



REPUBLIC OF INDIA
GOVERNMENT OF MAHARASHTRA
RURAL DEVELOPMENT DEPARTMENT

MUKHYA MANTRI GRAM SADAK YOJANA (MMGSY)
ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANNING FRAMEWORK
(ESMPF) - DRAFT

Project ID: P001120

MAIN REPORT (ESMPF)

Prepared by

Maharashtra Rural Road Development Association, Government of Maharashtra

For

Asian Infrastructure Investment Bank (AIIB)

SEP 2026

Table of Contents

List of Acronyms	4
Executive Summary	7
A. Introduction.....	11
B. Project Description.....	11
C. Socioeconomic and Environmental Background.....	12
D. Identification of rural roads for project.....	13
E. Environment and Social Impacts and Risks.....	14
F. Categorisation of Project.....	14
G. Applicable AIIB Environmental and Social Standards.....	14
H. Assessment of Existing Environmental and Social Management Approach	18
I. Assessment of Environmental and Social Impacts and Risks.....	19
J. Environmental and social screening checklist	20
K. Environmental and Social Management Plan (ESMP).	31
L. Biodiversity Conservation and Management	33
M. Occupational and Community Health and Safety.....	33
N. Quarry Site Management	34
O. Avenue Plantation.....	34
P. Land Acquisition and Resettlement & Rehabilitation	34
Q. Entitlement Matrix	35
R. Institutional Arrangements.....	35
S. Public Consultation and Stakeholder Management	37
T. Grievance Redress Mechanism (GRM)	39
U. Gender Action Plan (GAP)	41
V. ESS3: Indigenous Peoples Planning Framework (IPPF)	42
W. Monitoring and Reporting:.....	42

List of Tables

Table 1: Applicability of Environment and Social Standards.....	16
Table 2: Environmental and Social Screening Checklist.....	20
Table 3: Roles and Responsibilities for Environmental and Social Safeguard Implementation.....	36
Table 4: Consultation Methods.....	38
Table 5: Guidance Note: Gender Action Plan	41

List of Figures

Figure 1: Flow chart for Grievance Redress Mechanism MMGSY Project	40
Figure 2: Details of Grievance Redressal committee members	40

List of Acronyms

AIIB	:	Asian Infrastructure Investment Bank
ATD	:	Additional Tribal District
BOQ	:	Bill of Quantities
C & D	:	Construction and Demolition
CEA	:	Civil Engineering Assistant
CPCB	:	Central Pollution Control Board
CRN	:	Core Road Network
CTE	:	Consent to Establish
CTO	:	Consent to Operate
EA	:	Executing Agency
EC	:	Environment Clearance
EHS	:	Environment Health and Safety
EIA	:	Environment Impact Assessment
EMOP	:	Environment Monitoring Plan
ESEL	:	Environment and Social Exclusion List
ESMP	:	Environment and Social Management Plan
ESMPF	:	Environment and Social Management Planning Framework
ESP	:	Environment and Social Policy
ESS	:	Environment and Social Standards
FGD	:	Focus Group Discussion
GAP	:	Gender Action Plan
GBV	:	Gender Based Violence
GESI	:	Gender Equality and Social Inclusion
GGBS	:	Ground Granulated Blast Furnace Slag
GHG	:	Green House Gas
GoM	:	Government of Maharashtra
GRC	:	Grievance Redressal Committee
GRM	:	Grievance Redressal Mechanism
IPP	:	Indigenous Peoples Plan
IPPF	:	Indigenous Peoples Planning Framework

IRC	:	Indian Road Congress
IS	:	Indian Standard
km	:	Kilometre
LAP	:	Land Acquisition Plan
LARP	:	Land Acquisition and Resettlement Plan
LCMP	:	Labour Camp Management Plan
MDRs	:	Major District Roads
MITRA	:	Maharashtra Institution for Transformation
MoEFCC	:	Ministry of Environment Forest and Climate Change
MoRTH	:	Ministry of Road Transport and Highways
MOU	:	Memorandum of Understanding
MPCB	:	Maharashtra Pollution Control Board
MRRDA	:	Maharashtra Rural Road Development Association
NAAQS	:	National Ambient Air Quality Standards
NHAI	:	National Highways Authority of India
NOC	:	No Objection Certificate
OCHS	:	Occupational and Community Health and Safety
PACU	:	Project Advisory and Coordination Unit
PAP	:	Project Affected Persons
PD	:	Project Director
PESA	:	Panchayats Extension to Scheduled Areas
PIU	:	Project Implementation unit
PMU	:	Project Management Unit
PPE	:	Personal Protective Equipment
RAP	:	Resettlement Action Plan
RFCTLARR	:	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act
RoW	:	Right of Way
RP	:	Resettlement Plan
RPF	:	Resettlement Planning Framework
SC	:	Scheduled Caste
SEA	:	Sexual Exploitation and Abuse

