements/villages/ communities for a survey, sampling procedure, and sample size for the baseline survey.
- Field survey approach, methodologies and consultation for assessment of biodiversity including terrestrial habitat assessment, aquatic habitat assessment, wildlife movement corridors, legally protected areas and internationally recognized areas of biodiversity value.
- Detailed methodologies that will be followed for Critical Habitat Assessment and Cumulative Impact Assessment.
- The full outline of the Screening and Scoping Report, E&S Baseline Report and preliminary CIA report (including full proposed outlines/TORs for any site-specific ESIAs/IEEs or BES to be required for specific work in the priority subsection, in the format required for Government clearances), and proposed work plan to complete the study, including a consultation and disclosure plan
- Documentation of screening and scoping stage consultations, FGDs, and meetings held with stakeholders, including who was consulted, what information was discussed on specific environmental and social issues, feedback received, and how it will be addressed through the course of study.

Annex -4: Highlight of the requirements under Environmental and Social Standards (ESSs)

The ESIA will be undertaken in compliance with ESS1 requirements and other relevant ESSs, following the Table of Content as outlined in Annex 5. The ESIA will make use of the Screening and Scoping conducted for the CG Section of the East-West Highway as well as Feasibility Study and Detailed Design and other studies which have been conducted in the same section.

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

The ESIA will be prepared to assess all risks and impacts related to relevant standards (ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS7, ESS8), including such social and environmental impacts as they may be related to the presence of contractors in the project area. The ESIA will also identify and collect baseline data on disadvantaged and vulnerable groups in the project area and assess project impacts on them and propose management measures to address impacts.

Building on the preliminary CIA undertaken at the Screening and Scoping stage, a Comprehensive and in-depth CIA will also be conducted during the ESIA process, including assessment of the potential cumulative impacts of other past, current, and future activities and development in the project area of influence and following the IFC Good Practice Handbook on Cumulative Impact Assessment. The CIA will assess the key Valued Ecosystems Components (VECs) identified during the Screening and Scoping stage and reconfirmed during ESIA for the CG Road Section.

The ESIA will review, re-assess and make use of the earlier findings on institutional capacity assessment of the DoR in terms of environment, social and health & safety staffing, and capacity building. It will also make use of the separate gender assessment and gender-based violence studies being carried out by the World Bank for the CG road Section. The results of these studies will be integrated into the ESIA.

The ESIA will collect detailed/ site specific relevant baseline information from the selected priority subsections (additional to the screening and scoping stage information) on the physical, biological, chemical, socio-economic, and cultural characteristics of the project area of influence of the selected priority subsection(s) within the CG road Section. These include but not limited to topography, land uses, geology, terrestrial and aquatic flora and fauna and biodiversity, habitats (critical, natural, modified), air and water quality, socio-economic, livelihood, and household data, identify and assess trends of vulnerability among vulnerable and disadvantaged groups, land acquisition and involuntary resettlement and other aspects based on the findings of screening and scoping exercise.

The ESIA will follow and address the requirements under the following ESSs.:

ESS2: Labor and Working Conditions

The ESIA will assess labor risks and working conditions on different types of project workers as per ESS2. The assessment will include risk from project activities and key labor risks such

as hazardous work, child labor, and forced labor, migrant or seasonal workers, discrimination against women, Gender-Based Violence, assess the potential for discrimination against vulnerable groups in terms of access to jobs and project-related opportunities, etc., labor influx, occupational health and safety, possible accidents and incidents on site, emergencies, among others.

The ESIA will identify project workers (direct workers⁵, contracted workers⁶, primary supply workers⁷, community workers⁸) and develop measures consistent with the written Labor Management Procedures LMP) developed for the project, which set out the way in which project workers will be managed, in accordance with the requirements of national law and this ESSs. The procedures will address the way in which this ESS will apply to different categories of project workers including direct workers and the way in which the Borrower will require third parties to manage their workers. A standalone GRM for direct workers and contracted workers should be developed based on the LMP. This GRM is not the same as the Project wide GRM.

ESS3: Resource Efficiency and Pollution Prevention and Management

The ESIA needs to assess the risks and impacts related to ESS3, including identification on use of resource efficient technologies and techniques during construction and operation. In addition to that, calculation of greenhouse gas emissions from the construction and operation of the selected priority section within the CG road Section will be calculated. The resource efficiency assessment in terms of construction material extraction will also be included in the assessment and potential construction material sources will be identified and assessed for E&S risks and impacts. In addition, the impact analysis and measures will need to ensure that key risks and impacts are addressed and managed.

