Environmental Assessment and Review Framework

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India: Bridge Improvement in Uttarakhand

Prepared by the Public Works Department, Government of Uttarakhand for the Asian Development Bank.

CURRENCY EQUIVALENTS
(As of 15 August 2026)

Currency unit	–	Indian Rupee (□)
□1.00	=	$0.0104
$1.00	=	□95.59

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ABBREVIATIONS

ADB	Asian Development Bank
BAP	Biodiversity Action Plan
BIIU	Bridge Improvement in Uttarakhand
CEMP	Contractor's Environmental Management Plan
CHA	Critical Habitat Assessment
CPCB	Central Pollution Control Board
CSC	Construction Supervision Consultant
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EMoP	Environmental Monitoring Plan
EMP	Environmental Management Plan
GoUK	Government of Uttarakhand
GRC	Grievance Redress Committees
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IRC	Indian Roads Congress
LSZ	Landslide Zone
MoEF&CC	Ministry of Environment, Forest and Climate Change
MoRTH	Ministry of Road Transport and Highways
NABL	National Accreditation Board for Testing and Calibration Laboratories
NGO	Non-Governmental Organization
OCR	ordinary capital resources
PA	Protected Area
PESO	Petroleum and Explosives Safety Organization
PIU	Project Implementation Unit
PMU	Project Management Unit
PWD	Public Works Department
QEMR	Quarterly Environmental Monitoring Report
REA	Rapid Environmental Assessment
SEMR	Semi-Annual Environmental Monitoring Reports
SIMR	semi-annual independent monitoring report
SPS	Safeguard Policy Statement, 2009
ToR	Terms of Reference
UKPCB	Uttarakhand Pollution Control Board

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WEIGHTS AND MEASURES

ha	-	hectare
km	-	kilometre
km^2	-	square kilometer
m	-	meter
m^2	-	square meter

NOTES

(i) The fiscal year (FY) of the Government of India and its agencies begins on 1 April and ends on 31 March. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2026 begins on 1 April 2026 and ends on 31 March 2027.

(ii) In this report, "$" refers to United States dollars unless otherwise stated.

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I. INTRODUCTION

A. Background

1. Uttarakhand was carved out of the State of Uttar Pradesh in November 2000 and has a geographical area of approximately 53,483 km² with an estimated population of 11.7 million (2025). Nearly 86% of the state's terrain is hilly & mountainous[1], with elevations ranging from the foothills to peaks exceeding 7,800 m above mean sea level, while about 71% of the state's geographical area is under forest cover[2]. Approximately 7% of the population resides in rural areas, where access to reliable transport infrastructure is critical for economic development and access to essential services. The rail and air connectivity remain limited due rugged Himalayan topography of the state making the road network the primary mode of transportation. Roads account for nearly 90% of passenger and freight movement within the state and provide the principal means of connectivity between settlements, markets, educational institutions, healthcare facilities, and tourist destinations. Most of the road network serves areas below an elevation of 3,000 m, while roads in higher-altitude regions are generally narrow, characterized by steep gradients and sharp curves, and are primarily suitable for light vehicular traffic. Bridges constitute critical components of this road network by providing uninterrupted connectivity across rivers, deep gorges, and valleys, thereby ensuring traffic continuity, improving regional accessibility, supporting disaster response, and facilitating socio-economic development. The state currently has approximately 1,303 Class B loading bridges on the National Highway and State Highway network. However, many of these bridges were constructed several decades ago and have become operational bottlenecks due to their single-lane configuration, limited load-carrying capacity, aging structural condition, and geometric deficiencies.

2. The Government of Uttarakhand (GoUK), through the Public Works Department (PWD), has requested financial assistance from the Asian Development Bank (ADB) for the proposed Bridge Improvement in Uttarakhand (BIIU) Project (refer as “Project” hereafter in this document). The Project is being processed as a sector loan to improve the safety, capacity, reliability, and climate resilience of the state's transport network through construction, upgrading and retrofitting of aging bridge infrastructure, together with protection of critical landslide location along the road alignments. The Project responds to the increasing vulnerability of Uttarakhand's transport infrastructure to climate change and natural hazards by adopting a “Build Back Better” approach that integrates climate and disaster resilient engineering measures into the planning, design, construction and maintenance of transport assets. The Project aims to strengthen connectivity, improve road safety, enhance the resilience of bridge and its approach road infrastructure to floods, landslides, earthquakes, and other climate-induced hazards to minimize disruptions vehicles movement and support sustainable socio-economic development across the state. To achieve these objectives, the BIIU Project is comprise of the following four outputs:

- **Output 1:** Reconstruction of existing single-lane Class B loading bridges, including approach roads, to Class A loading standards[3].
- **Output 2:** Retrofitting and structural strengthening of existing two-lane Class B loading bridges to meet Class A loading requirements.
- **Output 3:** Implementation of slope protection and stabilization measures at critical landslide locations along the state road network.

[1] https://shm.uk.gov.in/state-profile/

[2] India State of Forest Report, 2023 (Table 1.3 of Volume 1) 71.05% of total notified geographical area is recorded forest area under state forest department, while 44.45% of total notified geographical area is actual forest cover.

[3] The component includes upgrading the existing bridge from Class B to Class A loading standards, enabling it to accommodate vehicles with higher loads (more than 50 tonnes) and widening the bridge and its approaches from a single-lane to 1.5-lane or two-lane configuration.

- **Output 4:** Strengthening the institutional capacity of the Uttarakhand PWD through innovation, advanced asset management systems, and deployment of modern infrastructure monitoring technologies.

3. The project comprises 222 subprojects involving upgradation or reconstruction of existing Class “B” loading bridges into Class “A” loading standards; retrofitting of 13 two-lane existing Class “B” loading bridges into Class “A” loading; and slope protection treatment of 8 landslide zones located along important state highways. The tentative list of subprojects proposed under the project is given in **Appendix-1**.

4. The Public Works Department, Government of Uttarakhand will serve as both the Executing Agency (EA) and the Implementing Agency (IA) for the proposed Project. The total Project cost is estimated at US$200 million, of which US$160 million will be financed through a loan from the ADB using its ordinary capital resources (OCR). The remaining US$40 million will be financed by the Government of Uttarakhand as counterpart funding to cover expenditures including civil works, land acquisition and resettlement (where applicable), project administration, taxes and duties (as applicable), interest during construction, commitment charges, and other eligible project costs. The project will be implemented over a period of 5 years from Q1 2027 to Q4 2031.

5. In accordance with the ADB Safeguard Policy Statement (SPS), 2009, the Project has been classified as Environment Category “A” because the project includes multiple bridge construction, retrofitting works and landslide stabilization subprojects with the potential for significant impacts in environmentally sensitive hilly terrain and biodiversity hotspot areas of the state. Accordingly, for project preparation, an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) has been prepared for representative sample subprojects covering the range of anticipated interventions and environmental settings.

B. Objective of Environmental Assessment and Review Framework (EARF)

6. The Project is being processed as a sector loan in accordance with ADB financing modalities. Although the project scope, investment outputs, and subproject eligibility criteria are clearly defined and the detailed design available but the environmental assessment of all individual bridge and landslide slope protection subprojects could not be completed during project preparation. Thus, the representative sample subprojects covering the proposed project components, locations and sensitive environmental settings has been selected for environmental impact assessment. The assessment of selected sample subprojects provides the basis for evaluating the anticipated potential environmental impacts of the Project and establishing environmental management plan requirements for non-sample subprojects.

7. This EARF has been prepared for all non-sample subprojects that will be identified and prepared during project implementation. The EARF establishes the procedures for screening and categorization, preparation and review of environmental assessment documents (EIAs or IEEs, as applicable), stakeholder consultation, information disclosure, environmental management planning, monitoring, institutional responsibilities, budgeting, and reporting to ensure that all future subprojects comply with the requirements of the ADB’s SPS 2009 and applicable environmental legislation of the Government of India and the Government of Uttarakhand.

8. This EARF will be disclosed on the ADB website in accordance with ADB's Access to Information Policy, 2018 and the disclosure requirements of the ADB’s SPS, 2009.

II. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

9. The subprojects under the Project are subject to the environmental safeguard requirements of the ADB’s SPS, 2009 as well as the applicable legislation on environmental protection and regulatory requirements of the Government of India (GoI) and GoUK. This

section outlines the environmental safeguard requirements of ADB and the acts, rules and regulations of India that are relevant to the Project.

A. National (India) Policies and Legal Framework

10. The legal framework of the country consists of several acts, notifications, rules and regulations to protect environment, conservation of forests and biodiversity. The national legislations are broadly divided under following categories:

- Environmental Protection,
- Forests Conservation, and
- Wildlife Protection.

11. The principal legislations governing these aspects is summarized below:

- **The Environment (Protection) Act, 1986** is the umbrella legislation for the protection and improvement of the environment in India. The Act empowers the Central Government to take measures for preventing, controlling, and abating environmental pollution, and to prescribe standards for environmental quality and emissions. Several rules and notifications issued under this Act regulate environmental clearances, pollution control, hazardous and other waste management, air and water quality, noise pollution, and other environmental aspects relevant to infrastructure development projects.

- **The Forest Conservation Act, 1980** regulates the diversion of forest land for non-forest purposes and seeks to conserve forest resources by requiring prior approval of the Central Government for the use of notified forest land for non-forest activities. The Act prescribes the procedures and conditions for forest land diversion and compensatory measures, wherever applicable.

- **Wildlife (Protection) Act 1972** as amended from time to time, provides the legal framework for the protection of wild animals, birds, plants, and their habitats. The Act governs the declaration and management of protected areas, regulates activities within and around such areas, and prohibits hunting, poaching, and illegal trade in wildlife and wildlife products.

12. The key legislation on environmental conservation and protection is shown in Table 1 and their relevance to the project.

Table 1: Key Environment Legislations/Acts/ Regulations relevant to the project

Law / Regulation	Responsible Agency	Brief Description	Relevance to the BIIU Project
National Environment Policy (NEP), 2006	MoEFCC	Provides the national policy framework for environmental protection, conservation of natural resources, pollution prevention, and sustainable development.	Provides the overall policy framework for integrating environmental protection and conservation into the planning, design, construction, and operation of bridge construction and retrofitting and slope protection works under the Project.
Environment (Protection) Act 1986; and Environment (Protection) Rules 1987 (as amended)	MoEFCC, CPCB, UKPCB	Umbrella legislation for environmental protection in India. Empowers the Central Government to prescribe environmental standards and regulate pollution.	Applicable to all subprojects. Construction activities to comply with applicable environmental standards, notifications, emission limits, waste management rules, and pollution control requirements enacted under this Act.
Environmental Impact Assessment	MoEFCC / SEIAA	The process established for obtaining Environmental Clearance	The project components (Individual bridge construction and other works) are not covered under the

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Law / Regulation	Responsible Agency	Brief Description	Relevance to the BIIU Project
(EIA) Notification, 2006 (as amended)		(EC) for scheduled categories of projects.	Schedule of the EIA Notification, 2006. Environmental impact assessment therefore undertaken in accordance with ADB SPS, 2009.
Wildlife (Protection) Act, 1972 (as amended)	MoEFCC, NBWL, SBWL, Uttarakhand Forest Department	Provides for protection of wildlife, protected areas, and ecologically sensitive habitats.	Relevant to project components located within or near notified Protected Areas, Eco-Sensitive Zones, wildlife corridors or identified habitats of protected species. Clearances/NOC/approvals to be obtained where applicable.
Forest (Conservation) Act, 1980 / Van (Sanrakshan Evam Samvardhan) Adhiniyam, 2023	MoEFCC, Uttarakhand Forest Department	Regulates diversion of forest land for non-forest purposes.	Applicable to the project component and related activities involve diversion or temporary use of forest land. Prior statutory Clearance/NOC/approval required prior the commencement of works.
Indian Forest Act, 1927 and Uttar Pradesh Tree (Protection) Act, 1976 (as adopted by Uttarakhand)	Uttarakhand Forest Department	Regulates protection, felling, transport, and management of trees and forest produce.	Permission for tree cutting or removal required for subprojects, permission processed prior to start of works, where required.
Doon Valley Eco Sensitive Area (ESA) notification, 1989	MoEFCC, Uttarakhand Forest Department	Regulates development activities within notified Eco-Sensitive Area.	Relevant to subprojects located within notified Doon Valley Eco-Sensitive Zone. Construction activities to comply with applicable notification conditions and restrictions.
Biological Diversity Act, 2002	National Biodiversity Authority, Uttarakhand Biodiversity Board	Provides for conservation and sustainable use of biological diversity.	Relevant for protecting biodiversity and minimizing impacts on flora, fauna, and aquatic ecosystems during construction activities.
River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016	National Mission for Clean Ganga (NMCG)	Provides for protection and conservation of River Ganga and its tributaries.	Relevant where subprojects are located on the Ganga basin rivers or tributaries to prevent pollution and protect river ecology. NOC need to be taken from the Authority.
Mines and Minerals (Development and Regulation) Act, 1957 and its amendment	Directorate of Geology & Mining, Uttarakhand	Regulates quarrying and transportation of minor minerals within Uttarakhand.	Applicable if construction materials are procured from quarries located in Uttarakhand.
Wetlands (Conservation and Management) Rules, 2017	State Wetland Authority	Provides for conservation and management of wetlands.	Applicable only where project activities are located within or adjacent to notified wetlands. NOC/Approvals required for such subprojects and comply to the conditions to avoid impacts on

Law / Regulation	Responsible Agency	Brief Description	Relevance to the BIIU Project
			wetland ecology.
Air (Prevention and Control of Pollution) Act, 1981	CPCB, UKSPCB	Regulates prevention and control of air pollution.	Relevant to construction stage for emissions control, operation of DG sets, batching plants, crushers, and construction equipment. Consent to Establish and Operate will be obtained for the subproject works and associated activities.
Water (Prevention and Control of Pollution) Act, 1974	CPCB, UKPCB	Regulates prevention and control of water pollution.	Relevant to construction stage of subprojects activities, construction camps, batching plants, labour camps, and bridge works near rivers and streams. Permission to withdraw water and comply to the condition to prevent contamination of surface and groundwater.
Noise Pollution (Regulation and Control) Rules, 2000	UKPCB	Implementation of ambient noise standards.	Relevant during construction activities, excavation, piling, concrete works, and transportation of material. Noise standards to comply with and apply mitigation measures, particularly near sensitive receptors, where applicable.
Construction and Demolition Waste Management Rules, 2016	District Authority	Regulates management of construction and demolition waste.	Applicable to management and disposal of spoil, construction debris/excavated material generated from subproject construction activities.
Solid Waste Management Rules, 2016	District Authority / Urban Local Body (ULB)	Regulates management of municipal solid waste.	Applicable to labour camps, site offices, and construction facilities generating domestic solid waste.
Plastic Waste Management Rules, 2016	District Authority/ULB	Regulates management and recycling of plastic waste.	Applicable to all project activities and facilities generating plastic waste during construction.
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016	UKPCB	Regulates handling and disposal of hazardous wastes.	Relevant for storage, handling, transportation, and disposal of used oil, lubricants, paints, fuel-contaminated materials, and other hazardous wastes generated during construction.
Battery Waste Management Rules, 2022	UKPCB	Regulates environmentally sound management of waste batteries.	Applicable where batteries from vehicles, DG sets, and equipment are generated during project implementation.
E-Waste Management Rules, 2022	UKPCB	Regulates collection and recycling of electronic waste.	Applicable where electronic equipment is used at project offices and construction sites.
Ancient Monuments and Archaeological Sites and Remains Act, 1958	Archaeological Survey of India	Protects monuments and archaeological heritage.	Relevant to the subproject located near protected monuments or if archaeological remains are encountered during excavation. Implementation of Chance Find Procedures will be establish and implemented.
National Green	National Green	Establishes a specialized	Provides the legal mechanism for

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Law / Regulation	Responsible Agency	Brief Description	Relevance to the BIIU Project
Tribunal Act, 2010	Tribunal	tribunal for disputes on environmental protection and conservation.	addressing environmental compliance and dispute resolution associated with project implementation.
Petroleum Rules, 2002	Petroleum and Explosives Safety Organization (PESO)	Regulates storage and handling of petroleum products.	Relevant for diesel storage and fuel handling at construction sites and construction camps.
Gas Cylinder Rules, 2016	PESO	Regulates storage and handling of LPG and compressed gases.	Applicable where LPG cylinders are used in labour camps and site facilities.
Explosives Act, 1884 and Explosives Rules, 2008	PESO	Regulates storage and use of explosives.	Applicable only if controlled blasting is required for excavation or landslide stabilization under the Project.
Central Motor Vehicles Act, 1988	Ministry of Road Transport & Highways; State Transport Department	Regulates vehicle registration, Pollution Under Check Certificate, and road safety.	Applicable to all vehicles and construction machinery deployed to the work site under the Project.
CGWA Guidelines for Groundwater Abstraction	Central Ground Water Authority	Regulates abstraction and sustainable use of groundwater.	Applicable where groundwater is proposed as a source of construction water and permission from State/District CGWA is required.
Compensatory Afforestation Fund (CAMPA) Act, 2016	MoEF&CC; Uttarakhand Forest Department	Provides the framework for compensatory afforestation and ecological restoration due to diversion of forest land for non-forest/project purposes.	Applicable where diversion of forest land is taken for the subproject, requiring compensatory afforestation and payment of applicable CAMPA charges.

13. The statutory clearances, permits, approvals, and No Objection Certificates (NOCs) applicable to the Project are presented in the table-2 below.