SEAH	:	Sexual Exploitation, Abuse, and Harassment
SEIAA	:	State Environment Impact Assessment Authority
SEP	:	Stakeholder Engagement Plan
SH	:	Sexual Harassment
SHs	:	State Highways
SIA	:	Social Impact Assessment
ST	:	Scheduled Tribes
TSP	:	Tribal Sub-Plan
USD	:	United State Dollars

Executive Summary

The Government of Maharashtra, through the Maharashtra Rural Roads Development Association (MRRDA) under the Rural Development Department, has undertaken the Upgradation of Rural Roads under the Mukhya Mantri Gram Sadak Yojana (MMGSY) with financial assistance from the Asian Infrastructure Investment Bank (AIIB). The project envisages upgradation of approximately 3,500 km of strategic rural roads to all-weather, intermediate-lane standards during the period from Q4 2026 to Q4 2031.

The principal objective of the project is to improve the quality, capacity, safety and climate resilience of strategic rural roads, while strengthening rural road asset management in Maharashtra. The proposed roads will improve connectivity between rural habitations, particularly villages with populations above 1,000, and the higher-order road network comprising Other District Roads, Major District Roads, State Highways and National Highways, as well as district headquarters. The project will also support improved access to markets, health and education services, employment opportunities and other economic and social facilities.

The need for the project arises from the deteriorating condition and limited capacity of several existing rural roads. Many of the identified roads have weak pavements, inadequate drainage and cross-drainage structures, deficient road geometry and limited resilience to climate-related events. Increasing traffic, including commercial traffic, has further contributed to deterioration and road safety concerns. The project therefore proposes durable and climate-resilient pavement solutions, drainage improvements, road safety measures and strengthened road asset management systems. Technologies such as Thin White topping (TWT) and Short Panel Concrete (SPC) are proposed as part of the project approach, subject to site conditions and detailed project preparation.

The Environmental and Social Management Planning Framework (ESMPF) has been prepared to provide an overarching framework for identifying, assessing and managing environmental and social risks and impacts associated with the project. The framework has been prepared in accordance with the applicable Government of India and Government of Maharashtra requirements and the AIIB Environmental and Social Framework (ESF), 2024. It establishes procedures for environmental and social screening, assessment, mitigation, monitoring, stakeholder consultation, information disclosure and grievance redress throughout the project cycle.

The project is classified as Category B under the AIIB ESF, as the anticipated environmental and social impacts are expected to be site-specific, temporary and manageable through appropriate mitigation and management measures. The proposed works will be undertaken primarily within the existing Right of Way (RoW). Land acquisition and displacement of any type are avoided. Section-specific screening will be undertaken to identify road sections eligible for consideration under the project. Potential environmental and social issues include vegetation clearance, dust and noise, waste generation, soil erosion, drainage modifications, material sourcing, traffic management, labour management, and occupational and community health and safety.

The ESMPF provides for preparation and implementation of site-specific Environmental and Social Management Plans (ESMPs) and Contractor's Environmental and Social Management Plans (CESMPs) based on the findings of screening and assessment. Emphasis has been placed on stakeholder engagement, social inclusion and gender responsiveness. Consultations will seek to understand local concerns regarding road alignment, community assets, road safety, project expectations and the needs of vulnerable households, with specific efforts to capture the views of women. The framework also provides for accessible information disclosure and a gender-responsive Grievance Redress Mechanism (GRM) through which affected persons and other stakeholders can raise concerns relating to land, livelihoods, construction activities, labour, health and safety and other project-related matters.

The ESMPF further provides measures to promote women's participation and safety, including consultation with women and vulnerable groups, representation of women in grievance redress and community engagement processes, equal wages, suitable employment opportunities, labour welfare measures, and prevention of gender-based violence, sexual exploitation, abuse and harassment. These measures are intended to ensure that the benefits of improved rural connectivity are realised in an inclusive and socially responsible manner. ESMPF will be disclosed in English and summary in Marathi. Package wise ES assessments will be disclosed once prepared in accordance with the ESMPF.

सारांश

महाराष्ट्र शासनाने, ग्रामविकास विभागाअंतर्गत महाराष्ट्र ग्रामीण रस्ते विकास संस्थेद्वारे (MRRDA), आशियाई पायाभूत सुविधा गुंतवणूक बँकेच्या (AIIB) आर्थिक साहाय्याने 'मुख्यमंत्री ग्राम सडक योजने'अंतर्गत (MMGSY) ग्रामीण रस्त्यांच्या सुधारणेचे काम हाती घेतले आहे. या प्रकल्पांतर्गत Fourth Quarter (Q4) २०२६ ते Fourth Quarter (Q4) २०३१ या कालावधीत सुमारे ३,५०० किमी लांबीच्या धोरणात्मक ग्रामीण रस्त्यांचे 'ऑल-वेदर' (सर्व हवामानात टिकणारे) आणि मध्यवर्ती लेनच्या मानकांनुसार रुंदीकरण व दर्जासुधारणा करण्याचे उद्दिष्ट आहे.