ESS4: Community Health and Safety

Consistent with the requirements of the ESS4, the ESIA will consider existing health and safety issues and assess the potential risks and impacts of the project in relation to traffic and road safety, community exposure to STIs/AIDs, and exposure to hazards that may be extended by excavations, pits, and trenches. The analysis of these health and safety issues must take into account of both project construction and operation activities within the main corridor and ancillary facilities such as borrow pits, quarry sites, tipping points/spoils disposal areas, and workers' camps. Landslides and slope collapse are common in Nepal. As such the Consultant – in consultation with Design Consultants – will assess the potential for these hazards at the critical sections of the road and recommend engineering measures for minimizing or eliminating such risks during construction and operation of the road. Where the construction activities open up wildlife inhabited areas, the ESIA will assess risks and propose measures to minimize wildlife-human conflicts as well as wildlife accidents. The ESMP resulting from the ESIA will include an Emergency Preparedness and Response Plan (ERP).

⁵ People employed or engaged directly by the Borrower to work specifically in relation to the project.

⁶ People employed or engaged through third parties to perform work related to core functions of the project.

⁷ People employed or engaged by the Borrower's primary suppliers. Primary suppliers are those suppliers who, on an ongoing basis, provide directly to the project goods or materials essential for the core functions of the project.

⁸ People employed or engaged in providing community labor.

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

The ESIA needs to assess the risks and impacts related to land acquisition as well as physical and economic displacement. Based on the RF for the project, the assessment will address issues related to land acquisition for project purposes, estimated amount of land to be acquired, the numbers of PAPs that may be displaced, typologies of PAPs based on the extent of the displacement impacts, entitlements, livelihood restoration, financial assistance and skills training. An indicative list of resettlement benefits will be indicated in the ESMP and then detailed out in the RAP.

ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

The CG highway corridor intersects important wildlife movement corridors. Fragmentation of populations and traffic-wildlife collisions are major risks associated with the project. Infrastructure to accommodate wildlife crossings will be required for improved human safety and reduced adverse biodiversity impact. The ESIA will include a comprehensive emphasis on determination of optimal locations and development of appropriate designs of infrastructure to accommodate safe wildlife crossings based on expected wildlife species, abundance and frequency of crossings. The ESIA will also address requirements for fencing to keep animals off the road and guide wildlife towards crossing infrastructure. Identification of wildlife crossings and associated fencing will require consolidation from multiple data sources including literature review, field observation, and road kill monitoring, habitat assessment, consultation with conservation managers and data modeling. The ESIA will be guided by ADB Guidelines on Design of Roads in Biodiversity Rich Areas of Asia, Eco-Friendly Measures to Mitigate Impacts of Linear Infrastructure on Wildlife (Wildlife Institute of India), the Nepal Guidelines for Construction of Wildlife Friendly Linear infrastructure and other relevant guidelines.

The ESIA will collect baseline information on biodiversity, including assessment of legally protected and internationally recognized areas of biodiversity value; identification, mapping and characterization of modified and natural habitats within a 300-m wide direct impact area; Critical habitat assessment (CHA) based on ESS6 criteria following a defensible approach, appropriate area of analysis, IBAT and national red list data (a draft CHA method applicable to the South Asia Region has recently been developed for ESS6 and is recommended to be applied for this project); assessment of invasive alien species and requirements for control. The ESIA shall determine the applicability of ESS6 requirements for sustainable management of living natural resources and primary suppliers.

Methodologies used for the assessment of wildlife crossings, natural habitat characterization and critical habitat assessment will be agreed with the World Bank before carrying out the actual assessments.

ESIA will through development of mitigation, demonstrate the application of the mitigation hierarchy (avoidance, reduction/minimization, mitigation, and compensation/offset) in terms of the final design and alignment options, among others, of the proposed road. The requirements of ESS6 for natural habitats and critical habitats will need to be assessed and

met, including analysis of various alternatives and measures to achieve no net loss of natural habitats and net gain for the biodiversity features for which critical habitats are designated.