Table 2: List of Clearances and Permissions Required for subproject construction

Permission / Approval / NOC	Applicability	Competent Authority	Expected Timeline	Responsibility
Forest Clearance / NOC	Diversion of forest land for subproject activities, if required	Uttarakhand Forest Department	6–12 months	PWD / PMU / PIU
Tree Felling Permission	Tree cutting, pruning, or removal required for subproject works	Divisional Forest Officer (DFO), Uttarakhand Forest Department	30–90 days	PWD / PMU / PIU
Protected Area / Wildlife Permission / Clearance	Subproject works located within Protected Areas, Eco-Sensitive Zones, wildlife corridors.	Chief Wildlife Warden / PCCF, Uttarakhand Forest Department	3–6 months	PWD / PMU / PIU
Utility Shifting Permission	Relocation of electricity lines, water pipelines,	Concerned Utility Agency /	30–90 days	PWD / PMU / PIU

Permission / Approval / NOC	Applicability	Competent Authority	Expected Timeline	Responsibility
	telecom/OFC cables, irrigation channels, sewer lines, and other utilities	Department		
Consent to Establish (CtE)	Establishment of batching plants, crushers, hot-mix plants, labour camp STPs, or other facilities requiring consent	Uttarakhand Pollution Control Board (UKPCB)	30–60 days	Contractor
Consent to Operate (CtO)	Operation of batching plants, crushers, hot-mix plants, labour camp STPs, or other facilities requiring consent	UKPCB	15–45 days	Contractor
Mining Permit / Mining Lease / Transit Pass	Required if the contractor establish or operate a new quarry, borrow area, or extract earth, sand, stone, or other minor minerals specifically for the project. Not applicable when materials are procured from valid licensed commercial sources.	Department of Geology & Mining, Government of Uttarakhand / District Administration	30–90 days	Contractor
Doon Valley Notification Approval / NOC (where applicable)	Applicable only for project components located within the notified Doon Valley area where activities are regulated under the Doon Valley Notification, 1989. Approval may be required for specified development activities, including mining, as applicable.	Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India / Concerned State Authorities	2–6 months	PWD / PMU / PIU
National Mission for Clean Ganga (NMCG) Prior Approval / NOC	Required for bridge construction, associated roads and embankments, river training works, hydraulic structures, or other specified activities on or along the River Ganga or its notified tributaries and floodplain, where applicable under the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.	National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti	60–120 days	PWD / PMU / PIU
Hazardous Waste Authorization	Generation, storage, handling, or disposal of hazardous waste including used oil, lubricants, batteries, and contaminated materials	UKPCB	30–60 days	Contractor
Groundwater Extraction NOC	Groundwater abstraction for construction activities, camps, or project	Central Ground Water Authority (CGWA) /	45–90 days	Contractor

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Permission / Approval / NOC	Applicability	Competent Authority	Expected Timeline	Responsibility
	facilities, where applicable	Competent State Authority		
Borrow Area / Quarry Permit	Establishment or operation of a new borrow area, quarry, or material extraction site for the subprojects	Department of Geology & Mining / District Administration	30–90 days	Contractor
Petroleum Storage License	Storage of diesel or petroleum products above prescribed limits	Chief Controller of Explosives / District Authority	30–60 days	Contractor
Pollution Under Control (PUC) Certificate	All construction vehicles and equipment requiring valid PUC certification	Transport Department / Authorized Testing Centre	1–7 days	Contractor
Traffic Diversion / Traffic Management Approval	Temporary traffic diversion, lane closure, road closure, or traffic management during construction	PWD / Traffic Police / District Administration	7–30 days	Contractor (with PMU/PIU approval)
Labour License	Engagement of contract labour beyond the prescribed threshold under applicable labour laws	Labour Department	15–30 days	Contractor
Registration under BOCW Act (where applicable)	Registration of construction establishment under applicable labour legislation	Labour Department	15–30 days	Contractor
ESI and EPF Registration	Applicable where the contractor employs workers covered under the respective Acts	ESIC / EPFO	7–30 days	Contractor
Inter-State Migrant Worker Registration (if applicable)	Employment of inter-state migrant workers	Labour Department	15–30 days	Contractor
Labour Camp Approval (where required)	Establishment of labour camps with water supply, sanitation, waste management, and welfare facilities	Local Authority / Gram Panchayat / PMU/PIU (as applicable)	15–30 days	Contractor

14. The provisions related to Wildlife and Forest clearances apply to subprojects located within a notified Protected Area (PA), Eco-Sensitive Zone (ESZ) of a PA, forest area, or ecologically sensitive areas with significant biodiversity value. Such subprojects require detailed assessment of potential impacts on wildlife habitats, movement corridor, forest resources, and ecosystem services. Before starting construction works, the PMU/PIU will ensure that all required statutory clearances and permissions from the concerned authorities have been obtained, wherever applicable. Construction activities to comply with the conditions of the obtained clearances and recommended mitigation measures, including avoiding sensitive habitats, minimizing vegetation removal, controlling pollution and waste generation, protecting wildlife corridors, and restoring disturbed areas.

B. Environmental, health, and safety standards

15. The environmental standards, codes, and guidelines issued by the Government of India for environmental quality management and applicable to the Project are summarized. The key standards include:

- National Ambient Air Quality Standards (NAAQS), 2009;
- Noise Pollution (Regulation and Control) Rules, 2000 – Ambient Air Quality Standards in Respect of Noise;
- IS 10500:2012 (Latest Revision) – Drinking Water Specification;
- General Standards for Discharge of Environmental Pollutants under the Environment (Protection) Rules, 1986;
- Emission Standards for Diesel Generator (DG) Sets under the Environment (Protection) Rules, 1986;
- Construction and Demolition Waste Management Rules, 2016;
- Solid Waste Management Rules, 2016;
- Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016;
- Plastic Waste Management Rules, 2016;
- Battery Waste Management Rules, 2022;
- Central Pollution Control Board (CPCB) Guidelines for Environmental Management of Construction Projects;
- Indian Roads Congress (IRC):SP:55 – Guidelines on Safety in Road Construction Zones;
- IRC:SP:21 – Guidelines on Landscaping and Tree Plantation;
- Occupational Safety, Health and Working Conditions (OSHWC) Code, 2020 and applicable Rules;

C. ADB's Environmental Safeguard Requirements

16. The ADB SPS outlines the environmental safeguard requirements that borrowers/clients have to comply with. Requirements specifically related to the project are described and integrated in this EARF.

17. The ADB's SPS establishes an environmental review process to ensure that subprojects undertaken as part of projects funded through ADB loan are environmentally sound; are designed to operate in compliance with applicable national and state regulatory requirements; and are not likely to cause significant environmental, health or safety hazards. The ADB's SPS is underpinned by the ADB Operations Manual, Bank Policy (OM Section F1/BP, October 2013). The policy also promotes adoption of international good practice as reflected the World Bank Group's Environmental, Health and Safety (EHS) Guidelines.

18. The SPS requirements include assessing impacts, planning, and managing impact mitigations, preparing environmental assessment reports, disclosing information, and undertaking stakeholder consultations, establishing a grievance redress mechanism, and monitoring and reporting. It also includes specific environmental safeguard requirements pertaining to biodiversity conservation and sustainable management of natural resources, pollution prevention and abatement, occupational and community health and safety, and conservation of physical cultural resources. Consideration of associated facilities, that are not funded as part of the project, and whose viability and existence on the project is also required.

19. **Sector loan modality**. For sector loan modality (such as the BIIU project) each subproject of the project needs to be screened and categorized according with the procedures set out in below sections. The screening and categorization processes also apply to individual subprojects. The required environmental safeguard documents include REA Checklist, IEE/EIA and EMP shall be prepared for all subprojects as per ADB SPS and this EARF. These

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documents shall be submitted to ADB for review and approval prior to the commencement of any construction works under the project.

20. **Screening.** Each subproject of the project is screened using rapid environmental assessment (REA) checklist (**Appendix-2**) to determine the following:

a) Significance of potential environmental, biodiversity and health and safety impacts and risks of the subproject.
b) Level of assessment and institutional resources required to address the safeguard issues.
c) Information disclosure and consultation requirements.

21. The REA Checklist shall be supported by site-specific GIS mapping to record spatial screening against Protected Areas (PAs), Eco-Sensitive Zones (ESZs), Key Biodiversity Areas (KBAs), notified wildlife corridors, forest areas, wetlands, and other environmentally sensitive areas. The screening documents including the completed REA Checklist, GIS maps, and recorded data for each subproject shall be maintained by the PMU and made available to ADB for review.

22. **Categorization.** Based on the results of the screening, each subproject is categorized in one of the following environmental safeguards categories:

- **Category A:** A proposed project is classified as category "A" if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment (EIA), including an environmental management plan (EMP), is required.
- **Category B:** A proposed project is classified as category "B" if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE), including an EMP, is required.
- **Category C:** A proposed project is classified as category "C" if it is likely to have minimal or no adverse environmental impacts. An environmental due diligence report and an environmental code of conduct are required.

23. Subprojects meeting any of the following criteria shall be considered as potentially Category A and shall be subject to detailed assessment and confirmation of categorization in accordance with ADB SPS requirements:

i. is located within a Protected Area like national park, wildlife sanctuary, conservation reserve or other legally protected area;
ii. is located within a notified Eco-Sensitive Zone (ESZ) or a notified/recognized wildlife corridor;
iii. is located within or is likely to significantly affect a Key Biodiversity Area (KBA) or another nationally or internationally recognized area of high biodiversity value;
iv. requires diversion of more than 1 hectare of forest land;
v. involves in-stream works in the mainstem of the Ganga, or works likely to cause significant adverse impacts on wetlands, floodplains or riverine habitats; or
vi. is likely to cause significant conversion or degradation of natural or critical habitat of threatened or endangered species.

24. Specific to environmental aspects, the objective of the SPS is to "ensure the environmental soundness and sustainability of project and to support the integration of environmental considerations into the decision-making process".

25. The main Environmental Safeguard Policy Principles of SPS 2009 are as follows:

a) Screen the project early on to identify environmental impacts and risks. Determine the scoping to determine the appropriate type and level of environmental assessment;

b) Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic and physical cultural resources in the context of the project's Area of Influence. Assess potential transboundary and global impacts, including climate change. Use strategic environmental assessment where appropriate;

c) Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative;

d) Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an EMP that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle;

e) Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance;

f) Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders;

g) Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports;

h) Do not implement project activities in areas of critical habitats, unless (i) there are no measurable adverse impacts on the critical habitat that could impair its ability to function, (ii) there is no reduction in the population of any recognized endangered or critically endangered species, and (iii) any lesser impacts are mitigated. If a project is located within a legally protected area, implement additional plans or measures to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless (i) alternatives are not available, (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any conversion or degradation is appropriately mitigated. Use a precautionary approach to the use, development, and management of renewable natural resources;

i) During the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines. These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more

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stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in the SPS 2009. Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage. Avoid the use of hazardous materials subject to transportation bans or phaseouts. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides;

j) Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease. Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities;

k) Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of "chance find" procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.

D. International Conventions and Guidance

26. India is a signatory to several international conventions and treaties on environmental protection and conservation that are relevant to the environmental screening and assessment of subprojects. These conventions require signatory countries to establish an appropriate legislative and institutional framework for their implementation, comply with their provisions, monitor implementation on a regular basis, and submit periodic reports to the respective Parties, as applicable. The international conventions relevant to the Project are summarized below in Table-3.

Table 3: International Environmental Conventions Signed by India

No.	International Convention	Year of Ratification	Relevant to Project
	Nature Conservation		
1	Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)	1977	Yes
2	Convention on Biological Diversity (CBD)	1994	Yes
3	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	1976	Yes
4	Convention on the Conservation of Migratory Species of Wild Animals (CMS/Bonn Convention)	1983	Yes
5	Ramsar Convention on Wetlands of International Importance	1982	Yes
6	United Nations Framework Convention on Climate Change (UNFCCC)	1993	Yes
7	Paris Agreement	2016	Yes
	Internationally Recognized Guidance Documents*		
8	IUCN Red List of Threatened Species	-	Yes
9	IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	-	Yes

***Note-** *These are international guidance document for biodiversity assessment and environmental management for infrastructure projects.*

27. The Project is required to meet the ADB SPS guidelines as well as international standards of the International Finance Corporation (IFC), which is part of the World Bank

Group. The international environmental and social safeguard policies of these organizations are outlined below.

(i) World Bank Group Environmental, Health, and Safety (EHS) Guidelines, 2007.

(ii) ADB Environmental Safeguards: A Good Practice Sourcebook, 2012.

(iii) ADB Guidance Note on Biodiversity and Ecosystem Services, 2021

(iv) International Finance Corporation (IFC) Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources (Good International Industry Practice)

(v) Internation Labour Organization (ILO) Labour Standards

III. THE PROJECT SCOPE AND POTENTIAL IMPACTS AND RISK

28. The physical components of the Project comprise the construction, rehabilitation and associated ancillary works required to improve bridge infrastructure and approach roads, strengthen and retrofit existing bridges and implement slope protection measures in landslide-prone areas. The scope of the Project includes the following components:

- **Construction of Class A loading bridges and approach roads:** The Project will involve construction of 222 new Class A loading bridges in parallel to the existing single-lane Class B loading bridges located on State Highways (SHs) and Major District Roads (MDRs). The new bridges will be designed in accordance with Class A loading standards and incorporate climate-resilient and disaster-resilient engineering features. The associated approach roads will also be upgraded to ensure seamless connectivity with the existing road network. These interventions will improve traffic capacity, accommodate higher axle loads, reduce travel time and congestion, enhance road safety, and provide reliable all-weather connectivity.
- **Strengthening and retrofitting of existing bridges:** The Project will structurally strengthen and retrofit 13 existing two-lane Class B loading bridges to comply with Class A loading standards. The proposed works will enhance structural integrity, increase load-carrying capacity, extend the service life of the bridges, improve resilience to floods, earthquakes, landslides, and other climate-related hazards, and reduce long-term maintenance requirements.
- **Slope protection in landslide-prone zones:** The Project will implement slope stabilization and protection works at 8 landslide locations along the state road network. The proposed interventions will include geotechnical stabilization measures, retaining structures, drainage improvement, rockfall protection, and bioengineering techniques, as appropriate to site conditions. These works are intended to stabilize failed slopes, reduce the risk of future landslides, protect adjacent road infrastructure, improve road user safety, and ensure reliable all-weather connectivity.

29. The Project is proposed in the State of Uttarakhand, located in the northern Himalayan region of India. The Project will be implemented across nine districts of Uttarakhand, namely Almora, Bageshwar, Champawat, Nainital, Udham Singh Nagar, Pauri Garhwal, Tehri Garhwal, Rudraprayag, and Dehradun. Uttarakhand is characterized by diverse physiographic conditions, ranging from the Terai and Bhabar plains in the south to rugged mountain ranges and snow-covered Himalayan peaks in the north. Approximately 86% of the state's geographical area comprises mountainous and hilly terrain, while the remaining area consists of foothill plains, river valleys, and alluvial lowlands. The varied topography, coupled with fragile geology, steep slopes, high seismicity, and intense monsoon rainfall, makes the state's transport infrastructure highly vulnerable to landslides, flash floods, erosion, and other natural hazards.

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30. All bridge improvement and slope stabilization subprojects financed under the Project will be designed and implemented in accordance with the applicable standards and specifications of the Indian Roads Congress (IRC), the Ministry of Road Transport and Highways (MoRTH), and other relevant national codes and guidelines. The proposed infrastructure will incorporate climate-resilient and disaster-resilient engineering best practices to enhance the long-term safety, structural integrity, durability and operational reliability of the transport network. Construction activities will generally comprise medium scale civil works and will be confined to the defined subproject footprints, including bridge construction sites, existing bridge structures proposed for retrofitting, approach roads located within the available right-of-way (RoW) or requiring minimal additional land acquisition and designated locations for slope stabilization works. Temporary construction facilities, including construction camps, material storage areas, equipment yards and site offices, will be established during the construction phase as required.

31. **Environmental assessment and Anticipated Impacts:** The potential environmental impacts associated with the principal construction activities, together with the corresponding mitigation measures, are summarized in Table-4. These have been derived from the detailed EIA study undertaken for six representative sample subprojects, include five bridge construction subprojects (Bridge ID-2866 on SH-11 Almora District, Bridge ID-1580 on SH-72 Tehri Garhwal District, Bridge ID-2118 on SH-52 Pauri Garhwal District, Bridge ID-1742 on SH-49 Pauri Garhwal District, and Bridge ID-3070 on SH-09 Pauri Garhwal District) and one landslide slope stabilization subproject along SH-77 in Tehri Garhwal District. The likely environmental impacts and corresponding mitigation measures of sample subprojects to be applied during the impact assessment of future subprojects in accordance with this EARF.

32. The potential impacts and mitigation measures of the representative subprojects are indicative only for impact assessment studies for future subprojects. However, the actual nature and magnitude of environmental impacts during construction will vary depending on the location, scale, design, and surrounding environmental and social conditions of each subproject. Therefore, the environmental impacts identified through the sample subprojects shall not be considered exhaustive and each future subproject shall undergo site-specific environmental screening and assessment in accordance with this EARF and the applicable requirements of the ADB Safeguard Policy Statement (SPS), 2009.

33. This EARF establishes the requirements and procedures for environmental screening and categorization of future subprojects, preparation of environmental assessment and management documents, stakeholder consultation and information disclosure, grievance redress, environmental monitoring and reporting, and institutional arrangements for safeguard implementation and supervision. All future subprojects will be required to comply with the environmental safeguard requirements specified in this EARF, applicable national laws and regulations, and ADB SPS (2009).

34. Based on the findings of the representative sample subprojects EIA, the anticipated potential environmental impacts and mitigation measures are mentioned in Table-4. The principle environmental impacts anticipated during the construction stage of the project are listed below:

- **Air Quality:** Generation of fugitive dust from site clearance, excavation, earthworks, transportation of construction materials, operation of construction equipment, and movement of vehicles on unpaved haul roads. Emissions from construction machinery and vehicles affect the ambient air quality, particularly in settlements located adjacent to construction sites.
- **Water Quality:** Potential deterioration of surface and groundwater quality due to runoff carrying excavated materials, accidental spills and leakage of fuel, lubricants, concrete slurry, and other construction materials. Bridge construction activities within or adjacent to rivers lead to increase turbidity, sedimentation, and localized changes in water quality.
- **Soil and Land Disturbance:** Disturbance of land resulting from excavation for bridge foundations, approach road construction, slope cutting, construction of retaining

structures, and establishment of temporary facilities such as construction camps, material storage areas, and equipment yards. Improper spoil disposal potential to soil erosion, land degradation, and slope instability.

- **Slope Stability and Geo-hazards:** Excavation, slope cutting, and construction activities in the fragile Himalayan terrain may induce localized slope instability, rockfalls, erosion, or landslides.
- **Material Sourcing:** Extraction of construction materials from quarries, borrow areas, and riverbeds result in land degradation, vegetation loss, erosion, dust generation, increased traffic, and adverse impacts on river morphology and aquatic habitats if materials are sourced from unapproved locations or without adequate environmental management.
- **Muck Disposal and Waste Management:** Generation of construction and demolition waste, excavated material, surplus earth, concrete debris, scrap steel, and domestic waste from construction camps. Inappropriate handling or disposal of construction waste and spoil adversely affect land, watercourses, surrounding habitats and visual amenity.
- **Noise and Vibration:** Increase in noise and vibration levels from construction machinery, excavation works, drilling, rock breaking, vehicle movement, and other construction activities temporarily affect nearby settlements, educational institutions, healthcare facilities, wildlife, and other sensitive receptors.
- **Biodiversity and Ecological Resources:** Disturbance to vegetation, forest areas, riparian habitats, aquatic ecosystems, and wildlife due to vegetation clearance, construction activities, increased human presence, and movement of construction machinery. Construction within or adjacent to environmentally sensitive areas causes habitat fragmentation, disturbance to wildlife movement, and impacts on protected flora and fauna.
- **Traffic and Community Health and Safety:** Traffic congestion, restricted access, increased movement of heavy construction vehicles, and safety risks to road users and local communities during construction. Construction activities may block access to residential areas, agricultural land, public utilities, community facilities and disrupt access to emergency services in the project area.
- **Occupational Health and Safety:** Health and safety risks to construction workers associated with excavation, work at heights, bridge erection, operation of heavy equipment, confined space work, handling of hazardous materials, and working in steep slope terrain and river environments.
- **Natural Hazards and Climate Risks:** Construction activities may be disrupted by extreme weather events, including intense rainfall, flash floods, cloudbursts, landslides, rockfalls, debris flows, earthquakes, and high river flows. Such events potential risk to damage partially completed works, increase environmental impacts through erosion and sediment transport, compromise worker and community safety, and require implementation of emergency preparedness and response measures.
- **Project Implementation Delays:** Delays due to adverse weather conditions, natural disasters, restricted construction seasons, statutory clearances, utility relocation, land acquisition, or supply-chain disruptions may prolong the duration of construction activities, resulting in extended environmental disturbances such as dust, noise, traffic disruption, occupation of temporary construction facilities, and increased inconvenience to local communities.
- **Landscape and Visual Impacts:** Aesthetic impacts arising from construction activities, material stockpiles, spoil disposal sites, temporary facilities, exposed excavated slopes, and construction equipment until completion of the works and restoration of disturbed areas.