या प्रकल्पाचा मुख्य उद्देश महाराष्ट्रातील धोरणात्मक ग्रामीण रस्त्यांची गुणवत्ता, क्षमता, सुरक्षा आणि हवामान लवचिकता (Climate Resilience) सुधारणे आणि ग्रामीण रस्ता मालमत्ता व्यवस्थापन (Rural Road Asset Management) मजबूत करणे हा आहे. प्रस्तावित रस्त्यांमुळे ग्रामीण वस्त्या, विशेषतः 1000 पेक्षा जास्त लोकसंख्या असलेली गावे, आणि इतर जिल्हा रस्ते, प्रमुख जिल्हा रस्ते, राज्य महामार्ग व राष्ट्रीय महामार्ग यांसारखे उच्च दर्जाचे रस्ते जाळे तसेच जिल्ह्याची मुख्यालये यांच्यातील दळणवळण सुधारेले. हा प्रकल्प बाजारपेठा, आरोग्य आणि शिक्षण सेवा, रोजगाराच्या संधी आणि इतर आर्थिक व सामाजिक सुविधांपर्यंत पोहोच सुधारण्यास मदत करेल.

सद्यस्थितीत अनेक ग्रामीण रस्त्यांची ढासळलेली स्थिती आणि मर्यादित क्षमतेमुळे या प्रकल्पाची गरज निर्माण झाली आहे. ओळखण्यात आलेल्या अनेक रस्त्यांचे पृष्ठभाग कमकुवत आहेत, ड्रेनेज व क्रॉस-ड्रेनेजची अपुरी व्यवस्था आहे, रस्त्याची रचना (Geometry) दोषास्पद आहे आणि हवामान बदलांशी संबंधित घटनांना तोंड देण्याची क्षमता मर्यादित आहे. व्यावसायिक वाहतुकीसह वाढत्या वाहतुकीमुळे रस्त्यांची अधिक दुरुवस्था झाली असून रस्ते सुरक्षेबाबत चिंता निर्माण झाली आहे. म्हणूनच, हा प्रकल्प टिकाऊ आणि हवामान-लवचिक रस्ते उपाय, ड्रेनेज सुधारणा, रस्ते सुरक्षा उपाय आणि मजबूत रस्ता मालमत्ता व्यवस्थापन प्रणाली प्रस्तावित करतो. साइटवरील परिस्थिती आणि सविस्तर प्रकल्प अहवालानुसार 'थिन व्हाईट टॉपिंग' (TWT) आणि 'शॉर्ट पॅनेल काँक्रीट' (SPC) यांसारख्या तंत्रज्ञानाचा प्रकल्प दृष्टिकोनाचा भाग म्हणून वापर प्रस्तावित केला आहे.

प्रकल्पाशी संबंधित पर्यावरण आणि सामाजिक धोके व प्रभावांची ओळख, मूल्यांकन आणि व्यवस्थापन करण्यासाठी एक सर्वसमावेशक आराखडा म्हणून 'पर्यावरण आणि सामाजिक व्यवस्थापन नियोजन आराखडा' (ESMPF) तयार करण्यात आला आहे. हा आराखडा भारत सरकार आणि महाराष्ट्र शासनाच्या लागू असलेल्या आवश्यकतांनुसार आणि AIIB (Asian Infrastructure Investment Bank) च्या पर्यावरण आणि सामाजिक आराखड्या (ESF), 2024 च्या मार्गदर्शक तत्वांनुसार तयार केला गेला आहे. हे प्रकल्प चक्रादरम्यान पर्यावरण आणि सामाजिक तपासणी (Screening), मूल्यांकन, उपाययोजना, देखरेख (Monitoring), भागधारकांशी चर्चा, माहितीचे प्रकटीकरण आणि तक्रार निवारणासाठी प्रक्रिया स्थापित करते.