If impacts of the project on biodiversity are adverse and significant, a detailed and stand-alone Biodiversity Management Plan (BMP) applying the mitigation hierarchy will accompany the ESMP. The BMP will include specific measures and monitoring parameters for critically endangered, endangered, vulnerable, and threatened species and other species and ecosystems that will be affected by the project to achieve no net loss of natural habitats and achieve a net gain of critical habitats. If offset is required based on the assessment and application of mitigation hierarchy, this will be included in the BMP as a last resort.

ESS7: Indigenous Peoples

Based on the screening and scoping and ESS7, the ESIA should identify the presence of indigenous people (IPs) with the project's Direct Area of Influence; collect baseline information on such populations; assess potential project impacts on such them; and provide recommendations for mitigating impacts and extending project benefits to such IPs. Analysis of risks & impacts needed with specific reference, as a mitigation measure, to the Indigenous Peoples Development Plan. The ESIA should assess the requirements of FPIC and propose procedures and process to be followed to obtain FPIC, if required. IPDP is required to meet the requirements of the new WB ESF and the IPPF for the project.

ESS8: Cultural Heritage (CH)

There is high chance of cultural sites (temples, sacred trees, and river crossings) within the influence area of the selected priority section. These structures and objects hold cultural value to the local population. The ESIA will include cultural heritage baseline survey, assess the potential project impacts on cultural heritage, and as part of the ESMP propose mitigation measures to address project impacts on cultural heritage. The cultural heritage baseline survey will be informed by the screening and scoping findings and will be part of the ESIA. The ESIA process will assess and evaluate cultural significance of these sites; and in consultation with local communities, recommend measures necessary to redress project disturbance of cultural practices and expressions associated with the sites. Project impacts on CH will also be covered by the screening and scoping. Accordingly, the ESMP will apply the mitigation hierarchy to manage impacts on CH and specify solutions to accommodate such structures/objects and/or specify mitigation measures for removal, relocation, and replacement of such structures. In addition, chance find procedures will also be included in the ESMP for inclusion in the bidding documents and contractors' contract.

ESS10: Stakeholder Engagement and Information Disclosure

A Stakeholder Engagement Plan (SEP) developed for the overall project will be used to map out stakeholders and engage them all throughout the life of the project. The objectives of the Stakeholder Engagement Plan (SEP) is to establish a systematic approach to stakeholder engagement that will help the implementing entity identify key stakeholders – project affected parties and other interested parties—and build and maintain constructive relationships with them, in particular the project-affected parties. The SEP will assess the level of stakeholder interest and support for the project, enable stakeholder views to be taken into

account in project design, and environmental and social performance, promote and provide means for inclusive engagement throughout the project life-cycle, ensure that appropriate project information is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format, provide citizens with accessible and Gender Equality and Social Inclusion(GESI) inclusive means to raise issues and grievances and enable the project implementing entity to respond to and manage such grievances.

Annex-5: Indicative Outline of the ESIA and Brief Descriptions

The ESIA should cover at minimum the following:

Executive Summary (ES)

This should stand alone and concisely provide a good summary of the project, the policy and regulatory frameworks, summary of consultations with key stakeholders, summary key baseline information relevant to analysis of key impacts, summary of cumulative and key and site-specific impacts, summary of key measures to address site-specific impacts, implementation arrangements for the ESMP including gender and GBV action plan with estimated budget. The ES should be accompanied by a good and readable map showing the main corridor and the two new alignments and locations of ancillary facilities.

Chapter 1: Project Description

This should clearly but concisely describe the project/ proposed improvements in the selected priority section (e.g., how long and wide is the proposed project, how many bridges will be constructed and how long, how long are the slope protection works and what types, what are the ancillary facilities and where, existing right of way (RoW), etc.

Chapter 2: Legal and Institutional Framework

This chapter will explain overview of environmental legal and regulatory framework applicable to the project (including national requirements as well as World Bank Policy, ESF and relevant ESSs requirements).

Chapter 3: ESIA Approach and Methodology

The chapter will provide the main approach and methodology to achieve the objective of ESIA.