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Table 4: Project Indicative Environmental Risks/Issues and Mitigation Measures

Risk / Issue	Performance Objective	Mitigation Measure	Responsibility
Pre-Construction Stage			
Environmental Screening and Regulatory Compliance	Ensure compliance with ADB SPS, 2009 National and State environmental regulations.	• screen and categorize each subproject; • prepare EIA/IEE and EMP, • obtain Forest Clearance, Wildlife Clearance (where applicable), • tree felling permission, • consent to Establish & operate from UKPCB, • quarry permits, and other statutory approvals prior to commencement of works.	PWD/PMU, PIU, DPR Consultant
Land Acquisition and Resettlement	Minimize involuntary resettlement and ensure timely land availability.	• complete land acquisition and implementation of the Resettlement Plan (where applicable) before construction. • avoid or minimize displacement through alternate design options.	PWD/PMU, Revenue Department
Utility Relocation	Avoid disruption of essential public services.	• identify and relocate affected utilities (electricity, water supply, telecommunications, sewerage, etc.) in coordination with in line departments/agencies before construction.	PIU, Utility Agencies
Climate and Disaster Risk	Ensure climate-resilient infrastructure.	• incorporate hydrological, hydraulic, seismic, and geotechnical investigations in the design. • design bridges, drainage, and slope stabilization works considering extreme rainfall, floods, earthquakes, and landslide risks.	Design Consultant, PMU
Construction Material Sources	Minimize environmental impacts associated with material sourcing.	• procure aggregates, sand, stone, and borrow material only from government-approved quarries, borrow areas, and licensed suppliers. • prepare Quarry and Borrow Area Management Plans for contractor-operated material sources are used.	Contractor, PIU
Construction Stage			
Air Quality	Minimize dust emissions and gaseous pollutants.	• implement Dust Management Plan including water sprinkling, covering of haul vehicles, wheel washing, speed control, regular maintenance of machinery, and use of emission-compliant equipment.	Contractor, CSC Environmental Expert, PIU
Surface Water Quality	Prevent pollution of rivers, streams, and drainage channels.	• install silt fencing, sediment traps, cofferdams (where required), and erosion control measures. • prohibit direct discharge of	Contractor, CSC, PIU

Risk / Issue	Performance Objective	Mitigation Measure	Responsibility
		wastewater, concrete slurry, or construction waste into watercourse. • provide spill containment for fuels and lubricants.	
Soil Erosion and Slope Stability	Prevent erosion and slope failures.	• restrict excavation to approved limits, • provide temporary and permanent slope stabilization measures, • install surface and subsurface drainage, • progressively stabilize exposed slopes, and • implement bioengineering measures immediately after earthworks.	Contractor, CSC, PIU
Bridge Foundation Works	Minimize impacts on river morphology and aquatic habitats.	• schedule in-stream works during low-flow periods, • minimize disturbance to riverbeds, • avoid unnecessary diversion of watercourses, and • restore disturbed riverbanks following construction.	Contractor, CSC
Waste Management	Ensure environmentally sound management of construction waste.	• prepare and implement a Construction Waste Management Plan. • segregate waste streams, reuse excavated material where feasible, dispose of surplus spoil at approved disposal sites, and • prohibit dumping in rivers, forests, or unstable slopes.	Contractor, PIU
Spoil Disposal	Prevent environmental degradation from spoil disposal.	• use only approved spoil disposal sites with retaining structures, drainage, toe protection, and rehabilitation measures. • restore disposal sites after completion of works.	Contractor, CSC
Construction Camps	Minimize impacts from temporary facilities.	• locate camps outside environmentally sensitive areas and flood-prone zones. • provide potable water, sanitation, wastewater treatment, solid waste management, and occupational health facilities. • restore camp sites after demobilization.	Contractor
Noise and Vibration	Minimize disturbance to communities and sensitive receptors.	• restrict noisy activities to daytime hours, maintenance of equipment/machine, provide temporary noise barriers where required, and notify nearby communities before high-noise activities.	Contractor, PIU

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Risk / Issue	Performance Objective	Mitigation Measure	Responsibility
Biodiversity and Forest Resources	Avoid or minimize impacts on natural habitats and wildlife.	• limit vegetation clearance as required (< 1.0 Ha), protect retained trees, prohibit hunting and collection of forest resources, implement compensatory plantation, • restore disturbed areas with native species.	Contractor, Forest Department, PIU
Traffic and Community Safety	Maintain safe movement of road users and local communities.	• prepare and implement Traffic Management Plans, • provide warning signs, barricades, flagmen, temporary diversions, pedestrian access, and emergency access throughout construction.	Contractor, Traffic Police, PIU
Occupational Health and Safety	Protect workers from construction-related hazards.	• implement Occupational Health and Safety Plan, • provide PPE, fall protection, safe working platforms, confined-space procedures, emergency response plans, • maintain first aid facilities, and • conduct regular safety training.	Contractor, CSC
Cultural Heritage	Protect archaeological and cultural resources.	• implement Chance Find Procedures and immediately stop work if archaeological or cultural resources are encountered until clearance is obtained from the competent authority.	Contractor, PIU
Natural Hazards	Protect workers, communities, and infrastructure during extreme events.	• prepare Emergency Preparedness and Response Plan addressing landslides, flash floods, cloudbursts, earthquakes, and extreme rainfall. Suspend construction during severe weather warnings and stabilize partially completed works.	Contractor, PIU
Operation Stage			
Bridge Safety and Structural Integrity	Ensure long-term safe operation of bridges.	• conduct periodic bridge inspections, structural health monitoring (where installed), preventive maintenance, and timely repair of structural defects.	PWD
Slope Stability	Maintain long-term stability of treated slopes.	• inspect retaining structures, drainage systems, bioengineering measures, and rockfall protection systems after monsoon seasons and major hazard events. • implement corrective maintenance as required.	PWD
Drainage Management	Maintain effective drainage and prevent flooding.	• regular inspect and clean bridge drainage systems, culverts, catch-water drains, and surface drains to prevent blockage and erosion.	PWD
Road Safety	Improve safety for road users.	• maintain road markings, crash barriers, signage, guardrails,	PWD

Risk / Issue	Performance Objective	Mitigation Measure	Responsibility
		parapets, and lighting (where provided). Monitor accident-prone locations and implement corrective measures.	
Environmental Monitoring	Ensure continued environmental compliance during operation.	• monitor the performance of environmental mitigation measures, compensatory plantations, slope stabilization works, and rehabilitation of disposal sites. Implement corrective actions where necessary.	PWD

Abbreviations: PWD-Public Works Department, PIU-Project Implementation Unit, CSC-Construction Supervision Consultant, PMU-Project Management Unit

35. **Biodiversity assessment:** The state of Uttarakhand is almost entirely within the Himalayan biodiversity hotspot, holds crucial habitats for a wide range of Endangered species, and falls along the east-west Terai Arc Landscape corridor. The state holds World Heritage Sites, Protected Areas and other ecologically sensitive locations having habitats for over 40 Endangered species. Therefore, biodiversity assessments were undertaken for selected sample subprojects (Table 5) to both design an assessment framework, and to establish the baseline ecological conditions, identify potential impacts on biodiversity and sensitive habitats for this subset. The subset and larger scale analysis were used to develop a BAP that acknowledges follow-up needs.

Table 5: Baseline Biodiversity Assessment (Field based surveys June 2026)

Bridge ID	Administrative District / PWD Division	Number of Species (Richness)	EN/CR/VU Species Richness	Presence
1580	Tehri Garhwal / CD Chamba	15	4	Undetected
1742	Pauri Garhwal / PD Pauri	28	4	Detected
2118	Pauri Garhwal / CD Baijron	22	7	Detected
2866	Almora / CD Almora	19	6	Undetected
3070	Pauri Garhwal / CD Duggada	24	6	Undetected

36. Biodiversity risks for aquatic and terrestrial species were evaluated at multiple scales including a small scale and catchment level scales referred to hereafter as Ecologically Appropriate Area of Analysis (EAAA)s. These catchment attributes were used to classify each Project site's natural/modified habitat condition and to flag the likelihood of Critical Habitat. Therefore, the relevant EAAA, was the extent at which biodiversity risks and Critical Habitat Assessment (CHA) thresholds were evaluated.

37. CH Screening was carried out to identify areas within the projects EAAA that contain biodiversity meeting the critical habitat criteria under ADB SPS 2009. Field and desktop assessments were conducted for evaluating both aquatic and terrestrial biodiversity; and to identify critical habitats and to suggest appropriate mitigation and management measures both at Small scale (<100 m) and at Watershed/Catchment scale, the outputs of which are summarized below for the 5 sample bridges.

Table 6: Natural/Modified/Critical Habitat Condition at the Subsampled Bridge Sites.

Bridge ID	Habitat (Field Based Assessment)	Habitat (Small Scale <100 M)	Habitat (Watershed / Catchment Scale)	Critical Habitat *	Features
1580	**Natural** (Low modification)	Natural	Natural	Likely	Native riparian vegetation, natural riverbanks, minimal human activity, no bank stabilization, clear water

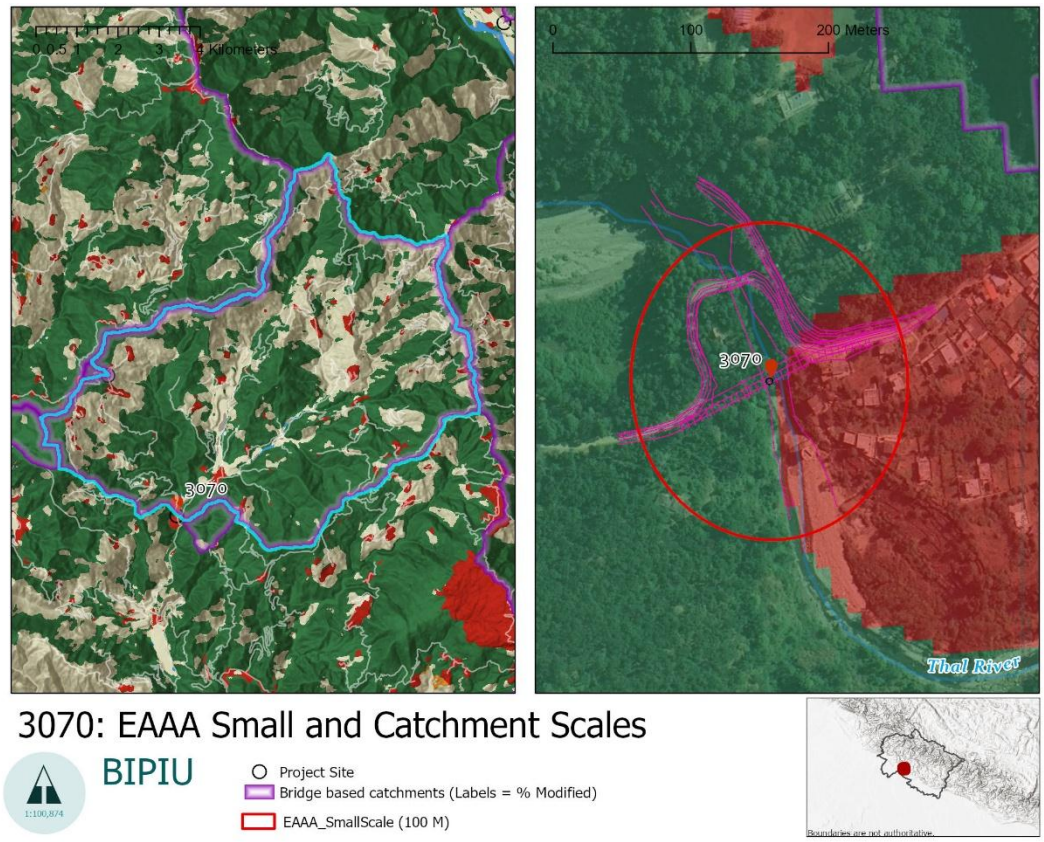
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1742	**Modified**	Natural	Natural	Likely	Concrete check dam and pipelines, moderate agriculture or settlements, little or no bank stabilization, clear water
2118	**Modified**	Natural	Modified	Potential	Bank modification, moderate agriculture or settlements, fragmented riparian vegetation, occasional solid waste
2866	Highly **Modified**	Modified	Natural	Unlikely	Concrete check dam and pipelines, bank modification, urban development, heavy traffic, solid waste or plastic litter, sewage or wastewater discharge, fragmented riparian vegetation, stagnant turbid water
3070	Severely **Modified**	Modified	Natural	Potential	Channelization, large-scale industrial activities, urban development, bank reinforcement, sand & rock mining, nearby roads, fragmented riparian vegetation, stagnant turbid water

*Likely, Potential, and Unlikely are based on ADB SPS 2009 CH criteria and matched to the UNEP-WCMC. (2025) Global Critical Habitat screening definitions.

38. An assessment framework was established to characterize sites at both the footprint of physical works and watershed levels. Project activities during construction of bridges and approaches, associated facilities (construction camps) may result in potential impacts on biodiversity without appropriate mitigation measures implementation. The anticipated impacts include: (i) habitat loss, fragmentation, alteration of natural habitats and degradation due to vegetation clearance; (ii) disturbance to terrestrial and aquatic species due to increased noise, vibration, human activity; (iii) degradation of aquatic habitats due to increased sedimentation, obstruction of water flow and changes in drainage patterns; (iv) potential impacts to habitat modification and reduced habitat connectivity; and (v) indirect impacts from increased pollution, runoff, waste generation, and accidental release of contaminants during construction and operation phases.

Figure 1: Spatial scale of biodiversity assessments, where aquatic habitat is a function of watershed characteristics and local habitat.



39. The BAP prepared for selected sample subprojects will be integrated as a part of the project EMP. The key features of the BAP include:

- **Avoidance:** Includes adopting clear-span designs with no in-channel piers. Bridge designs support natural hydrologic flows including during fish spawning and migration seasons, spawning-season construction is avoided.
- **Minimise:** Use cofferdams and silt curtains, restrict the construction footprint, schedule in-water works outside the spawning/breeding season
- **Restore / rehabilitate** stabilize and re-profile banks, remove new access points and approaches after works, replant native riparian vegetation post-construction. At sites with documented spawning, restore the substrate so that the structure produces bed-material transport behavior equivalent to the reference reach upstream and downstream, rather than relying only on bankfull width.
- **Offset (last resort):** where residual impacts on Critical Habitat remain, design a like-for-like biodiversity offsets with a measurable net-gain targets, monitored under a Biodiversity Action Plan. Do not rely on an engineered fish ladders or lifts as a restoration solution for golden mahseer.
- **Capacity Development and Policy**: Support and identify pathways for stronger regulatory frameworks to protect both terrestrial and river ecosystems.
- **Monitoring**: Monitoring is needed to confirm desktop CH determinations using eDNA and standard survey methods. These results will support both the project implementation and broader scale conservation of a socio-culturally and economically important species.

40. All subprojects proposed under the Project will be screened for biodiversity environment in accordance with the ADB SPS 2009 and the procedures established for the selected sample subprojects in EIA, as described above in this EARF. The subproject specific

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Biodiversity Assessments and Critical Habitat Assessments (CHAs) will be undertaken following the biodiversity screening of subproject to confirm the presence of critical habitat. Based on the findings of the biodiversity assessment, the PWD will prepare and implement BAP and integrate the recommended mitigation measures into the EMP. The implementation of the BAP will be monitored as part of EMP implementation, and compliance will be reported to ADB in semi-annual environmental monitoring reports (SEMRs).

IV. ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS UNDER THE PROJECT

A. Subproject Criteria

A.1 Eligibility and Screening

41. The following criteria shall be followed for the selection of subprojects for inclusion in the project, or in case of major changes to the subproject scope:

(i) The project will not finance any activity or project listed on the Prohibited Investment Activities List of ADB SPS (Appendix 3).

(ii) Only components/subprojects included in the project will be considered.

(iii) Subprojects that will have direct adverse impacts on biodiversity shall be considered on the basis of appropriate assessment, community consultation, mitigation and management measures in accordance with the ADB SPS and applicable national legislation will be implemented in a build back better approach to enhance established conservation aims are supported including "no measurable adverse impacts that could impair the habitat's ability to function, no reduction in the population of any recognized endangered or critically endangered species, and any lesser impacts are mitigated". If these activities are unavoidable, necessary biodiversity assessments and biodiversity action plans will be carried by the PWD consistent with the ADB requirements including stakeholder engagement and public disclosure;

(iv) Subprojects that are located within areas of critical habitat will be taken for implementation only after site-specific biodiversity and critical habitat assessment[4] conclude that (a) no measurable adverse impacts, or likelihood of such impacts on the critical habitat that could impair its high biodiversity value or ability to function, (b) no anticipated reduction in the population of any recognized endangered or critically endangered species, (c) the identified impacts are appropriately mitigated as per ADB SPS requirement including measures to achieve no net loss of biodiversity; and net-gain in critical habitat areas.

(v) Activities or project components will demonstrate alignment to the Paris Agreement and conduct climate risk assessment to ensure necessary adaptation measures and decarbonization opportunities are integrated.

A.2 Implementation Requirements

(vi) Subprojects that are within a legally protected area shall be implemented after obtaining necessary applicable legal approvals and clearances from competent authorities, following the conditions for protected area management plan and conservation objectives.

A.3 Major Change to Scope

(vii) Any major change in the subproject scope, location, design, or nature of activities will require additional screening and changes may result in new or increased risks and

[4] No subproject involving potential impacts on critical habitat shall proceed to construction until the required biodiversity assessment has been completed and approved from ADB.

impacts, the relevant environmental assessment and safeguard documents will be updated in accordance with ADB SPS requirements.

B. Environmental Assessment and Management Documents

42. Environmental impact assessment and review shall be undertaken for all subprojects including new bridge construction, existing bridge retrofitting and landslide slope protection works as ADB SPS, 2009. The environmental impact assessment and review process include following:

(i) **Environmental Screening.** Each proposed subprojects will undergo environmental screening using the ADB Rapid Environmental Assessment (REA) Checklist for Roads and Highways/Transport Sector (**Appendix-2**) provided in this EARF. The screening process to confirm the category of the subproject as per ADB SPS 2009. The screening will be based on information of subproject design and location as to ascertain the extent and scale of the works and anticipated significance of environmental impact. The completed REA Checklist, biodiversity screening and resulted environmental categorization will be submitted to ADB for review and concurrence before conducting the detailed environmental assessment.

(ii) **Environmental Scoping.** Subprojects requiring environmental assessment will undergo an environmental scoping exercise to identify key environmental issues, define the project's area of influence, establish the extent of baseline environmental studies, identify valued environmental and social receptors, assess potential cumulative and climate-related impacts, determine consultation requirements, and define the scope of impact assessment, mitigation measures, and environmental monitoring, the scope of public consultation and the eligibility range of the Grievance Redress Mechanism (GRM). The need for additional biodiversity assessments and other specialized studies will be determined based on the findings of the environmental and biodiversity screening and the sensitivity of the subproject location such as its location within protected areas and their ESZs, critical habitats, habitats of threatened or endangered species, wildlife movement corridors, and community as sensitive receptors for Geo-hazards, noise and vibration. The Project Implementation Unit (PIU), with support from environmental specialists and in consultation with ADB, as required, will undertake the scoping process.

(iii) **Environmental Impact Assessment (EIA).** Based on the results of environmental screening the project is categorized as Category “A” will require a full EIA report preparation in accordance with this EARF, the requirements of the ADB SPS, 2009 and covering relevant applicable environmental laws and regulations of the Government of India and Government of Uttarakhand. EIA report for six sample subprojects have been prepared as part of project appraisal. For subprojects proposed under the project, a standalone EIA report will be prepared to cover remaining subprojects. For future subprojects to be identified during project implementation, the environmental safeguards due diligence process shall be followed in accordance with this EARF. Each subproject shall undergo screening and categorization, based on the screening results an EIA shall be conducted for Category “A” subprojects considering the significance of the anticipated impacts and the requirements of the ADB SPS, 2009.

The EIA reports will include a comprehensive assessment of potential environmental impacts, analysis of alternatives, cumulative impact assessment where applicable, stakeholder consultations, and a detailed EMP. The PMU shall ensure that the EIA report is submitted to ADB for review and clearance[5] prior to commencement of procurement activities and civil works. For the subprojects

[5] The draft EIA reports for Category A subprojects shall be submitted to ADB for review and approval and disclosed on the ADB website at least 120 days prior to ADB approval of the respective subproject/component, in accordance with ADB SPS (2009) requirements.