Chapter 4: Baseline Environmental and Social Conditions/Baseline Data

- i. Full *environmental baseline assessment* of the project area of influence, consisting of approximately 2km around the proposed up-gradation of road/bridge, to be adjusted during the scoping as needed to reflect local topography and land uses and should include the following:
 - a. *Physical Environment*, including topography, geology and geomorphology, slope stability inventory (to include identification of landslide or erosion-prone areas), hydrology and water resources, unique features (rocks, waterfalls etc.), air quality, surface water/ ground water quality, noise level etc.
 - b. *Existing land uses*, including areas for cultivation, grazing areas, hilly areas, forested areas, industrial areas, urbanized areas, common properties etc.
 - c. *Climate Conditions and projected climate change*: Compile all available historical and present-day data on average annual and monthly temperature and precipitation, as well as record highs and lows, and available information on flood levels and areas of influence (including flood maps where available, identification of areas susceptible to flash floods from runoff, etc.) in the study area for storm events of various intervals (for example, 5-year, 20-year, and 100-year storm events).

Compile available information on climate change projections for the area of study. Make a conclusion on the potential effects of temperature/rainfall and storm intensity variations – from both present variability and with the anticipated effects of climate change -- along the route which may be relevant to the design of road segments and bridges.

- d. *Biological Environment*, including flora and fauna in the project area (both aquatic and terrestrial, and identification of any endangered, threatened or legally protected species as well as species of economic or cultural importance), areas of natural habitat, assessment of critical natural habitats following a robust approach (including but not limited to legally protected and internationally recognized areas of biodiversity value, and areas of particular significance to species of conservation importance), forest cover and quality, and description of aquatic or terrestrial wildlife habitat and movement including any zones or locations of known or potential wildlife crossings along the existing alignment and/ or within project's area of influence. (Chandrauta-Gaddachauki road section passes through the National Parks, buffer zones and lies in Ghodaghodi Tal which is a Ramsar area)
- e. *Chemical Environment*: Impact on surrounding environment (river/springs/water sources) due to use and spillages of chemicals during the road/bridge up-gradation works.

Chapter 5: Stakeholder Engagement and Public Consultations (Identification and Mapping)

It should summarize the consultation processes, dates of consultations, who were consulted, issues raised and how issues are and will be addressed by the project.

As part of the assessment process, disclosure of the draft report and consultations with local communities and with other stakeholders shall be carried out. The consultant shall support the client in the disclosure and consultation process. The consultant shall full document the process and all consultation events, including a list of participants, photo log, summary of presentations made, and feedback received, and indication of how feedback was considered in the assessment and detailed design process.

Chapter 6: Environmental and Social Risks and Impacts

This chapter shall describe Impact Assessment for pre-upgradation/construction, upgradation and post-upgradation of the road and bridge covering direct, indirect, induced and cumulative impacts, related to key issues identified through the scoping and ESIA assessment. The issue, for example, could be related to the following (but not limited to):

- a. Upgradation/construction impacts such as noise, waste and wastewater management and disposal, quarry, crusher plant and spoils management, use of explosives and other hazardous materials, contractor / labor camp management, impacts to water sources, etc.
- b. Environmental impacts during operational e.g. air pollution, noise, traffic safety, and impacts on wildlife, etc
- c. Occupational health and safety risks and issues during construction and operation
- d. Traffic safety during construction and operation
- e. Upgradation/construction and operation stage impacts to natural habitats and wildlife (including aquatic life but not limited to Karnali river, Rapti river, Babai river

- respectively and terrestrial species, migratory species known to exist/move in the project's area of influence),
- f. Deforestation (both direct but also indirect/induced through project influx, changes to land use, etc. along improved road) and National Park, buffer zone/protected area/Ramsar area etc.
 - g. Slope stability and erosion, water logging issues.
 - h. Induced land use changes (especially around rest stops, etc.), with implications for forests, biodiversity, etc.)
 - i. Summary of safety concerns and risks, considering increased speed and traffic volumes and community/pedestrian safety issues⁹
 - j. Community health and safety risks and issues

Cumulative Environmental Impacts Assessment (CIA): The CIA will cover the full CG Section and could be a standalone Report.

Chapter 7: Environmental and Social Management Plan

This will be the ESMP, which should demonstrate the mitigation hierarchy and cover both generic construction measures for noise, dust, pollution, etc.) and site-specific measures for sensitive receptors, monitoring & audit, including grievance redress.

Site-specific measures should be reflected in the detailed engineering design, including technical specifications (e.g., what types of slope protection and stabilization measures? What type of Wildlife crossings, dimensions and specific Chainage of the crossings corridor, fencing, etc.)

There is a need to provide technical specifications for site-specific measures such as wildlife crossings, slope stabilization and protection measures, livestock crossings, etc. as mentioned in previous comments.