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identified after Board approval of the Project, the EIA shall be submitted to ADB for review and approval prior to procurement and commencement of civil works. The EIA shall be disclosed in accordance with the disclosure requirements of the ADB SPS, 2009. The EIA report for the subprojects along with screening and categorization documents shall be maintained by the PMU and made available to ADB for post-review and supervision.

(iv) **Environmental management plan (EMP).** The EIA will include a project-specific EMP and associated sub-plans. The EMP shall address environmental mitigation and monitoring activities, institutional arrangements and strengthening requirements, the grievance redress mechanism, public consultation activities during subproject implementation and operation, and environmental monitoring and reporting requirements.

(v) **Integration into Bid and Contract Documents.** The approved EMP together with all environmental obligations applicable during construction stage will be incorporated into the bidding documents and works contract agreement to ensure that contractors are contractually responsible for implementing all environmental mitigation, monitoring, occupational health and safety and reporting requirements.

(vi) **Contractor's Site-Specific Environmental Management Plan (CEMP).** Prior to commencement of construction, each contractor needs to prepare a CEMP consistent with the approved EMP. The CEMP will be reviewed by the CSC and forwarded to PIU for approval before contractor mobilization.

(vii) **Environmental Compliance Reports.** Contractors required to prepare monthly environmental compliance reports documenting implementation of the CEMP, environmental monitoring results, non-compliance issues, corrective and preventive actions undertaken, accidents and incidents, grievances received and resolved, and overall environmental performance. The CSC will verify contractor compliance through regular inspections and submit compliance findings to the PIU for review and follow-up.

(viii) **Semi-Annual Environmental Monitoring Reports (SEMRs).** The Contractor shall prepare monthly environmental monitoring and compliance reports for each subproject and submit them to the PIU/CSC. The PIU, with support from the CSC, shall review the Contractor’s reports, undertake site inspections, and prepare quarterly environmental monitoring reports (QEMRs) for its respective package. The PMU shall consolidate the PIU/CSC quarterly reports and prepare a SEMR for all subprojects under the Project and submit it to ADB for review and disclosure. The External Monitor shall prepare semi-annual independent monitoring reports (SIMRs) and submit them to the PMU and ADB. ADB shall undertake periodic review and supervision missions, including review of EMP implementation and compliance during the construction stage.

(ix) **Serious Environmental, Health and Safety Incident Reporting.** The PMU shall establish, and the Contractors shall implement the procedures for recording and reporting serious environmental, health, and safety incidents during the project construction. Serious incidents shall include fatalities, life-threatening injuries, major environmental pollution or contamination, significant damage to sensitive habitats or protected areas, major spills and serious occupational or community health and safety incidents. Such incidents shall be reported to ADB within 24 to 48 hours of occurrence, followed by a detailed incident report describing the nature, location, cause, immediate response, potential impacts, root cause, and corrective actions.

(x) **Sub-project Implementation.** No civil works contract for subprojects shall be awarded until: (i) the required EIA has been prepared in accordance with this EARF, applicable GoI and GoUK environmental requirements, and the ADB SPS, 2009; (ii) all applicable statutory forest, wildlife clearances, consents, and permits have been

obtained from the competent authorities, where required; (iii) the EIA has been submitted by the PMU to ADB, reviewed and cleared by ADB, and disclosed on ADB website as per SPS 2009; and (iv) the approved EMP have been incorporated into the bidding documents and civil works contracts.

C. Requirements for Environmental Assessment and Management Plans

43. The environmental assessment to be conducted for all subprojects under the project as per ADB SPS and this EARF. The scope and level of detail of the assessment following the category of subprojects conducted with the nature, scale, and significance of the anticipated environmental impacts.

44. The EIA shall include, as applicable, the following:

- Provide details of the proposed subproject, including its location, design, construction methodology, implementation schedule, associated facilities, and analysis of alternatives, including the "without project" option.
- Describe applicable policy and legal framework on environmental protection and management, including the requirements of the ADB SPS, 2009, Government of India legislation, Government of Uttarakhand regulations, and applicable environmental permits and clearances.
- Description of the baseline physical, biological, and socioeconomic environment within the project's area of influence.
- Assess the potential environmental impacts from proposed subproject and associated works (construction camps and other related activities) during the pre-construction, construction, operation & maintenance and decommissioning phases, if applicable, including impacts on land, geology, slope stability, air quality, noise and vibration, surface and groundwater resources, river morphology, aquatic ecology, biodiversity, forests, wildlife, protected areas, and physical cultural resources. Include assessment of climate change risks and natural hazards, including floods, extreme rainfall, landslides, seismic risks, and glacial lake outburst floods (GLOFs), together with recommendations for climate-resilient and disaster-resilient design measures. Assess cumulative and induced impacts of the subprojects.
- Prepare project-specific EMP describing (i) mitigation measures, (ii) institutional arrangement & responsibilities, implementation schedules (iii) environmental monitoring requirements and plan, (iv) capacity-building measures, and (v) cost estimates.
- Conduct and document meaningful stakeholder consultations with affected communities, local authorities, relevant government agencies, civil society organizations, and other stakeholders, in coordination with social safeguard activities.
- Establish procedures for information disclosure procedures for EIA in accordance with the requirements of the ADB SPS, 2009.
- Based on GRM proposed in EARF, prepare and establish of a project-level GRM.

45. The EIA will be prepared as per ADB prescribed format and the requirements of this EARF. During preparation of the environmental assessment, meaningful consultations will be conducted with affected persons, local communities, Panchayati Raj Institutions, Urban Local Bodies (where applicable), government departments, regulatory agencies, and other relevant stakeholders. The findings of the consultations will be incorporated into the environmental assessment and in the proposed mitigation measures mentioned in EMP.

46. The PMU will be responsible for ensuring that the EIA are prepared, and EMPs are implemented for all subprojects as outlined in this EARF. The EIA should be submitted to ADB for review and approval prior to commencement of any work proposed under the Project.

47. **Updating of EIA:** The approved EIA for the subprojects shall be reviewed and updated, as necessary, under the following circumstances:

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a. **Significant design or scope changes** – Where there are substantial changes in the subproject scope, location, layout or implementation approach that may result in new, additional or increased environmental impacts not assessed in the approved EIA.

b. **Changes in baseline environmental conditions** – Where there is a significant time gap between approval of the EIA and commencement of construction, and the environmental or social baseline conditions have materially changed, such as changes in land use due to establishment of new sensitive receptors, modifications to nearby water bodies, protected areas or other environmentally sensitive features.

c. **Changes in applicable regulatory or safeguard requirements** – Where amendments to national environmental legislation, regulations, environmental standards, permit conditions, or applicable conditions of clearances requirements necessitate revision of the approved EIA to maintain compliance.

d. **Identification of unforeseen environmental or social impacts** – Where additional environmental or social risks and impacts are identified during pre-construction activities, or implementation that were not adequately assessed in the approved EIA, requiring additional assessment and corresponding mitigation, monitoring, and management measures.

48. **Procedure for Updating EIA:** Below steps should be followed for updating an approved EIA, as applicable:

a. Identification – The PMU, through its Environmental Specialist, shall assess the need for updating the approved EIA based on the criteria specified above, including changes in project design, environmental conditions, regulatory requirements, or identification of additional environmental risks and impacts.

b. Preparation – The updated EIA shall be prepared by PWD with support from qualified environmental specialist or consultants hired by PMU in accordance with ADB SPS, 2009 and applicable national environmental regulations. The updated document shall clearly identify revisions from the approved original document, evaluate any new or modified impacts and update the EMP, accordingly.

c. Submission: The updated EIA shall be submitted by PMU to ADB for review and clearance.

d. Approval and Clearance – Construction activities related to the affected subproject shall not commence until the updated EIA has received all required statutory approvals, wildlife or forest clearances, where applicable, and the no-objection or clearance from ADB.

e. **Disclosure –** Following approval, the updated EIA shall be redisclosed in accordance with ADB's Access to Information Policy, 2018. The findings of the draft EIA shall be presented to affected people and relevant stakeholders during consultations before finalization, and their views and concerns shall be considered and incorporated into the final document. A summary of the EIA in local language (Hindi) shall be made available at PIU/PMU offices, local government offices and other appropriate public places in the project area that are easily accessible to affected people.

49. Minor changes that do not affect the significance of environmental impacts (e.g., adjustments to construction methodology**,** minor changes in contractor facilities) do not require a full EIA update but shall be addressed through updates to the CEMP or EMP as applicable.

50. **EMP**. The EMP is outcome environmental assessment undertaken as EIA. The EMP provides the mitigation, management, monitoring, and institutional measures required to avoid, minimize, mitigate, or compensate for adverse environmental impacts throughout the

planning, design, construction and operation phases of a subproject. Depending on the nature and scale of the subproject, the EMP may comprise of management plans and actions. It includes the following key components:

- **Mitigation Measures:** (i) identify and summarize the anticipated environmental impacts and risks; (ii) specify the mitigation and enhancement measures required to avoid, minimize, mitigate, or offset adverse impacts, it describe each mitigation measure with sufficient technical detail, including implementation methods, applicable project phase, responsible parties, performance requirements, and (iii) links to other relevant management plans, such as waste management, occupational health and safety, traffic management, emergency preparedness and response, biodiversity management, and community health and safety plans, involuntary resettlement and Indigenous Peoples, where applicable.

- **Environmental Monitoring and Reporting:** (i) define the environmental monitoring requirements, including the parameters to be monitored, monitoring locations, sampling methods, monitoring frequency, applicable standards, responsibilities, (ii) monitoring and reporting requirements to enable timely identification of non-compliance or unforeseen impacts and support implementation of corrective and preventive actions.

- **Implementation Arrangements:** (i) specifies the institutional responsibilities and implementation schedule for environmental management activities during each phase of the subproject; (ii) identify the roles and responsibilities of the PMU, PIU, CSC, environmental specialist/experts, and contractor, environmental supervision documentation (iii) describe requirements for environmental capacity building and training, (iv) details on allocation of financial resources, and (v) establish reporting measurable environmental performance indicators and compliance criteria to evaluate the effectiveness of mitigation measures and overall environmental performance.

51. The EMP prepared as part of EIA for sample subprojects includes the requirements for monitoring. Monitoring and reporting of EARF implementation will be undertaken to ensure that the procedures are being adequately implemented and to identify any modifications or corrective action that may be required to improve the efficiency of the EARF throughout project implementation. The monitoring of EARF implementation will be incorporated into the overall project monitoring and evaluation and reporting system.

D. Requirements of the Contractor's Site-specific Environmental Management Plan (CEMP)

52. Based on the approved EMP included in the EIA and the environmental requirements incorporated into the bidding and finalized contract documents, the Contractor's Environmental Management Plan (CEMP) shall be prepared by the contractor for each subproject. The CEMP shall define the minimum environmental management requirements, mitigation measures, and good construction practices applicable to subproject activities. The CEMP shall be site-specific and reviewed by CSC in the process for approval from PIU to ensure that project EMP environmental risks and mitigation measures are appropriately incorporated.

53. The PIU, CSC's environmental and social Experts and contractors shall be provided with appropriate training and capacity-building on the preparation, review, implementation, and monitoring of CEMPs, as well as applicable environmental and social safeguard policy of ADB and national environmental regulation requirements.

54. The CEMP will be prepared for each subproject by contractor based on the mitigation and monitoring measures specified in the approved EMP, EIA, bidding documents, and contract conditions. The CEMP shall include site-specific environmental management measures, construction methodologies, monitoring arrangements, emergency response procedures, waste management practices, occupational health and safety requirements, pollution prevention measures, and procedures for managing environmental and social risks

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associated with construction activities. During construction works, contractors shall ensure strict implementation and compliance to the approved CEMP.

55. The CEMP will describe the contractor's approach for achieving environmental compliance, including the designation of responsible staff for implementation, supervision, monitoring, documentation, reporting, and coordination with the PIU and CSC. The CEMP will establish procedures for implementing and reporting on the grievance redress mechanism, stakeholder communication, environmental incident reporting, and corrective actions. The contractor will submit monthly CEMP implementation reports to the PIU, including environmental monitoring results, site inspection findings, identified non-compliance issues, and status of corrective actions, as part of the overall project progress reporting. Construction activities will commence only after the CEMP has been reviewed by CSC and approved by the PIU.

56. Typically, contractors have limited experience in preparing, implementing, and reporting on CEMPs. Therefore, the PMU, through the CSC and Environmental Safeguards Specialist the individual Consultant (full-time) engaged by PMU, will need to provide substantial guidance and training to contractors early in implementation to ensure that they can prepare the CEMP and throughout the contract to ensure that they can implement and report on the CEMP.

57. **Appendix-4** provides guidance on a CEMP preparation. **Appendix-5** provides a sample site environmental compliance inspection and monitoring form for the CSC and PIU to use to monitor CEMP implementation and compliance.

E. Review and Clearance of Documents

58. The EIA and site-specific EMP will be submitted by the PMU to ADB for review and approval. The review process will ensure that the environmental assessment documents comply with the requirements of the ADB SPS, 2009, and applicable national environmental regulations and statutory requirements.

V. PUBLIC CONSULTATION, DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Public Consultation

59. As required by the ADB' SPS 2009 and Access to Information Policy, 2018, communities and stakeholders are to be consulted as part of project preparation and implementation and that relevant project information is disclosed publicly. Meaningful consultation pertains to a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

60. The public consultations were conducted for sample subprojects during preparation of the EIA and documented in compliance to ADB's SPS 2009. The key stakeholders were identified include project affected people, local community in the project area and road users. The key stakeholders were consulted through perception surveys, meetings and focus group discussions, confirming the public's general support for the project.

61. **Future public consultation:** Public consultation will take place for each subproject activity during preparation of the environmental assessment in a manner compliant with ADB's SPS. The following minimum requirements for public consultation and information disclosure must be met for each subproject activity. During the preparation of the environmental assessment, community residents and local representatives who are likely to be affected by

the subproject should be informed of the works and given an opportunity to provide feedback on potential environmental issues or required management measures. The following activities will be carried out for each subproject activity:

(i) Focus group discussion workshops at block level in the project district area will discuss subproject interventions, potential environmental impacts of subproject activities, and required mitigation measures. Representatives at the workshops will include stakeholder agencies[6], PWD, NGOs[7], gram panchayat members, and other relevant block level organizations.

(ii) Meetings with potentially affected households, sensitive receivers (schools, religious places, community halls, hospitals etc.) and landowners will discuss specific issues of concern and mitigation measures required.

62. The information on subproject activities and consultation activities will be provided to the local community in Hindi (local language) through gram panchayat and through newspaper notices. The public consultation activities carried out and the subsequent outcomes must be documented in the EIA. Refer to **Appendix -6** for documentation of public consultation activities.

B. Information Disclosure

63. ADB's disclosure of environmental and social safeguards require that (i) PMU, PWD ensure that all environmental assessment documentation, including environmental monitoring reports, are properly and systematically kept as part of the project specific record; (ii) all environmental documents are subject to public disclosure, and therefore may be made available to public, on request; and (iii) each PIU will consult the public, particularly the project affected peoples. Moreover, disclosure of relevant environment safeguards documents will be in an appropriate form, manner and language and at an accessible location to be understandable to the affected people and local stakeholders.

64. Information regarding the subproject summary of environmental assessment and the proposed environmental management measures in local language will be posted at suitable locations on the subproject sites. Following updating of the EMP, a copy will be sent to all relevant PIU offices. This will include information about the environmental permits/approvals, including any conditions, for each site, as required. The EARF, EIA, EMP (update as required), SEMRs and SIMRs in English language will be disclosed on ADB's website.

C. Grievance Redress Mechanism

C.1. Objective

65. A GRM will be established to provide a time-bound, transparent, and culturally appropriate process for receiving, evaluating, and resolving grievances from affected communities and other stakeholders. The mechanism aims to:

(i) Prevent and mitigate adverse impacts on communities through early identification and resolution of concerns;

(ii) Open accessible and trusted channels for communication, including the identification of new environmental or social issues arising from the project;

(iii) Demonstrate the project's commitment to stakeholder well-being and accountability.

[6] The stakeholder agencies include Uttarakhand Biodiversity Board, Uttarakhand Forest Department and relevant Protected Area authorities, WII Dehradun, ICFRE, Dehradun, G.B. Pant National Institute of Himalayan Environment (NIHE), Botanical Survey of India (BSI), Zoological Survey of India (ZSI) & Biodiversity Management Committees (BMCs).

[7] Wildlife Preservation Society of India, Dehradun, Central Himalayan Environment Association (CHEA), Society for Awareness of Nature's Development (SAND), Nature's Buddy, C.A.R.E. Dehradun, Amber Foundation, Himalayan Action Research Centre (HARC), Maaty Biodiversity Conservation & Societal Research Society.

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66. The GRM will be accessible to all members of the community, including vulnerable groups, and will operate at no cost to complainants.

C.2. Proposed Grievance Redress System

67. There are several grievance redress platforms available for communities and road users to raise complaints related to roads, bridges, and other public infrastructure in Uttarakhand[8]. These existing mechanisms primarily focus on addressing grievances related to the delivery of public services by the State Government, including complaints on road and bridge construction, maintenance, public safety, environmental issues, and other project-related concerns. For the project, PWD has adopted a three-tier Grievance Redress Mechanism (GRM) in accordance with the ADB SPS, to receive and resolve grievances related to project including safeguards implementation. The project specific GRM enables complainants to register concerns at the site level, where issues are intended to be resolved locally. If a grievance is not resolved within the given timeline, it will be escalated to the PIU level (second tier) and, if necessary, to the PMU level (third tier). Grievance Redress Committees (GRCs) will be established at each of three levels with the following composition:

68. **Site level GRC (First Level):** The Contractor's site engineer and environment, health and safety cum social supervisor will jointly support meetings, consultations and site-level grievance resolution, with the support of the CSC safeguards experts and the concerned PWD Division. Grievances in written or verbal will be recorded in a grievance register with a unique complaint number, date of receipt, the complainant's details and contact information. The first point of contact will be the site/field level through the contractor's representatives and the PIU Junior Engineers. The Site-Level GRC will review the complaint received, instructions to the contractor to resolve the issue within 7 days of receipt. The CSC safeguards team will communicate the action taken and resolution status to the complainant via email, phone, or text message. Once the complaint is satisfactorily resolved, the action taken is documented, and the complaint is closed. If the issue cannot be resolved at the site level, it will be escalated to the PIU Level, where grievance records are maintained with support from the CSC. The GRC will include following members:

- Site Manager, Contractor
- Social / Labour Expert, Contractor
- Environment Expert, Contractor
- Occupational Health and Safety Officer, Contractor
- Representative of the concerned PWD Division
- Safeguards Experts, CSC
- Representative of the affected community

69. **PIU level GRC (Second Level):** Grievances that are unresolved at the site level within 7 days will be escalated to the PIU level GRC, headed by the Executive Engineer of the concerned PIU. The PIU level GRC may include representatives from relevant line departments and, where required, representatives of Indigenous Peoples. The committee will aim to resolve grievances within 10 days of receiving the complaint. The GRC members will be:

- Executive Engineer, PIU (Head)
- Assistant Engineer, PIU
- Team Leader, CSC
- Contractor's Representative
- Social Safeguards Expert, CSC
- Environment Safeguards Expert, CSC
- Representative of the affected community (as and when required)