The ESMP shall also outline different environmental enhancements including landscaping around proposed project, considerations to aesthetical appeal, provision pathways for species, greening the area, and development of cultural properties or improving access. In addition, the ESMP should identify the need for further environmental studies or detailed plans for issues that cannot be fully dealt with during the project preparation stage but should be undertaken during project implementation.

The ESMP should be divided into two sections:

- a. A “project owner’s” version containing the comprehensive set of mitigation, management and monitoring measures, requirements, and institutional responsibilities for both construction and operation stages to fully address all identified impacts:
 - i. Each mitigation and management measure should be briefly described regarding the impact to which it relates, as well as an appropriate timeline for its implementation, indicators for measuring success, and budgetary requirements. In addition to environmental management measures, an occupational health and safety plan, community health and safety plan (including traffic safety), and

⁹ consultant to draw from the Road Safety Audit undertaken in Nepal, and supplement as needed to ensure adequate treatment from a community safety perspective.

emergency management plan, if necessary, should be prepared, among others to be identified by the consultant during the assessment process.

- ii. The ESMP shall also include specific or sample plans, such as for management and redevelopment of quarries, borrow areas and construction camps.
 - iii. The ESMP shall include detailed specification, bill of quantities, execution drawings and contracting procedures for execution of the environmental mitigation and enhancement measures suggested, separate for pre-upgradation, upgradation/construction and operation periods.
 - iv. In addition, the ESMP shall include good practice guides related to construction and upkeep of plant and machinery.
 - v. Responsibilities for execution and supervision of each of the mitigation and enhancement measures shall be specified in the ESMP.
 - vi. A plan for continued consultation, communications, and grievance management to be conducted during implementation stage of the project shall also be appended.
 - vii. All mitigation and management measures shall be consistent with national requirements, applicable World Bank ESF /ESSs, and World Bank Group Environment, Health and Safety (EHS) Guidelines.
 - viii. Summary of the grievance management, consultation and communications aspects) shall also be included.
 - ix. A monitoring program including indicators, parameters/thresholds, and locations, frequency and methodology for monitoring should also be included, to enable verification that mitigation measures have been successful.
 - x. Institutional arrangements and responsibilities for carrying out, monitoring, supervising and reporting on compliance with each mitigation and monitoring measure, as well as the arrangements for coordination between the various agencies responsible for implementation and management of the project.
 - xi. Assessment of institutional capacity of the agencies responsible for ESMP implementation, and recommendations for capacity-strengthening, training programs, etc. as needed.
 - xii. This version would also include a summary of recommended design adjustments or measures which have been integrated into the detailed design studies being carried out in parallel.
- b. A series of Site-Specific Environmental and Social Management Plans (SS-ESMPs) tailored specifically for construction contractors for each of the bid packages, developed to be directly annexable to bidding documents and contracts. The SS-ESMPs shall be based on the full ESMP and shall contain:
- i. Site-specific measures pertaining to each upgradation of road/bridge bid package
 - ii. All other general road and bridges upgradation/construction-related environmental, health and safety management measures which are the responsibility of the contractor to implement
 - iii. Specific cost estimate for ESMP measures required of the contractor, to be included as a line item in the BOQ of the bid document.
 - iv. Requirements for environmental management staffing and training by the contractor.

Chapter 8: Analysis of Alternatives

This will be the Analysis of Alternatives, which would include options considered e.g. routing/corridor options, construction techniques to manage traffic flow, options for up-gradation/construction techniques/timing and technology selection, and the “no project” or without project scenario, etc. The alternative analysis includes summary of upgrading options considered during feasibility stage, a summary of additional adjustments to design and alignment aspects to avoid or minimize environmental risks and impacts etc. Alternatives shall be compared in terms of potential environmental impacts; expected capital and recurrent costs for mitigation and/or management of impacts, economic and social benefits of each option, and acceptability.

The Analysis of Alternatives will also need to assess the implications of the widening of the existing road on critical habitats and those ecologically-important species and that there is no net loss on biodiversity as a result of the project.

Chapter 9: Institutional Arrangements

This will be the Implementation Arrangements for the ESMP, which will include the E&S capacity assessment findings for implementation of the ESIA recommendations as well as ESMP measures as well as staffing requirements at implementing agency DOR, construction supervision consultant (CSC) and contractors.