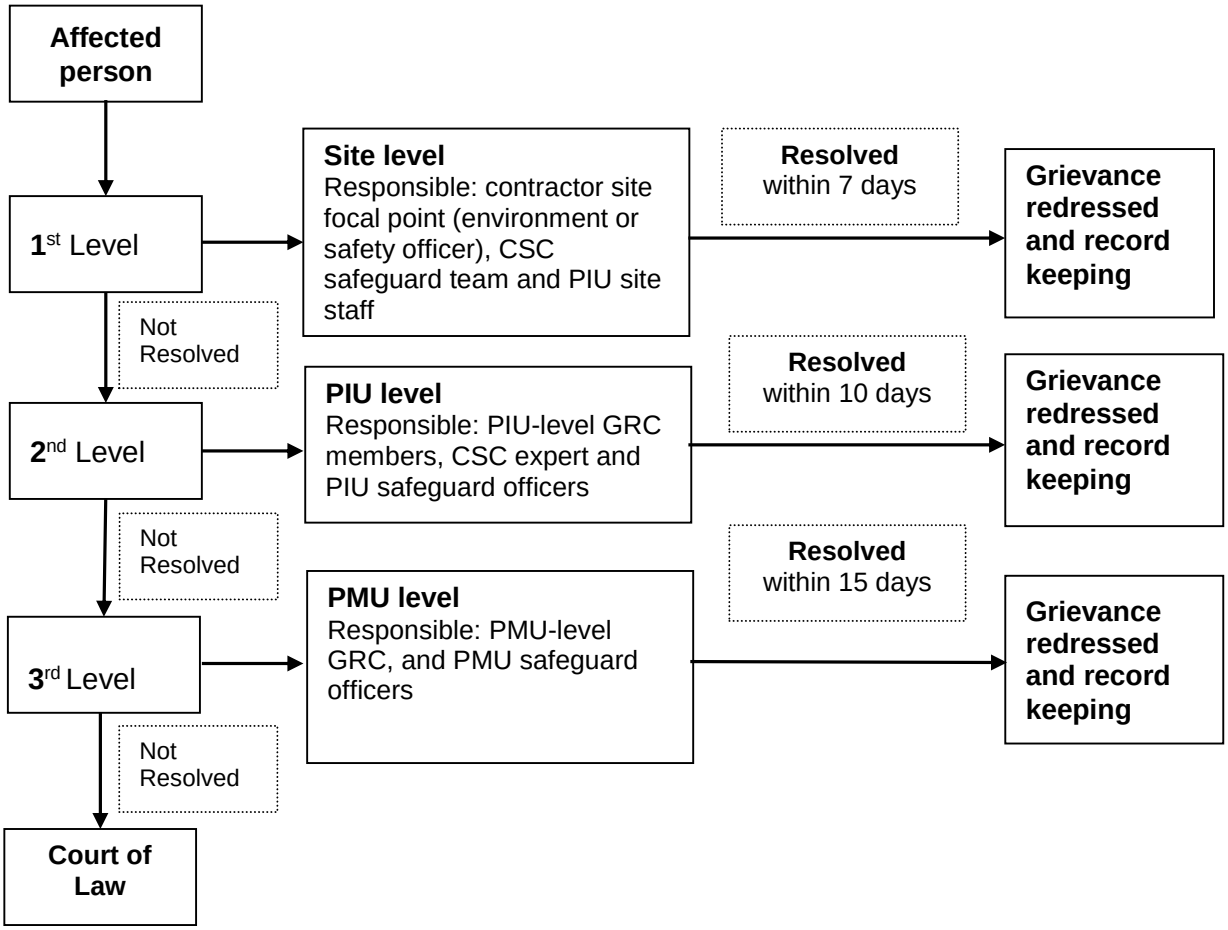
[8] (i) the Uttarakhand Chief Minister's Helpline (1905), (ii) the Centralized Public Grievance Redress and Monitoring System (CPGRAMS) of the Government of India, (iii) the Apuni Sarkar Citizen Services Portal of the Government of Uttarakhand, (iv) the grievance redress mechanism of the concerned PWD Division/Executive Engineer, and (v) the Right to Information (RTI) Act, 2005

70. **PMU Level GRC (Third Level):** Grievances that remain unresolved at the PIU level are escalated to the PMU-Level GRC. Chaired by the Project Director, the committee includes the Additional Project Director, Chief Engineer (PWD), Superintendent Engineer and concerned Executive Engineer of the PMU, the Environment Specialist and Safeguard Specialist (Social and Gender) of the PMU, and representatives of the concerned PWD Division as required. The PMU level GRC aims to resolve grievances within 15 days of receiving the complaint. The GRC will comprise of following members:

- Project Director (Chairperson)
- Additional Project Director, PMU
- Chief Engineer, PWD
- Superintendent Engineer, PMU
- Concerned Executive Engineer, PMU
- Environment Specialist, PMU
- Safeguard Specialist (Social and Gender), PMU
- Representatives of the concerned PWD Division (as and when required)

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Figure 2: Grievance Redress Mechanism Diagram



Note: GRC = Grievance Redressal Committee; PIU = project implementation unit; PMU = Program Management Unit; CSC = Construction Supervision Consultants

71. **Grievance registration and acknowledgement:** Grievances may be submitted verbally or in writing through direct submission to site representatives, written applications, telephone or mobile, e-mail, the project grievance portal, community meetings and consultations, and submission at PIU or PMU offices. Each grievance will be registered in the grievance register and assigned a unique identification number, and will be acknowledged to the complainant within three working days of receipt. The complainant will be informed in writing of the outcome and of the right of appeal to the next tier and to the ADB Accountability Mechanism. Anonymous and confidential complaints will be registered and acted upon on the same basis as attributed complaints.

72. **Accessibility:** A suggestion and complaint box and a toll-free telephone number will be provided at each active site. GRM information, including the names and contact details of the grievance focal officers and the applicable timelines, will be displayed in Hindi and the prevailing local language on signboards at every active site and at the PIU office.

73. **Grievance register:** A grievance register will be maintained throughout project implementation to record the date of the complaint, the name and contact details of the complainant, the nature of the grievance, actions taken, the date of resolution and the current status of the complaint.

74. **Documentation and Record-Keeping:** The PMU, with support from the PIUs, will be responsible for registering grievances, maintaining timely communication with complainants, and documenting the grievance process from submission to final resolution. The grievance registration form mentioned in **Appendix-7**. PIUs will maintain records of all grievances,

including complainant details, date of receipt, nature of the grievance, corrective actions taken, dates of implementation, and final outcomes. Information on the number of grievances received, resolved, and their outcomes will be disclosed at the PMU and PIU offices and reported to ADB in SEMRs. The social and environmental safeguards specialists of the PMU will maintain the records for their respective domains, and the PIU level GRC will coordinate with affected persons regarding their complaints.

75. **Periodic Review:** The PMU will periodically review the functioning and effectiveness of the GRM across all PIUs, assessing its ability to prevent and address grievances during project implementation and documenting lessons learned for continuous improvement. PMU will also conduct capacity building training for committee members of the GRM to improve their understanding of project GRM. The Social Specialist at the PMU will periodically review the functioning of the GRM and apply the lessons learned in each subproject to prevent and address grievances effectively.

76. **Costs**: All costs associated with grievance resolution, including meetings, consultations, communication, reporting, information dissemination, and reasonable expenses incurred by affected persons in attending GRC meetings, will be borne by the PMU.

77. **Court of Law:** Under the project specific GRM, affected persons may access the country's legal system at any stage. Access to the legal system can proceed independently of, and in parallel with, the project GRM and does not depend on the outcome of the grievance redress process.

78. **Additional Grievance Management:** In addition to the project specific GRM established by the PWD, project affected people may raise complaints through other available forums, including the country's judicial or administrative systems and the ADB's Accountability Mechanism. During stakeholder consultations and information disclosure, the PMU will ensure that affected people are informed about these additional grievance redress channels.

79. **ADB Accountability Mechanism:** In addition to the project GRM, ADB's Accountability Mechanism, 2012 also applicable to the project, for which ADB is responsible. The accountability mechanism provides opportunities for project affected people (two or more complainants) by ADB financed projects to express their grievances, seek resolutions, and report alleged violations of ADB's operational policies and procedures, including safeguard policies. ADB's accountability mechanism comprises of (i) consultation led by ADB's special project facilitator to assist people adversely affected by ADB assisted projects in finding solutions to their concerns, and (ii) providing a process through which those affected by projects can file requests for compliance review by ADB's Compliance Review Panel. ADB's accountability mechanism can be considered a last resort mechanism.

80. If the established GRM is not in a position to resolve an issue, the affected person can also use the ADB Accountability Mechanism by directly contacting, in writing, the Complaint Receiving Officer (CRO) at ADB headquarters. Before submitting a complaint to the Accountability Mechanism, affected people should make a good-faith effort to solve their problems by working with the concerned ADB operations department (in this case, the ADB India Resident Mission). Complaints can be submitted in any of the official languages of ADB's developing member countries, and relevant information on the Accountability Mechanism will be distributed to affected communities as part of the project GRM.

81. The affected people and other stakeholders are encouraged to raise their concerns through the project GRM so that concerns can be addressed promptly at the project level as described in this EARF. The affected person can raise complaint to the ADB India Resident Mission, or any judicial or administrative department available under applicable law. Affected people may access these mechanisms at any time and may pursue them in parallel to project GRM. Information on the ADB Accountability Mechanism shall be provided to affected people and stakeholders. Details of the Accountability Mechanism can be found at https://www.adb.org/documents/accountability-mechanismpolicy-2012.

82. In addition to the project-level grievance redress mechanism provided by the PWD, people who are, or may in the future be, adversely affected by the project have a range of

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forums available to them for purposes of raising their complaints, grievances, and concerns. These include applicable judicial or administrative forums and ADB through the resident missions and the ADB project teams. The borrower PWD will help ensure that project-affected people are made aware of these forums to address their complaints, grievances, and concerns. The PWD should provide the applicable ADB contact details as part of stakeholder consultations and information disclosure, including in response letters to a complaint where appropriate, so that project-affected people know how to reach out to ADB.

83. PMU shall establish a confidential and separate channel for grievances related to sexual exploitation, abuse, and sexual harassment (SEA/SH). Such complaints shall be handled confidentially and through a survivor-centered approach, with the survivor's privacy, dignity, informed consent and choice of services respected at all times. Such complaints shall not be subject to the standard grievance investigation or disclosure procedures. The PMU shall also establish appropriate referral arrangements with qualified and appropriate service providers for medical, psychosocial, legal, and other support services, as requested by the survivor.

VI. INSTITUTIONAL ARRANGEMENTS, ROLES AND RESPONSIBILITIES

A. Institutional Arrangements

84. The PWD, GoUK, is the Executing and Implementing Agency for the Project. A dedicated PMU at Dehradun, has been established for coordination and monitoring of overall project implementation. The PMU is headed by the Project Director and supported by an Additional Project Director, Finance Controller, Chief Engineer, Superintending Engineers, Executive Engineers, Safeguards Focal Officer (Environment, Biodiversity, Climate Change, Gender & Social), Environmental cum Biodiversity Specialist (Engaged Individual Consultant), Social Development/Resettlement Specialist, Climate Change Specialist, Procurement Expert, Bridge Design Expert, Contract Management Expert, Disaster Management Specialist, IT/MIS Expert, and other technical specialists.

85. A total of 28 Project Implementation Units (PIUs), located across the Kumaun and Garhwal regions of Uttarakhand, will coordinate implementation of project activities at field level under the supervision of the PMU. Each PIU is headed by an Executive Engineer (EE) and supported by Assistant Engineers (AEs), Technical Staff, Focal Officer for Environment Health & Safety, Biodiversity, Social Safeguards, Accounts Officers, and Administrative Staff. The PIU having jurisdiction over a particular subproject will serve as the implementing unit and will be responsible for day-to-day project implementation, contract administration, utility coordination, environmental and social safeguard compliance, environmental monitoring and reporting, and coordination with contractors, CSCs, and relevant government agencies.

86. The PMU has established Environmental and Social Safeguards Unit with designated Environmental Safeguards, Biodiversity, Climate Change, Social and Social Focal Officer, supported by a full time Environmental cum Biodiversity Specialist, Climate Change Specialist to provide overall guidance to the PIUs on environmental safeguard implementation across all the subprojects. The PMU's Environmental cum Biodiversity Specialist has a review and oversight role throughout the project involve in environmental assessment process, from project screening and scoping to the preparation, review, and implementation of the impact assessment (EIA), EMP and other safeguard documents, as well as environmental monitoring during project implementation.

87. The Environmental and Social Safeguard Unit (ESSU)'s Environmental Focal Officer will review and endorse the EIA, EMP, while Biodiversity Focal Officer to review and approve biodiversity action plan with support of Environmental cum Biodiversity Specialist, verify that all statutory permits, clearances and approvals have been obtained; oversee the implementation of environmental monitoring plan by the contractors, CSC, provide technical guidance to the CSC and PIUs on safeguard compliance; review and final consolidated environmental monitoring reports including SEMRs and SIMRs prior to submission to ADB;

and support the Environment Focal Officer of PMU in addressing safeguard compliance issues, including significant environmental incidents and grievances. The Environment Focal Officer of PMU will coordinate with the PIUs, CSC, regulatory authorities, and ADB to facilitate effective implementation of environmental safeguards throughout the project.

88. **Construction Supervision Consultant (CSC):** Four CSCs will be engaged to support the PMU and PIUs in the project implementation, supervision, and monitoring of safeguards. Each CSC will include a full time Environment Health & Safety Officer, Biodiversity Officer and Social Officer at site responsible for reviewing the Contractor's CEMP to ensure that all requirements and mitigation measures specified in the project EMP are adequately incorporated and implementation. The CSC will oversee the implementation of the CEMP and EMP during the project cycle, monitor the Contractor's compliance with environmental safeguard requirements, provide technical guidance on environmental risk management, and verify the implementation of mitigation and monitoring measures. The CSC will prepare and submit QEMRs to the PIU and PMU in accordance with the project's reporting requirements.

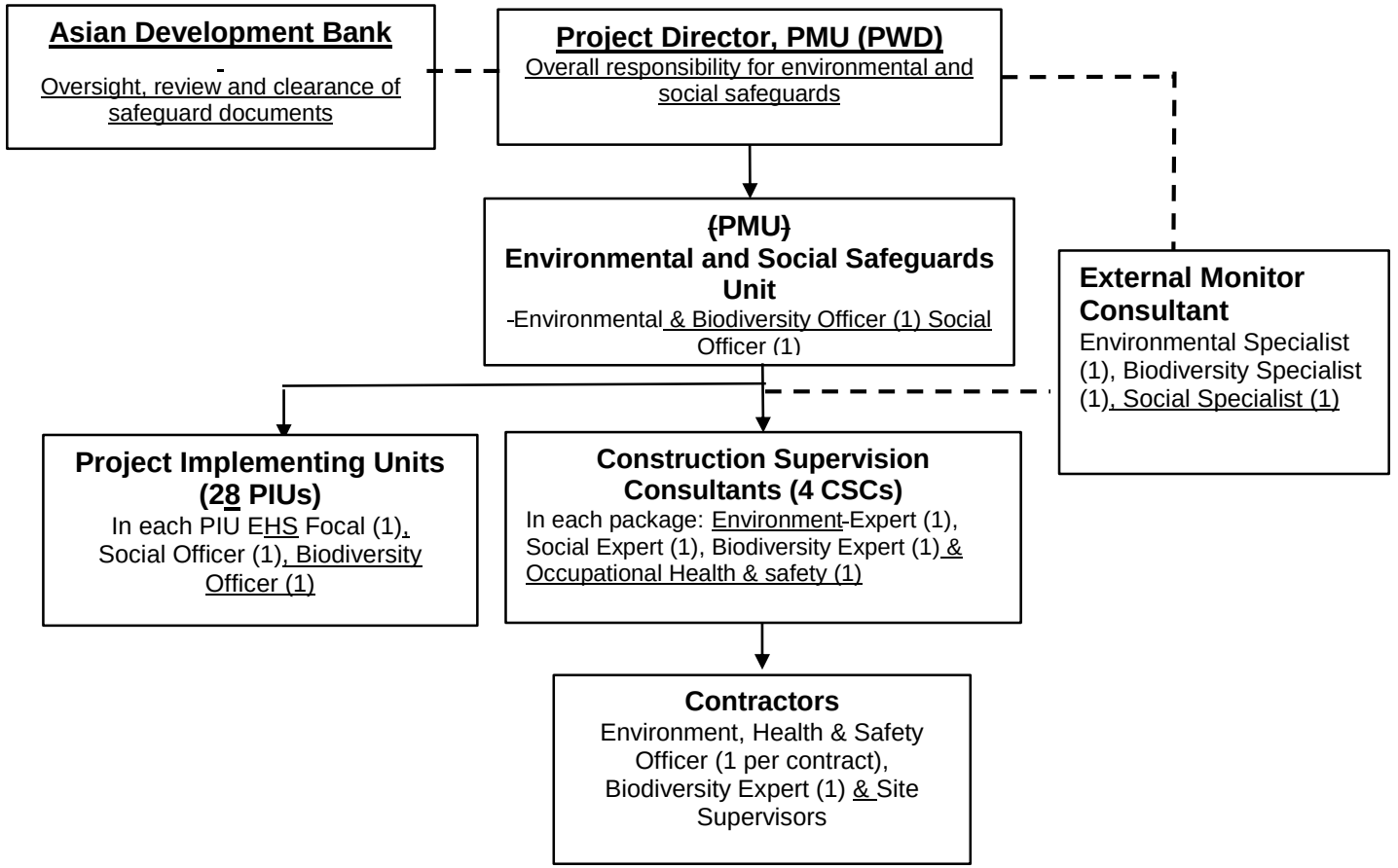
89. **External Monitor Consultant:** An External Monitor, either as a team of individual experts or through a consulting firm, will be engaged by the PMU to provide independent review of environmental safeguards and biodiversity management throughout project implementation. The team will comprise of an Environmental Expert, a Biodiversity Expert and a Social Expert for the project duration. The External Monitor will undertake quarterly site visits and review environmental safeguard implementation records maintained by various agencies involved in project. Based on review and field visit verification, the team will provide independent advice to the PMU on non-compliances and recommend corrective actions. The External Monitor will prepare SIMRs for submission to the PMU and onward submission to ADB for review and disclosure.

90. **Asian Development Bank**: ADB will provide financing and oversee project implementation in accordance with the ADB SPS. It will review project safeguard documents and monitoring reports, monitor EMP compliance through review missions, and provide guidance to the PMU on safeguard requirements. ADB will also disclose approved safeguard documents on its website and provide complainants with access to its Accountability Mechanism for unresolved complaints after the project-level Grievance Redress Mechanism (GRM) has been exhausted.

91. Figure 3 shows the overall project organization structure.

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Figure 3: Project Organization Structure



92. **Construction Contractor:** Within 30 days of the contract signing date, the Contractor shall prepare and submit a CEMP for each subproject to the CSC for review and approval. The CEMP shall describe how the Contractor will implement the requirements of the project EMP during the construction, including the mitigation measures for anticipated environmental impacts and the environmental monitoring activities specified in the EMoP. The CEMP shall be updated, if required, to incorporate site-specific mitigation measures or revisions recommended by the CSC during implementation. The Contractor shall prepare and submit CEMP implementation reports as part of the monthly progress reports. The Contractor shall appoint a qualified and experienced Environment, Health and Safety (EHS) Officer[9] and a Biodiversity Expert[10] for BAP, if applicable to the subproject awarded for the implementation of the CEMP during construction.

93. The CEMP shall address all environmental responsibilities of the Contractor under the EMP, including compliance with applicable statutory permits and approvals, and the preparation and implementation of site-specific management plans, as applicable. These may include, but are not limited to, the Emergency Response Plan, Muck & Waste Management Plan, Construction Traffic Management Plan, Construction Camp Management Plan, Soil Erosion and Sediment Control Plan, Occupational Health and Safety Plan, Borrow Area and Quarry Management Plan, and other plans required under the contract. The CEMP shall also define the Contractor's responsibilities for environmental monitoring, reporting, and corrective actions. The CEMP shall be reviewed and approved by the CSC before commencement of any construction activities.

94. Throughout the contract period, the Contractor shall submit a monthly EMP/CEMP implementation report to the CSC. The report shall include: (i) a summary of construction activities; (ii) environmental issues encountered during the reporting period; (iii) mitigation measures implemented; (iv) the effectiveness of mitigation and control measures; (v) maintenance of environmental controls; (vi) results of environmental monitoring against the requirements of the EMoP; (vii) findings of environmental inspections and audits, including corrective and preventive actions taken; (viii) environmental training and induction conducted for workers; (ix) grievances and complaints received and its status; and (x) any other information relevant to the implementation of the EMP, BAP and EMoP.

B. Responsibilities for Environmental Management in the Project

95. Table 7 sets out the roles and responsibilities of key organizations in safeguards (environmental management activities) during the Project implementation.

Table 7: Responsibilities for Environmental Safeguards Implementation

General Role & Responsibilities	Role in Environmental Safeguards
Public Works Department (PWD), Government of Uttarakhand – Executing and Implementing Agency (EA/IA)	
- Overall responsible for project execution and implementation. - Establishes the Project Management Unit (PMU) and Project Implementation Units	1. Overall responsibility for compliance with ADB Safeguard Policy Statement (2009) and national environmental regulations. 2. Ensure adequate resources and budget allocation for EMP, BAP, and other safeguard measures. 3. Final decision on project planning and implementation

[9] EHS Officer with bachelor's or master's degree in environmental science/ engineering, or a related field, with at least 5 years of experience in environmental management, occupational health and safety, monitoring, and reporting of environmental safeguard requirements for MDB funded projects, must have worked on at least one infrastructure project in the Himalayan landscape.

[10] Biodiversity Expert with master's degree in ecology/biology/forestry/biodiversity/environmental science, or a related field, with at least 5 years of experience in biodiversity conservation, ecological surveys, habitat assessment, preparation or implementation of BAP for MDB funded project, must have worked on at least one infrastructure development project in the Himalayan landscape.

General Role & Responsibilities	Role in Environmental Safeguards
(PIUs). - Provides overall project planning, policy guidance and direction.	including environmental safeguard requirements are integration. 4. Serve as the final authority for environmental safeguard compliance and grievance escalation at the project level.
Project Management Unit (PMU)	
- Headed by the Project Director and supported by Additional Project Director, technical and safeguard focal officers and appointment of full-time environmental cum biodiversity specialist. - Overall coordination, supervision, and reporting of project implementation. - EMP implementation, including monitoring and reporting - Full-time consultant dedicated to environmental and social safeguards - Coordination with ADB and line government agencies.	1. Review and approval of project environmental safeguard documents (EIA, EMP, BAP and monitoring reports). 2. Technical guidance to PIUs on safeguard implementation. 3. Coordinate with PIU in statutory clearances and approvals for the projects/subprojects. 4. Consolidate and submission of SEMRs to ADB. 5. Monitor implementation of the EMP, BAP, and corrective actions. 6. Overall implementation of the project GRM, establish PMU level GRC and resolve grievances, safeguard compliance issues. 7. Organize training for contractor/engineers in implementing EMPs 8. Site inspections and progress reporting. 9. Manage GRM implementation and maintain Master Log 10. Disclosure of project safeguards document on website.
Project Implementation Units (PIUs)	
- Technical staff along assigned focal for Environment Health & Safety Officer, Biodiversity Officer, and Social Officer - Responsible for day-to-day supervision of subprojects implementation. - Contract administration and coordination with contractors and CSCs. - Monitoring and reporting of project progress to the PMU.	1. Incorporate the environmental safeguard requirements (EMP, BAP) into bidding documents and contract agreement of contractors. 2. Supervision for implementation of the EMP, BAP and other sub-plans associated with EMP. 3. Ensure the statutory permits are taken before construction and compliance with conditions during construction. 4. Coordination for environmental monitoring and keeping records for safeguards implementation. 5. Implementation of project GRM, establish PIU level GRC and resolve grievances, safeguard compliance issues. 6. Compilation of safeguard monitoring reports and submit to the PMU. 7. Conduct consultation meetings with local stakeholders as required, informing them of imminent construction works, updating them on the latest project development activities, and GRM procedures.
Construction Supervision Consultant (CSC)	

General Role & Responsibilities	Role in Environmental Safeguards
• Support the PMU and PIUs in project supervision and contract management. • Mobilize full-time Environmental Expert, Biodiversity Expert, Occupational Health & Safety Expert and Social Expert. • EMP implementation, including monitoring and reporting	1. Review the Contractor's CEMP and recommendation for approval by the PIU/PMU. 2. Monitoring and supervision of the EMP, CEMP, BAP and safeguard measures implementation. 3. Conduct regular site inspections and verify implementation of mitigation measures. 4. Provide environmental safeguard training to contractors and PIU staff. 5. Prepare QEMRs for submission to the PIU. 6. Support stakeholder consultations and implementation of the GRM. 7. Provide independent technical advice during Level 2 grievance review 8. Monitor implementation of GRM-related actions by contractor
Construction Contractors	
• Execute construction works in accordance with contract requirements. • Appoint qualified Environmental, Health and Safety (EHS) and Biodiversity Expert.	1. Designate Site Grievance Focal Point (typically site environmental or safety officer) 2. Environmental Health and safety Officer responsible for daily monitoring and supervision, and evaluation of mitigation measures' effectiveness 3. Develop and implement construction site-specific EMP (CEMP) in line with project EMP. 4. Report all grievances to PIU within 24 hours; submit closure documentation 5. Implement corrective actions as agreed 6. Conduct worker induction including GRM training 7. Establish site level GRC and maintain record of GRM,
ADB	
• Provide financing and oversight • Review safeguard documents and monitoring reports • Ensure compliance with SPS, 2009 • Conduct review missions for project progress and safeguards implementation.	1. Review environmental safeguard documents and monitoring reports. 2. Monitor compliance with the ADB SPS, 2009. 3. Provide implementation guidance on safeguard requirements. 4. Disclosure of project safeguards document on website 5. Provide independent resources for the Accountability Mechanism for unresolved complaints after the project GRM has been exhausted.
Independent External Monitor	
• Provide independent review of environmental safeguard implementation for the project • Ensure compliance with national regulations and policies	1. Verify implementation of the EMP, BAP, and statutory requirements. 2. Conduct periodic field audits and compliance monitoring. 3. Assess the effectiveness of mitigation measures and biodiversity management actions as per safeguards documents. 4. Recommend corrective actions for identified non-compliance. 5. Submit SIMRs to the PMU and ADB.

ADB = Asian Development Bank, BAP = biodiversity action plan, CEMP = construction environmental management plan, Uttarakhand, EARF = environmental assessment and review framework, EIA = environmental impact assessment, EMP = environmental management plan, PIU = project implementation unit, PMU = Project Management Unit, PWD = Public Works Department, QEMR = quarterly environmental monitoring report, SEMR = semi-annual environmental monitoring report, SIMR = semi-annual independent monitoring report

96. Each PIU shall designate one each, Environment Health Safety (EHS) Officer, Biodiversity Officer and Social Safeguards Officer as focal person responsible for coordinating environmental safeguard activities with the PMU. The EHS Focal Person shall be supported

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by consultants in subproject screening, environmental assessment, EMP implementation, site inspections, record keeping, stakeholder consultation, grievance management, and preparation of environmental monitoring reports. The PMU shall provide regular training and capacity-building support to the PIU Safeguards Focal Persons, CSC Safeguards Experts, and contractors on the Project's environmental safeguard requirements. The proposed training plan is presented in Table-8. The PMU's Safeguard Team shall also maintain a training calendar and attendance records and periodically assess training needs.

Table 8: Environmental Safeguard Training and Capacity-Building Plan

Topic	Participants	Frequency	Responsibility
ADB SPS 2009 and EARF requirements	PMU & PIU Environmental Focal Persons, and CSC	Initial stage and refresher annually	PMU
Preparation and implementation of IEE/EIA and EMP implementation	PMU & PIU Environmental Focal Persons, CSCs and Contractors	Initial stage and refresher annually	PMU-Environmental Specialist
Biodiversity assessment including biodiversity action plan implementation	PIU Environmental Focal Persons, CSCs and Contractors	Initial stage and refresher annually	PMU-Environmental Specialist
Environmental monitoring and reporting	PIU, CSCs, Contractors	Semi-annually	PMU Environmental Specialist, CSC-Environmental Expert
Stakeholder consultation, disclosure and GRM	PIU, CSCs and Contractors	Before construction and annually	PMU
Occupational and community health and safety	PIU, CSCs and Contractors	Before construction and annually	PMU

C. EARF Implementation budget

97. The PMU shall allocate an adequate budget for implementing this EARF throughout project preparation and implementation. The EARF budget shall cover safeguard staff, environmental screening and assessment, external monitoring, training and capacity building, stakeholder consultation and disclosure, grievance redress, and other safeguard activities required under the EARF. The estimated budget for implementing the EARF is presented in Table-9.

Table 9: Indicative budget for EARF implementation for the project

S. No.	Item	Indicative Budget (INR) in Lakhs*	Responsibility and Budget Source
1	PMU environmental cum biodiversity specialist/focal staff	60	PMU, Project Cost from Draft Financial Framework
2	Environment, biodiversity focal persons in 28 PIUs		
3	External Environment Monitor and Biodiversity Monitor	90	PMU, Project Cost from Draft Financial Framework
4	Safeguard training and capacity building	12.90	PMU, Project Cost Project Cost from Draft Financial Framework
5	Preparation/update of environmental safeguard documents (Consultations,	100	PMU, Project Cost Project Cost from 10% contingency budget under Draft Financial Framework

	GRM, monitoring and reporting)		
	Total	**262.90**	

**Note- The Budget is considered in Project EMP implementation budget.*

VII. MONITORING AND REPORTING

98. The environmental monitoring and reporting of the Project will involve multiple levels and will be undertaken by the PMU, PIUs, CSCs, Contractors and an Independent External Monitor. During the construction phase, the following monitoring and reporting process will be implemented.

99. **PMU & PIU Monitoring:** the PMU on behalf of EA will establish a monitoring system to ensure that project activities are implemented in compliance with the EMP, BAP and relevant national environmental laws and regulations. The PIUs, with support from the CSCs, will undertake environmental monitoring and prepare QEMRs summarizing the implementation of environmental mitigation measures, monitoring results, non-compliances, corrective actions, and grievance redress activities. The QEMRs will be reviewed by the Environmental Safeguards Specialist (individual consultant) of PMU and consolidated into SEMRs for submission to ADB. The QEMRs and SEMRs will be prepared by the PIUs and PMU, respectively, with technical guidance and review provided by the CSC Environmental Expert and the full-time environment cum biodiversity specialist engaged by the PMU. Template of SEMR report is provided in **Appendix-8**.

100. **Contractors' Self-Monitoring:** Each Contractor shall implement monitoring plan in per the approved CEMP to ensure compliance with the EMP, BAP, and applicable national environmental regulations. The CEMP shall include provisions for monthly environmental monitoring and reporting. The Contractor shall submit monthly CEMP implementation reports to the PIU, through the CSC, as part of the regular monthly progress reports for the civil works. These reports will form the basis for the PIU's QEMRs.

101. The monthly reports shall include the results of: (i) compliance monitoring, to verify that the mitigation measures specified in the CEMP and EMP are being effectively implemented; and (ii) environmental parameter monitoring, to confirm that project emissions, effluents, noise, air quality and water quality comply with applicable national standards and project-specific requirements. Where the Contractor does not have in-house monitoring facilities, environmental sampling and laboratory analyses shall be undertaken through third party NABL accredited laboratory**.**

102. The PIU, with technical support from the CSC and the Safeguards Consultant of PMU, will undertake confirmatory monitoring to verify the accuracy of the Contractor's monitoring results and the effectiveness of the implemented mitigation measures. Confirmatory monitoring is intended to verify, rather than duplicate, the Contractor's monitoring program and will therefore adopt a risk-based approach using periodic inspections, field observations, and selective sampling and spot checks. Routine site monitoring and inspections will be carried out by the CSC Environmental Expert in coordination with the PIU. Based on the approved CEMP and project Environmental Monitoring Plan (EMoP), the PMU, with support from the CSC, will establish monitoring protocols, including inspection checklists, monitoring parameters, and the frequency of routine and spot-check inspections.

103. **Independent External Monitoring:** For the Category “A” project supported by ADB, an Independent External Monitor need to be engaged by PMU to undertake periodic assessments of the overall environmental performance of the project, including compliance with the EMP, BAP and Environmental Monitoring Plan (EMoP). The scope, methodology, and frequency of the independent monitoring will be agreed between the PMU and ADB and defined in the ToR for the External Monitor. The findings and recommendations of the External Monitor will be submitted to the PMU and ADB to support adaptive management and continuous improvement in environmental safeguard implementation.

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104. Monitoring during operational stage with annual reporting should be conducted on an as needed basis in accordance with the procedures set out in the approved EIA report, until the project completion report is issued by ADB.

APPENDICES

APPENDIX 1: TENTATIVE LIST OF SUBPROJECTS

List of 235 Bridges in 09 District Proposed for ADB Project

A	Bridges Proposed for New Construction (222 Nos.)						
SR. No.	**Name of Divison**	**State Highway No.**	**Name of State Highway**	**Bridge ID**	**Bridge in KM**	**E-DPR ID**	**Span of Bridge (In M.)**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	P D Almora	SH-39	Almora-Shaharphatak State Highway	1762	Km-6	3852	48.00
1	**P D Almora**	**SH-39**		**1**			**48.00**
1	C D Almora	SH-11	Karnaprayag (Shimli) Gwaldam Bageshwar Chokodi Thal Munsyari Joljivi state highway	387	Km 13 HM 8-10	5548	20.00
2				388	Km 16 HM 2-4 (Ch.15.525)	5558	15.00
3				2866	Km 30 HM 2-4 (Ch.29.575)	5561	15.00
4				392	Km 39 HM 4-6 (Ch.38.70)	5562	30.00
5				393	Km 44 HM 0-2 (Ch.43.02)	5820	30.00
6				3716	Km. 33 (Ch.32.150)		10.00
6	CD Almora	SH-11		6			120.00
1	P D Ranikhet	SH-14	Khairna Ranikhet Ramnager state highway	910	Km40	4933	24.00
2				3519	Km 47	4795	24.00
3				1080	Km 93	4799	21.00
4				898	Km 99	4831	24.00
5				1022	Km 100	4865	15.00
6				1021	Km 102	4938	26.00
7				1082	Km 105	3812	45.00
7	PD Ranikhet	SH-14		7			179.00
1	P D Ranikhet	SH-32	Late Shri Geetaram Pokhriyal state highway (Marchula Saraikhet Baijro Pokhra Satpuli Pauri state highway)	1025	Km 67	4551	20.00
2				965	Km 2	4514	45.00
3				1023	Km-69.00	4545	20.00
4				3520	Km-71	4479	12.00
4	PD Ranikhet	SH-32		4			97.00

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1	PD Ranikhet	SH-52	Thalisain Bhungidhar Deghat Jainal Manila Dotiyal Marchula state highway	986	Km-74.00		15.00
2				970	Km-135.00		90.00
2	PD Ranikhet	SH-52		2			105.00
1	P D Ranikhet	SH-33	Bikhyasain Deghat Bungidhar Mehalchori Bachuwaban Chokhutiya state highway	879	Km 3	4962	36.00
2				881	Km 4	4913	22.00
3				882	Km 6	486	18.00
4				887	Km 15	4931	21.00
5				888	Km 16	4946	21.00
6				889	Km 20	4947	18.00
7				890	Km 22	4969	33.00
8				891	Km 23	4986	22.00
9				3521	Km 26	4650	20.00
10				883	Km- 8.00		36.00
11				829	Km-1.00		55.00
11	PD Ranikhet	SH-33		11			302.00
1	CD Ranikhet	SH 33	Bikhyasain Deghat Bungidhar Mehalchori Bachuwaban Chokhutiya state highway	636	Km 107	8350	21.00
2				632	Km-109	8757	24.00
2	CD Ranikhet	SH-33		2			45.00
1	CD Ranikhet	SH-12	BhatraujKhan Ganai Chaukhutia state highway	1093	Km. 25	8479	71.00
2				1114	Km. 29	5576	25.00
3				1116	Km. 29	8655	15.00
4				1117	Km. 31	5305	25.00
5				3569	Km. 37	5808	30.00
6				1122	Km.42	4927	15.00
7				1123	Km.42	5605	28.00
8				2517	Km 44	6242	16.00
9				3516	Km.46	8301	11.00
10				3515	Km.47	8310	16.00
11				3514	Km.48	8331	18.00

12				3513	Km.49	5612	25.00
13				3512	Km.53	5584	21.00
14				3511	Km.54	8349	18.00
15				3510	Km.55	8686	15.00
16				3509	Km.56	5634	10.00
16	CD Ranikhet	SH-12		16			359.00
49	**Almora District**			**49**			**1255.00**
1	PD Bageshwar	SH-11	Karnaprayag (Shimli) Gwaldam Bageshwar Chokodi Thal Munsyari Joljivi state highway	1876	Km-67	3699	40.00
1	PD Bageshwar	SH-11		1			40.00
1	PD Bageshwar	SH-60	Dangoli Sailani Darimkhet Hadbar Pandrahpali Balighat Dofad Dhramghar Kotmanya Pankhu Thal Satsiling state highway	2659	Km-16	4856	30.00
2				2716	Km-28		30.00
3				2715	Km-34		30.00
4				2714	Km-36		12.00
4	PD Bageshwar	SH-60		4			102.00
1	C D Kapkot	SH-60	Dangoli Sailani Darimkhet Hadbar Pandrahpali Balighat Dofad Dhramghar Kotmanya Pankhu Thal Satsiling state highway	1909	Km. 39		40.00
2				1910	km 46		24.00
3				1722	km 50		36.00
4				1724	km 58		21.00
5				1911	km 60		36.00
6				486	km 69		15.00
7				511	km 70		20.00
8				3416	km 83		18.00
9				518	km 84		36.00
10				3590	km 53		10.00
11				3591	km 54		10.00
12				3592	km 55		10.00
13				3679	km 57		10.00
14				3593	km 72		10.00
15				3594	km 74		10.00
16				3595	km 79		10.00
17				3678	km 93		18.00
17	CD Kapkot	SH-60		17			334.00

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22	**Bageshwar District**			**22**			**476.00**
71	**Almora Circle**			**71**			**1731.00**
2nd Circle Nainital							
1	P D Nainital	63	Bhawali Nainital Tanki Kilbury Pangot state highway	78	km 06 HM 6-8 Ch. 5.580	4419	15.00
2				853	Km 25 Ch 24.900	4425	26.00
2	PD Nainital	SH-63		2			41.00
1	P D Nainital	SH-103	Kathgodam Hairakhan Sanani Bend Simaliya Bend state highway	215	Km 37 Ch 36.200(Ch-45)		28.00
2				214			30.00
3				344	Km 33 Ch 32.200(Ch-33.225)		64.00
3	PD Nainital	SH-103		3			122.00
1	C D Nainital	SH-62	Garjiya (Ghughutiyadhar) Betalghat Kharana Dhokana Odakhan Pasyapani Bhateliya Mukteshwar state highway	46	Km-65 Hm(0-2) (Ch-64.154)	5681	70.00
2				3701	Km 58. (Chainage 57.550)		15.00
3				42	Km-35 (Chainage 34.075)		80.00
3	CD Nainital	SH-62		3			165.00
1	C D Nainital	SH-71	Ramnagar Bhandarpani Amgari Bhorakote Aakhudunga Talli Sati Betalghat Ratora Visalkote Jaina Richi Billekh state highway	67	Km-59 Chainage 58.135	5717	125.00
2				3387	Km 45 Chainage 44.450		36.00
2	CD Nainital	SH-71		2			161.00
1	T D Bhawali	SH-10	Kathgodam (Ranibag) Bhimtal Khutani Padampuri Dhanachuli Pahadpani Shaharfatak Mornaula Devidhura Lohaghat Pancheswer state highway	780	Km. 18 Chainage 17.500	5905	18.00
2				619	Km 24 Chainage 23.900	8440	20.00
3				490	Km. 26 Chainage 26.000	11812	80.00
4				491	Km. 35 Chainage 35.000	14671	45.00
4	CD Bhawali	SH-10		4			163.00
1	T D Bhawali	SH-64	Khutani Bhawali Dhanachuli Patlot Meenar Reethasahib Dhunaghat Champawat Manch Tamli state highway	609	Km 01 Chainage 0.050	6143	10.00
2				611	Km 03 Chainage 2.650	6628	18.00
3				617	Km 06 H-M 6-8	9080	12.00
4				614	Chaninage 90.3	9011	24.00

5				625	Km 93	8436	18.00
6				624	Km 94	5730	18.00
6	CD Bhawali	SH-64		6			100.00
20	**Nainital District**			**20**			**752.00**
3rd Circle Pithoragarh (Champawat District)							
1	P D Champawat	SH-64	Khutani Bhawali Dhanachuli Patlot Meenar Reethasahib Dhunaghat Champawat Manch Tamli state highway	850	Km 136 (Chainage 137.420)	3886	76.00
2				851	Km137 (Chainage 136.5)	3782	36.00
3				2320	Km 175	3315	20.00
4				2330	Km 178	3781	25.00
5				1214	Km 193 (Chainage 193.800)	4051	18.00
6				2331	Km 218	3572	20.00
6	PD Champawat	SH-64		6			195.00
1	C D Lohaghat	SH-10	Kathgodam (Ranibag) Bhimtal Khutani Padampuri Dhanachuli Pahadpani Shaharfatak Mornaula Devidhura Lohaghat Pancheswer state highway	2380	Km 137	4454	18.00
2				2378	Km 146	4510	18.00
2	C D Lohaghat	SH-10		2			36.00
1	C D Lohaghat	SH-57	Lohaghat Barakot Simalkhet Kaflikhan Bhanoli state highway	2307	Km 36	3421	30.00
2				334	Km 38	3465	58.00
2	CD Lohaghat	SH-57		2			88.00
	CD Lohaghat			4			124.00
10	**Champawt District**			**10**			**319.00**
4th Circle U.S. Nagar							
1	CD Khatima	SH-107	Khatima Melaghat Banmohaliya state highway	650	Km-01	3679	20.00
2				651	Km 02 Chainage 1.80	3449	15.00
3				652	Km-06 Chainage 5.700	3910	125.00

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4				654	Km 7	3582	71.00
5				1305	Km 9 Chainage 8.825	4101	30.00
6				655	Km 9 Chainage 8.900	4102	40.00
6	CD Khatima	SH-107		6			301.00
1	CD Khatima	SH-70	Jhankat Biriya Sripur Bichhuwa Bigrabagh Chakarpur Kalapul Jhankaiya Mudeli Satrahamil-Nanaksagar state highway	643	Km-15	8262	15.00
2				641	Km-17	8411	15.00
2	CD Khatima	SH-70		2			30.00
1	CD Khatima	SH-41	Ramnagar Kaladhungi Haldwani Kathgodam Chorgaliya Sitarganj Bizti state highway	607	Km-105	4688	15.00
1	CD Khatima	SH-41		1			15.00
9	**U.S. Nagar District**			**9**			**346.00**
7th Circle Gopeshwar (Rudrapryag District)							
1	PD Rudrapryag	SH-15	Uttarkashi Ghansali Tilwara state highway	987	Km-167	4509	75.00
2				988	Km-152	4367	36.00
3				989	Km-140	4013	26.00
4				3499	Km-137	4508	60.00
5				991	Km-136		18.00
5	PD Rudrapryag	SH-15		5			215.00
1	PD Rudrapryag	SH-37	Mayali Guptkashi (Jakholi-Bhiri-Guptkashi & Mayali-Jakholi) state highway	272	Km-11	6201	43.24
2				2867	Km-10	6043	20.00
2	PD Rudrapryag	SH-37		2			63.24
1	CD Ukhimath	SH-37	Mayali Guptkashi (Jakholi-Bhiri-Guptkashi & Mayali-Jakholi) state highway	3288	Km-61.00	4412	42.00
2				3289	Km-47.00	4440	42.00
3				3341	Km-67.00		12.00
4				3339	Km-72		15.00

5				3340	Km-73		12.00
5	CD Ukhimath	SH-37		5			123.00
1	CD Ukhimath	SH-96	Guptkashi Kalimath Kotma Jaal Malla Chaumasi state highway	981	Km-23.00		24.00
1	CD Ukhimath	SH-96		1			24.00
1	CD Ukhimath	SH-56	Banswada Kansil Chandranagar Mohankhal state highway	977	Km-18.	4453	36.00
2	CD Ukhimath	SH-56		3831	Km-10 chainage 9.6		15.00
2	CD Ukhimath	SH-56		2			51.00
15	**Rudrapryag District**			**15**			**476.24**
8th Circle Tehri							
1	PD Tehri	SH-69	Lambgaon Motna Rajakhet Ghansali Sendul state highway	2839	Km-2.00	3617	42.00
2				2490	Km-81.00 Chainage-81.000	4703	40.00
3				3466	Km-66.00 Chainage-65.450	3913	15.00
4				1942	Km-33.00	4698	20.00
5				1943	Km-39.00	3797	24.00
6				2837	Km-47.00 Chainage-47.000	4477	18.00
7				2499	Km- 8.00	4495	36.00
7	PD Tehri	SH-69		7			195.00
1	TD Tathyur	SH-19	Freedom fighter Shri Vishveshwar Dutt Saklani motor road (Raipur Kaddukhal state highway)	1585	Km-12.00	4413	16.00
2				1586	Km-15.00	6353	20.00
3				1592	Km-48.00 Chainage-47.360	3729	24.00
4				1583	Km-9.00 Chainage-8.050	4870	48.00
5				1589	Km-48.00 Chainage-49.932	3766	36.00
5	TD Tathyur	SH-19		5			144.00
1	TD Tathyur	SH-30	Suakholi Almas Bhawan Sarot	1598	Km-21.00	7358	20.00

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2			Chapta Nagun state highway	101	Km-21.00	4235	24.50
2	TD Tathyur	SH-30		2			44.50
1	TD Ghanshali	SH-15	Uttarkashi Ghansali Tilwara state highway	336	Km-87.00 Chainage-86.700	3481	54.00
2				3301	Km-110.00	3374	30.00
3				329	Km-102.00 Chainage-101.750	3376	36.00
4				1286	Km-94.00 Chainage-93.400		15.00
5				3298	Chainage 104.200		24.00
6				3304	KM 123Chainage 122.230		18.00
7				3574	Km 79 Chainage 78.200		18.00
8				3299	Km 108 Chainage 107.850		24.00
9				3303	Km 117 Chainage 116.230		15.00
9	TD Ghanshali	SH-15		9			234.00
1	TD Ghanshali	SH-73	Kamad Dhauntari Chamiyala Budhakedar Ayarkhal state highway	3293 3297	KM 35	4483	125.00
2				3312	Km 42 Chainage 41.800		36.00
2	TD Ghanshali	SH-73		2			161.00
1	CD Narendra nagar	SH-77	Narendranagar Ranipokhari state highway	97	Km 15 Chainage 16.200	8755	30
2				98	Km 9, Chainage 8.150	8549	36
2	CD Narendra nagar	SH-77		2			66.00
1	CD Chamba	SH-72	Silkyara Bangaon Chapda Sarot state highway	1577	km 83 Chainage 82.100	3432	20.00
2				1578	km 83 **Chainage 82.600**	3487	18.00
3				1579	km 84 Chainage 83.625	3518	18.00
4				1580	km 94 Chainage 93.225	3564	20.00
5				1581	km 96 Chainage 95.100	3645	26.00
5	CD Chamba	SH-72		5			102.00

32	**Tehri District**	**7**		**32**			**946.50**
9th Circle, Dehradun							
1	PD Dehradun	SH-01	Dehradun Mussoorie state highway	362	Chainage 13.900		66.00
1	PD Dehradun	SH-01		1			66.00
1	PD Dehradun	SH-79	Dehradun Kimadi Lambhidhar Motilal Nehru Cart Makenji Holock Company Garden state highway	475	Km-2, Chainage 0.175	8552	35.00
1	PD Dehradun	SH-79		1			35.00
1	TD Chakrata	SH-17	Tuni Purola Naugaon state highway	184	Km.10, Chainage 9.150	6125	24.00
2				185	Km. 17, Chainage 16.375	6027	20.00
3				186	Km. 20, Chainage 19.450	6184	32.00
3	TD Chakrata	SH-17		3			76.00
1	TD Chakrata	SH-18	Chakrata Lakhamandal Barnigad state highway	174	Km. 65, Chainage 64.800		85.00
2				176	Km. 05, Chainage 4.950	6044	15.00
3				177	Km. 11, Chainage 10.450	6124	20.00
4				178	Km. 65, Chainage 64.025	6062	22.00
5				179	Km. 17, Chainage 16.575	6065	15.00
6				187	Km. 50, Chainage 49.025	6222	16.00
7				2968	Km. 24, Chainage 23.050		26.00
8				2967	Km. 33, Chainage 32.875	6227	30.00
9				3002	Km. 22, Chainage- 21.950		15.00
9	T.D. Chakrata	SH-018		9			244.00
14	**Dehradun District**			**14**			**421.00**
12th Circle Pauri							
1	CD Paboo	SH-002	Thailisain Chorikhal Chipalghat state highway	3522	Km. 2	8292	18.00
2				3523	Km. 5	8314	15.00

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3				3534	Km. 6	8533	15.00
4				2180	Km. 33	8431	20.00
5				2182	Km. 33	8484	26.00
6				2181	Km. 34	8311	24.00
6	CD Paboo	SH-002		6			118.00
1	CD Paboo	SH-032	Late Shri Geetaram Pokhriyal state highway (Marchula Saraikhet Baijro Pokhra Satpuli Pauri state highway)	233	Km. 165 Chainage 166.013	4562	48.00
2				2285	Km.157 Chainage 157.000	7597	15.00
3				3525	Km. 168 Chainage 168.300	7808	24.00
3	CD Paboo	SH-032		3			87.00
1	CD Duggada	SH-09	Late Shri Jagmohan Singh Negi (Laxmanjulla Dugada Rathuwadhab Dumakot) state highway	3056	km 8 Chainage 8.100	9058	12.00
2				3057	km 10 Chainage 9.875	9059	18.00
3				3058	km 12 Chainage 11.400	8297	12.00
4				3060	km 16 Chainage 15.100	8265	18.00
5				3061	km 18 Chainage 17.375	8260	12.00
6				3062	km 19 Chainage 18.675	8286	24.00
7				3063	km 22 Chainage 21.950	4391	20.00
8				1665	km 61 Chainage 60.100	7700	24.00
9				1666	km 98 Chainage 96.500	8430	21.00
10				1667	km 98 Chainage 97.500	8280	15.00
11				3070	km 107 Chainage 107.000	4389	21.00
12				1671	km 141 Chainage 140.500	7832	24.00

13				1672	km 141 Chainage 140.300	4230	20.00
14				854	km176 Chainage 177.000	3601	54.00
14	CD Duggada	SH-009		14			295.00
1	CD Duggada	SH-51	Shaheed Sandeep Singh Rawat state highway (Ghattugad Silogi Gumkhal Lansdowne Deriyakhal Rikhanikhal Biroukhal motor road)	3064	km 1		24.00
2				3067	km 2		72.00
2	CD Duggada	SH-51		2			96.00
1	CD, PWD, Baijron	SH- 32	Late Shri Geetaram Pokhriyal state highway (Marchula Saraikhet Baijro Pokhra Satpuli Pauri state highway)	ID 2028	Km 102	3933	36.00
2				ID 2060	Km 111	3923	42.00
3				ID 2120	Km 88	4539	20.00
4				ID 3008	Km 100	4228	15.00
5				ID 3526	Km 102	4211	18.00
6				ID 3527	Km 106	4166	36.00
6	CD Baijron	SH- 32		6			167.00
1	CD, PWD, Baijron	SH- 33	Bikhyasain Deghat Bungidhar Mehalchori Bachuwaban Chokhutiya state highway	ID 3012	Km 43	3947	30.00
2				ID 2115	Km-52	4073	36.00
3				ID 2114	Km 67	4074	48.00
4				ID 3555	Km 50	11292	15.00
5				ID 3556	Km-55	11313	12.80
6				ID 2119	Km 57	11323	13.00
7				ID 3558	Km-58	11309	18.50
7	CD Baijron	SH- 33		7			173.30
1	CD, PWD, Baijron	SH- 52	Thalisain Bhungidhar Deghat Jainal Manila Dotiyal Marchula state highway	ID 2118	Km-07	4135	66.00
2				ID 2116	Km 4	4245	66.00
3				ID 2117	Km 6	4097	36.00
4				ID 2106	Km-02	11311	18.00
4	CD Baijron	SH- 52		4			186.00
1	PD Pouri	SH- 49	Tehri Hindolakhal Devprayag Vyasghat Bilkhet state highway	1740	km 70	4400	20.00
2				1741	km 71 Chainage 70.920	5322	18.00
3				1742	km 72	4277	30.00
4				1749	km 90	4398	20.00
5				1745	km 90 Chainage 80.500	4401	26.00

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6				1736	km 61 Chainage 61.460	3738	30.00
6	PD Pouri	SH- 49		6			144.00
1	P D Pauri	SH-32	Late Shri Geetaram Pokhriyal state highway (Marchula Saraikhet Baijro Pokhra Satpuli Pauri state highway)	2065	Chainage 194.650		90.00
1	P D Pauri	SH-32		1			90.00
1	P D , PWD, Lansdawn	SH-51	Shaheed Sandeep Singh Rawat state highway (Ghattugad Silogi Gumkhal Lansdowne Deriyakhal Rikhanikhal Biroukhal motor road)	206	Km. 152 Chainage 156.000	4611	60.00
2				207	Km. 166 Chainage 169.000	4606	54.00
2	P D Lansdawn	SH-51		2			114.00
51	**Pauri District**	**7**		**51**			**1470.30**
222	**Grand Total**			**222**			**6462.04**
B	**Bridges Proposed for Retrofitting (13 Nos.)**						
	Nainital District						
1	P D Nainital	SH-103	Kathgodam Hairakhan Sanani Bend Simaliya Bend state highway	214	Km 48 Ch 47.900	9753	30.00
2	T D Bhawali	SH-64	Khutani Bhawali Dhanachuli Patlot Meenar Reethasahib Dhunaghat Champawat Manch Tamli state highway	614	Km 91 Chainage 90.300	9011	18.00
3	T D Bhawali	SH-10	Kathgodam (Ranibag) Bhimtal Khutani Padampuri Dhanachuli Pahadpani Shaharfatak Mornaula Devidhura Lohaghat Pancheswer state highway	491	Km. 35 On Chainage 35.000	8923	30.80
	Dehradun District						78.80
4	TD Sahiya	SH-21	Haripur Ichadi Meenus state highway	103	Chainage 7.500		15.40
5				108	Chainage 9.950		10.40

6				109	Chainage 10.000		12.80
7				144	Chainage 27.950		10.20
8				145	Chainage 30.000		14.40
9				400	Chainage 35.150		13.00
10				421	Chainage 40.830		14.50
11				423	Chainage 61.980		11.00
12				424	Chainage 63.990		16.20
	Pauri District						**117.90**
13	CD Duggada	SH-009	Late Shri Jagmohan Singh Negi (Laxmanjulla Dugada Rathuwadhab Dumakot) state highway	1929	km 147		12.00
	Total			**13**			**208.70**
Grand Total (222 nos. Proposed for New Construction & 13 Nos. for Retrofitting)				**235**			**6670.74**
Name of Division	**Division of DFO**	**Name of State Highway**		**SH No.**	**Location of Land slide**	**DPR Cost (Crore)**	**ID of DPR**
2	**3**	**4**		**5**	**6**	**9**	**10**
C.D. P.W.D Narendra nagar	Narendranagar (Muni ki Reti)	Narendranagar-Ranipokhri (State Highway No. 77) in the Narendranagar Assembly Constituency of Tehri Garhwal district (Chainage from 6.016 Km to 6.180 Km.)		SH -77	Km 6	18.96	3838
C.D. P.W.D Narendra nagar	Narendranagar (Muni ki Reti)	Narendranagar-Ranipokhri (State Highway No. 77) 77 in the Narendranagar Assembly Constituency of Tehri Garhwal district. (Chainage from 7.020 Km to 7.160 Km.)		SH - 77	Km 7	20.57	3900
Tehri				**2**		**39.53**	
PD. PWD Dehradun	Mussoorie	Dehradun-Kimadi-Lambidhar - Cart Macanji-Holok-Company Garden MR SH-79 in the Constituency of Mussoorie		SH-79	Km-13 & Km- 14	31.26	10786
TD Shaiya	Chakrata	Kalsi Chakrata MR SH-20 in the Constituency of Chakrata		SH-20	Km-10 , 9.070 to 9.250 (JARED)	47.55	5110
Dehradun				**2**		**78.81**	
C.D. P.W.D Ramnagar	Almora	Garjiya (Ghughtidhar)-Betalghat- Khairna-Odakhan-Bhatliya- Muketshwar Motor Road		SH - 62	Km. 19 (Hm. 0-2)	55.15	5895

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C.D. P.W.D Ramnagar	Nainital	Ramnagar-Bhandarpani-Amgarhi-Okhaldunga- Talli Sethi Motor Road	SH - 71	Km. 41 (Hm. 0-2)	38.23	5819
C.D. P.W.D Nainital	Almora	Ramnagar-Bhandarpani-Amgadi-Talli Sethi-Betalghat-Ratoda-Bhujan-Vishalkot-Kaina-Richi Billekh Motor Road (State Highway No 71), Km 63 (HM-2-4) Kali Pahari	SH -71	Kali Pahadi	34.13	2860
P.D. Nainital	Haldwani	Kathgodam–Haidakhan-Sanniband–Similiya band	SH-103	Km 3	32.63	10875
Nainital			**4**		**160.14**	
Grand Total			**8**		**278**	

APPENDIX 2: RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

Rapid Environmental Assessment (REA) Checklist

Instructions:
(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to ADB.
(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

Screening Questions	Yes	No	Remarks
A. **PROJECT SITING** IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE			
▪ PROTECTED AREA			
▪ WETLAND			
▪ MANGROVE			
▪ ESTUARINE			
▪ BUFFER ZONE OF PROTECTED AREA			
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY			
B. POTENTIAL ENVIRONMENTAL IMPACTS WILL THE PROJECT CAUSE…			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?			

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Screening Questions	Yes	No	Remarks
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?			
▪ noise and vibration due to blasting and other civil works?			
▪ dislocation or involuntary resettlement of people?			
▪ dislocation and compulsory resettlement of people living in right-of-way?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples, or other vulnerable groups?			
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?			
▪ hazardous driving conditions where construction interferes with pre-existing roads?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			
creati ▪ n of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?			
▪ increased noise and air pollution resulting from traffic volume?			
increased risk of water pollution fr ▪ m oil, grease and fuel spills, and other materials from vehicles using the road?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			

Screening Questions	Yes	No	Remarks
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.			

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A Checklist for Preliminary Climate Risk Screening

Country/Project Title:
Sector:
Subsector:
Division/Department:

Screening Questions		**Score**	**Remarks**[11]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design lifetime?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High):

Other Comments: Climate change will have noticeable impact on the climate sensitive components (roads and bridges) of the project, but the negative effects could be effectively alleviated through proper adaptation actions.

Prepared by:

[11] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

APPENDIX 3: ADB LIST OF PROHIBITED INVESTMENT ACTIVITIES

The use of ADB funds is strictly prohibited for the following activities (ADB's Safeguard Policy Statement, 2009):

1. Production or activities involving harmful or exploitative forms of forced labor or child labor.
2. Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international phase-outs or bans, such as:
   a. Pharmaceuticals, pesticides, and herbicides
   b. Ozone-depleting substances
   c. Polychlorinated biphenyls (PCBs) and other hazardous chemicals
   d. Wildlife or wildlife products regulated under CITES
   e. Transboundary trade in waste or waste products
3. Production of or trade in weapons and munitions, including paramilitary materials.
4. Production of or trade in alcoholic beverages, excluding beer and wine.
5. Production of or trade in tobacco.
6. Gambling, casinos, and equivalent enterprises.
7. Production of or trade in radioactive materials, including nuclear reactors and components thereof.
8. Production of, trade in, or use of unbounded asbestos fibers.
9. Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests.
10. Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

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APPENDIX 4: GUIDELINES FOR PREPARATION OF CEMP

1. PREPARATION

1. The contractor is responsible for preparing the construction environmental management plan (CEMP). The CEMP is prepared after the award of the contract and is to meet the conditions of the relevant contractor bidding documents. The contractor can move to the site and commence work only after the CEMP has been approved by the project management unit (PIU). The IPIU will provide training to the contractor so they can prepare and submit the CEMP.

2. The CEMP is a contractually binding document and applies equally to the main contractor and to subcontractors under its control.

3. The CEMP must be compliant with (i) the EMP and conditions as set out in the bid and contract documents, and (ii) any legislation established by any administering organization. All licenses and permits issued by any outside organization that are required to meet the CEMP conditions are to be attached to the CEMP. The contractor will notify the PIU within 24 hours of any inspections or visits from any outside organization.

4. The PIU may require the contractor to assess the CEMP activities. When any inspection by the contractor, PIU, or outside organization is undertaken and the work is found to be unsatisfactory, a notice will be issued to the contractor. The contractor will implement corrective action to address the issues raised in the notice. When the work is shown to be nonconforming with the CEMP, the contractor will be responsible for meeting costs of all investigations and associated corrective actions.

5. After a period, the contractor may request that the CEMP be changed, but any requests and alterations to the CEMP can be approved only by the PIU.

6. The contractor is to keep a daily record of all work done to meet the CEMP requirements. The daily record is to be available to the PIU. The contractor is to provide monthly reports to the PIU regarding compliance with the CEMP.

2. CONTENT

7. The CEMP needs to be a concise and well-focused document that clearly sets out how the contractor will meet the requirements of the project EMP. The CEMP consists of the following sections:

Introduction and Purpose

Identify the project and state the purpose of the CEMP. Identify who prepared the CEMP together with the contacts of the person who prepared the document.

Management Responsibilities

This section must clearly identify those persons within the contractor's team who will be directly responsible for supervising the CEMP activities. Each person and position is to be identified and contact details provided for their work, after-hours phone numbers for emergency situations, and their email addresses.

Details are to be provided as to whether these persons are available on a full-time or part-time basis at the construction site. As a minimum, details are required for the following positions:

- The contractor's environmental manager.
- The back-up person for the environmental manager whenever the environmental manager is away from the site.

- The contractor's site engineer, who is responsible for supervising the contract on behalf of the contractor.
- Any other persons on the contractor's team who will have management responsibilities as required to meet the activities outlined in the CEMP conditions.

Legal Requirements

This section will outline the various environmental laws, regulations, and standards that the contractor must comply with during construction.

Licenses and Permits

Provide details of licenses and permits that the contractor will require to undertake the works and to properly implement the CEMP.

Special Environmental or Cultural Issues

Show whether there are any special issues associated with the location of the work area that is, whether it is located inside or close to environmentally or culturally sensitive areas. Advise what approvals will be required and how work will be undertaken in these areas. Locate the boundaries to the areas in the plan of works.

Scope of Works

Define the construction requirements so that these clearly identify all of the work to be undertaken by the contractor.

Plan of Works

The contractor is to provide an overall plan of works that shows the location of all of the construction sites and the contractor's support facilities. The plan of works should be based on the detailed engineering site plans and should show the following:

- boundaries of the construction sites showing the extent of the disturbed area;
- boundaries of any culturally or environmentally sensitive areas;
- access roads (temporary and permanent);
- contractor's facilities (show the location of offices, workshops, vehicle and machinery parking areas, material storage areas, fuel stores, etc.);
- worker camps;
- areas to be excavated;
- areas where excavated fill will be dumped both as temporary and permanent dumps;
- locations of material sources, sand, and stones;
- waste disposal sites (nonhazardous and hazardous); and
- north, the map scale, contours, and existing drainage lines.

Machinery and Support Equipment Brought to Site

The contractor is to provide:

- a list of all the machinery, vehicles, and support equipment that will be brought to the project;
- the age of the machinery;
- an assessment of the condition of the machinery[12] as good, average, or poor; where average or poor machinery is listed, describe the defect;[13.]

12Condition relates to the age and the maintenance of the machinery or vehicles. Any vehicles or machinery that are leaking oil or fuel and are operated without satisfactory silencing or are deficient in safety equipment must be classified as average or poor.

13Under the contract, the PIU is able to reject any machinery or vehicles that are unsatisfactory.

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- where vibratory rollers are to be used, indicate the weight of the roller and the safe operating distances where the machine can be operated without causing harm to surrounding buildings or other susceptible infrastructure (the zone of vibration); and
- any machinery that will create noise above 45 dBA is to be listed.

Table 8: Example of Table for Machinery that will be Brought to Site

Make and Type	**Age** (years)	**Condition**
ABC utility	2	Good
tractor	3	Average
excavator	4	Average
Load truck	1	Good

Details of Sites Used to Source Raw Materials

The CEMP is to detail raw materials to be sourced for the works this includes borrow pits and quarries. Necessary regulatorily permits shall be obtained for quarries and materials extraction. The CEMP is to provide the following details:

- location of material supply areas;
- type of activity and material extracted, e.g., borrow pit for sub-base or quarry for aggregate;
- requirement for any permits or approvals to open the borrow pit of quarry;
- estimated amounts to be extracted – total volume required and daily amounts as numbers of truckloads for how many days/months;
- names of villages and distances along road (in kilometers) that the haul road may need to traverse before reaching the site;
- machinery that will be operated at the site; and
- health and safety issues that will be required to be addressed at the site.

Contractor's Facilities and Worker Camps

Provide details of the facilities that the contractor will erect on-site for (i) its own use, and (ii) worker camps. The contractor is to show the location of these facilities on the plan of works and provide the following details:

- For contractor facilities: show the areas required in square meters for all facilities such as administration offices, stores and workshops, vehicles and machinery parking areas. Show sources of electricity and water supply.
- For worker camps: provide details of (i) number of people occupying the camps; and (ii) areas (m^2) and facilities installed for (a) washing and sanitation areas, (b) cooking, (c) sleeping areas, and (d) recreation areas.

For both the contractor and worker facilities, describe the following:

- type of construction of facilities (floor, walls, and roof);
- stormwater drainage, collection systems, flow paths, and disposal areas;
- source of water and type of treatment required for cooking, washing, and drinking;
- effluent systems to handle the disposal of washing, sanitation, and kitchen waste water;
- source of energy to be used for heating and cooking;
- confirm as "yes" or "no" if the facilities or camps are to be located within or closer than 2 kilometers of a protected or forested area;
- how long the camps will be required to be used; and
- procedure for closing and dismantling the camps.

Enter details in a table like Table 9.

Table 9: Example of Contractor's Facilities to be Used during Construction

	Facility	Area (m^2)	Construction			Stormwater drains to…	Effluent drains to…
			Floor	Walls	Roof		
1	Administration offices	300 m^2 (30 m x 10 m)	New transportable building			Freshwater tanks	Closed septic system
2	Workshop and machinery washdown areas	200 m^2 (20 m x 10 m)	concrete	c.g.i.	c.g.i.	Oil & water separator > sediment basin> natural drainage system	Closed septic system
3	Vehicle and machinery parking area	800 m^2 (40 m x 20 m)	Compacted coral aggregate			sediment basin> natural drainage system	n.a.
4	Storage area – materials	400 m^2 (40 m x 10 m)	Coral aggregate	c.g.i.	c.g.i.	Sediment basin> natural drainage system	n.a.
5	Storage area – fuel (5,000 liter) skid tank	15 m^2 (5 m x 3 m)	Concrete bunded base			Oil and water separator > sediment basin> natural drainage system	n.a

c.g.i. = corrugated iron; n.a. = not applicable.

3. ENVIRONMENTAL PROTECTION WORK PROCEDURES

8. The CEMP is to provide a series of procedures that are designed to protect the environment. These are called environmental work procedures (EWP) and outline how work will be arranged to address the various issues that have been outlined in the CEMP.

9. The CEMP will review and build on the project EMP requirements to develop more detailed procedures for implementation in the construction activity. While the project EMP provides a list of mitigation requirements that will require procedures to be developed for each of them, the contractor is required to review the adequacy of the requirements and if necessary, include additional procedures. Should the contractor consider that a procedure that is shown in the project EMP is not required, the contractor will need to justify that decision.

10. The following is a list of procedures that may be required to be included in the CEMP. The project EMP will confirm which of these procedures or others will be required.

- Site preparation
- Excavation of construction sites
- Removal and disposal of excavated waste
- Erosion and sedimentation
- Storage and handling of construction materials, fuel, and lubricants
- Noise and vibration
- Dust generation
- Public access to site
- Risk to public and worker health and safety
- Use of hazardous materials
- Worker issues (e.g., use of fuel wood, hunting, clearing areas for gardening)
- Disposal of waste material (solid and liquid)
- Archaeological discoveries
- Rehabilitation of construction sites and contractor facilities

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4. MONITORING OF WORK

11. The CEMP is to provide details of how each activity will be monitored: how frequently the monitoring will be carried out, what criteria will be monitored, and who will undertake the monitoring. A monthly report on monitoring activities is to be included in the monthly CEMP report.

5. STAFF AND WORKER TRAINING

12. The CEMP is to provide details of staff and worker training and awareness programs that will be required to ensure compliance with the CEMP. Awareness of staff and workers about safety and environmental regulations, the CEMP requirements, and in special circumstances where work will need to be carried out within or adjacent to protected areas or areas of cultural heritage will be particularly important. The program will need to show who will be responsible for implementing the program and where the program will be introduced so as to ensure that all workers are aware of the CEMP requirements before commencing work.

6. REPORTING

13. The contractor is to provide details in a monthly CEMP report. The report will be prepared by the person who has been identified within the contractor's team as responsible for overseeing the CEMP procedures. The report will outline progress with regard to the project's physical monitoring targets and implementation of the CEMP for these works. The report should note which tasks have been completed and have been approved for payment by the IPIU. The report is to specify if any notices have been issued by the IPIU to correct work and what has been done by the contractor to address these issues.

14. Any complaints or issues that have been received from the public are to follow the general requirements of the GRM and be listed in the report. Three copies of the report are to be sent to the IPIU. The report will address the following topics:

- Status of work program: work completed, construction under way, and work planned
- Environmental unit and staff situation for the month
- Staff and worker awareness training carried out
- Waste volumes, types, and disposal (inorganic and organic)
- Areas revegetated and rehabilitated
- Dust control report
- Discovery of artifacts
- Safety and monthly accident report
- Status of CEMP environmental mitigation measures
- IPIU notices issued and status of all nonconforming work
- Environmental Incidents
- Complaints received (as per GRM)
- Other relevant environmental issues

APPENDIX 5: SAMPLE SITE ENVIRONMENTAL COMPLIANCE INSPECTION AND MONITORING FORM

Subproject : _____
Location : _____
Date : _____
Reporting Period : _____

PIU Name : _____
CSC Name : _____
Contractor(s) : _____
Project Phase: Preconstruction / Construction

1. Contractor(s)

Contractor(s) Environmental Awareness	Yes / No	Actions Required	Contractor Response / Comment
Contractor(s) aware of mitigation requirements?			
Contractor(s) has a copy of EMP?			

2. Mitigation Compliance Inspection

Impact / Mitigation Measure (From EMP)	Mitigations Implemented (Yes, No)	Mitigations Effective? (1 to 5)*	Impact Observed / Location	Action Required	Contractor Response / Comment	Endorsed by:	
						Implementing Agency	Monitoring Agency

Mitigation Effectiveness Rating Criteria (Indicative examples)

- ✓ Very Good (all required mitigations implemented)
- ✓ Good (the majority of required mitigations implemented)
- ✓ Fair (some mitigations implemented)
- ✓ Poor (few mitigations implemented)
- ✓ Very Poor (very few mitigations implemented).

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APPENDIX 6: DOCUMENTATION OF PUBLIC CONSULTATION ACTIVITIES

Table 1: Summary of Key Information Required for Consultation

CONSULTATION METHOD	DETAILS OF ACTIVITIES		CONSULTATION OUTCOMES	
Public Notice	Date(s) of notice		n/a	
	Location of notice			
Newspaper Notification	Date(s) of notice		n/a	
	Name of newspaper			
Public announcement/ radio	Date(s) of announcement		n/a	
	Time(s) of announcement			
Newsletter / questionnaire	Date(s) sent		Number received	
	Number sent		Main issues raised	
	Area of distribution			
	Feedback sought (Yes / No)			
Public meeting	Date(s) held		Meeting minutes attached (Yes / No)	
	Location(s) held		Attendees	
	Invitees			
	Methods of invitation			
	Agenda attached (Yes / No)			

Note: you may need to include agendas, list of attendees, minutes of meetings etc.

Table 2: Summary of Key Information Required for Consultation

Name of Subproject

Location

Date:

Time:

Location:

MEETING AGENDA

Introduction ….

1. Presentation and key points….:

PARTICIPANTS

Name (if possible) number, associated organization, gender.

COMMENTS OF PARTICIPANTS AT MEETING

1.
2.
3.
4. etc

REPLIES OF EMPLOYER

1.
2.
3.
4. etc

The meeting was ended at XXX same day, all participants agreed with the minutes of meeting.

Signed by person taking minutes: Position:

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APPENDIX 7: GRIEVANCE REGISTRATION FORM

Name of Subproject:

Site Location:

Project ____ welcomes complaints, suggestions, comments, and queries regarding project implementation and its stakeholders. We encourage persons with grievances to provide their name and contact information to enable us to get in touch for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing "(CONFIDENTIAL)" above your name.

Thank you.

Contact Information

Name

Gender □ Male □ Female

Home Address

Age

Phone No.

City/Village

Email

Complaint/Suggestion/Comment/Question Please provide the details (who, what, where, and how) of your grievance below:

How do you want us to reach you for feedback or update on your comment/grievance?

Portion to be filled in by the staff:

Date received:	
Received through:	__In person__ mail__ email__ fax__ phone__ sms
Name of staff who received comment/ complaint	
Position of staff:	
Type of grievance:	
Remarks	
Signature of staff	

Update on the grievance:

Date:	Update

APPENDIX 8: OUTLINE OF A SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Following the requirements of the ADB Safeguard Policy Statement (2009)[14] and the Operations Manual section on safeguard policy[15] (OM F1), borrowers/clients are required to establish and maintain procedures to monitor the status of implementation of safeguard plans and ensure progress is made toward the desired outcomes.

The following is a suggested report structure:

A. Executive Summary

This section describes concisely the key information / facts of project progress and EMP compliance status, significant findings, and recommended actions and next steps.

B. Introduction

(i) Report purpose
(ii) Report content

C. Project Introduction and Implementation Status

(i) Location / scale/size/capacity
(ii) Reporting period covered by this monitoring report (month/year)
(iii) Description of project implementation status (design, construction, operation, or closure stage)
(iv) Key developments and any major changes in project location and design, if any

D. Relevant Environmental Permits / approvals or Compliance Certificates Issued by government agency(ies) (include name of agency), Issuance dates and duration of validity, Permit conditions and renewal requirements, Other relevant standards and/or certificates (e.g., ISO 14000 Environmental Management Systems and Standards)

E. Compliance with Applicable Environmental Safeguard Requirements

Implementation of EMP (citing changes in the EMP, where warranted) at construction or operation phase, focusing on mitigation measures and monitoring program. Attach copies of monitoring reports. If standards or thresholds are exceeded, specify the corrective actions implemented or to be implemented.

(i) Institutional arrangements
(ii) Status of environmental requirements in bidding documents / works contacts
(iii) Compliance status/implementation of the project mitigation measures
(iv) Implementation of the project monitoring program
(v) Environmental compliance with national requirements
    a. Compliance with national standard requirement
        - Waste generation
        - Soil pollution
        - Air pollution
        - Noise pollution
        - Occupational safety and hygiene
        - Inspection on compliance with national requirements
    b. Compliance with ADB requirements
        - Information disclosure and public consultations

[14] https://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf
[15] https://www.adb.org/sites/default/files/institutional-document/31483/om-f1.pdf

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- Grievance redress mechanism
- Training and capacity building
- Compliance to loan/grant and project assurances

(vi) Cost incurred of EMP implementation during the reporting period
(vii) Compliance to environment-related loan/grant covenants
(viii) Issues for follow-up/pending corrective actions

F. Grievance Redress Mechanism

(i) Date established and description of organizational arrangements
(ii) Complaints, grievance, or protests received from local communities, recorded dates and organizations involved, actions taken to resolve grievances; any outstanding issues and proposed measures for resolution

G. Occupational and Community Health and Safety

(i) Training programs carried out
(ii) Incidents[16] recorded, including date, scale of damage and injury[17], if any; authorities in charge of investigation/recording, and media or community reactions, if any; action taken to respond to the incident; and any outstanding issues and proposed measures
(iii) Other health and safety events or out-reach activities

H. Environmental Management Capacity Building and Training Arrangements

(i) Number of staff, qualifications, and experience in environmental management
(ii) Awareness of: (i) environmental issues, (ii) health and safety, (iii) national environmental laws and regulations, and (iv) applicable ADB's environmental safeguard requirements
(iii) Training programs carried out
(iv) Assessment of environmental management capacity needs (including planned capacity building programs)

I. Information Disclosure and Stakeholder Engagement

(i) Details of information disclosure and consultations, if any, with affected people, local communities, civil society groups, and other stakeholders
(ii) Details of approach/methodology on addressing the concerns and issues raised at consultations

J. Conclusion

(i) Overall compliance of subprojects/components
(ii) Key achievements
(iii) Key problems/open or pending issues
(iv) Solution
(v) Lessons learned
(vi) Follow-up actions/next Steps

Support materials to be attached include:

- Matrix indicating compliance with environmental related requirements and clauses
- Construction and demolition waste report
- Photos of construction activities/monitoring/site visits/training and public consultations
- Grievance logs and other related documentation
- Environmental monitoring and certificates/others

[16] Including incidents that have caused damage on the environment or to human health, and/or attached attention of outside parties (e.g., fire, explosion, chemical or oil spill, and pollution release).
[17] Including fatalities, serious injures (requiring emergency treatment or hospitalization), lost time accidents (requiring more than one day off work to recover), and incidents involving compensation claims.

Table 1: Summary of Key Information Required for Consultation

CONSULTATION METHOD	DETAILS OF ACTIVITIES		CONSULTATION OUTCOMES	
Public notice	Date(s) of notice		n/a	
	Location of notice			
Newspaper notification	Date(s) of notice		n/a	
	Name of newspaper			
Public announcement/ radio	Date(s) of announcement		n/a	
	Time(s) of announcement			
Newsletter / questionnaire	Date(s) sent		Number received	
	Number sent		Main issues raised	
	Area of distribution			
	Feedback sought (Yes / No)			
Public meeting	Date(s) held		Meeting minutes attached (Yes / No)	
	Location(s) held		Attendees	
	Invitees			
	Methods of invitation			
	Agenda attached (Y/ N)			

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