प्रकल्पाचे वर्गीकरण AIIB ESF अंतर्गत 'कॅटेगरी B' (Category B) मध्ये करण्यात आले आहे, कारण अपेक्षित पर्यावरणीय आणि सामाजिक प्रभाव विशिष्ट जागेपुरते मर्यादित, तात्पुरते आणि योग्य

उपाययोजनांद्वारे व्यवस्थापन करण्यायोग्य असतील अशी अपेक्षा आहे. प्रस्तावित कामे प्रामुख्याने अस्तित्वातील रस्त्याच्या हद्दीतच (Right of Way - RoW) केली जातील. कोणत्याही प्रकारचे जमीन संपादन आणि विस्थापन टाळले जाईल. प्रकल्पांतर्गत विचारात घेण्यासाठी पात्र रस्ते विभाग ओळखण्यासाठी विभाग-निहाय (Section-specific) तपासणी केली जाईल. संभाव्य पर्यावरणीय आणि सामाजिक मुद्द्यांमध्ये वनस्पती/झाडे काढणे, धुळीचा आणि आवाजाचा त्रास, कचरा निर्मिती, मातीची धूप, ड्रेनेजमधील बदल, साहित्याचा पुरवठा, वाहतूक व्यवस्थापन, कामगार व्यवस्थापन आणि व्यावसायिक व समुदाय आरोग्य आणि सुरक्षा यांचा समावेश आहे.

तपासणी आणि मूल्यांकनाच्या निष्कर्षांच्या आधारे साइट-विशिष्ट 'पर्यावरण आणि सामाजिक व्यवस्थापन योजना' (ESMPs) आणि 'कंत्राटदाराची पर्यावरण आणि सामाजिक व्यवस्थापन योजना' (CESMPs) तयार करण्याची आणि अंमलबजावणी करण्याची तरतूद ESMPF मध्ये आहे. भागधारकांचा सहभाग, सामाजिक समावेशकता आणि लिंग-संवेदनशीलतेवर (Gender Responsiveness) भर देण्यात आला आहे. रस्त्याचे अलाइनमेंट, सामुदायिक मालमत्ता, रस्ते सुरक्षा, प्रकल्पाच्या अपेक्षा आणि संवेदनशील कुटुंबांच्या गरजांबाबतच्या स्थानिक बाबी समजून घेण्यासाठी चर्चा केली जाईल, ज्यामध्ये महिलांचे मते जाणून घेण्यासाठी विशेष प्रयत्न केले जातील. हा आराखडा सुलभ माहिती प्रकटीकरण आणि लिंग-संवेदनशील 'तक्रार निवारण यंत्रणा' (GRM) प्रदान करतो, ज्याद्वारे बाधित व्यक्ती आणि इतर भागधारक जमीन, उपजीविका, बांधकाम उपक्रम, कामगार, आरोग्य व सुरक्षा आणि प्रकल्पाशी संबंधित इतर बाबींवर आपल्या चिंता मांडू शकतात.

ESMPF पुढे महिलांचा सहभाग आणि सुरक्षिततेला प्रोत्साहन देण्यासाठी उपायांची तरतूद करते, ज्यामध्ये महिला आणि संवेदनशील गटांशी सल्लामसलत, तक्रार निवारण आणि समुदाय सहभाग प्रक्रियेत महिलांचे प्रतिनिधित्व, समान वेतन, योग्य रोजगाराच्या संधी, कामगार कल्याणकारी उपाय आणि लिंग-आधारित हिंसाचार, लैंगिक शोषण, गैरव्यवहार आणि छळ रोखणे यांचा समावेश आहे. या उपायांचा उद्देश सुधारित ग्रामीण दळणवळणाचे फायदे समावेशक आणि सामाजिकदृष्ट्या जबाबदार मार्गाने मिळवून देणे हा आहे.

A. Introduction

1. India's Viksit Bharat 2047 vision aims to transform the country into a developed nation and a US\$30 trillion¹ economy by 2047 through sustained investments in infrastructure, logistics, and multimodal transport connectivity that promote inclusive and resilient economic growth. Aligned with this national agenda, the Government of Maharashtra's Viksit Maharashtra vision targets the state becoming India's first US\$1 trillion sub-national economy by 2028 and contributing 17 percent of national GDP by 2047². As India's leading industrial and economic hub, Maharashtra prioritizes strategic investments in transport infrastructure to enhance connectivity, industrial competitiveness, regional integration, and private sector-led growth, while leveraging its strong fiscal position and proven capacity to mobilize multilateral financing for large-scale infrastructure development.
2. To advance its Viksit Maharashtra vision, the Government of Maharashtra has prepared the Maharashtra Amrit Kaal Road Development Plan (2025-2047). The Plan identifies economic growth corridors that connect major urban centres, industrial clusters, agricultural markets, logistics hubs, ports, and tourism destinations through a high-quality strategic road network. Maharashtra possesses an extensive rural road network³ of approximately 1,66,478 km, comprising ODRs and VRs. The development of this network has been driven primarily through two flagship programs. The Pradhan Mantri Gram Sadak Yojana (PMGSY)⁴, implemented since 2000, has upgraded 33,345 km of rural roads and 1008 no's of bridge works across the state. In addition to improving connectivity, PMGSY has established a strong framework for quality assurance, maintenance, and sector reforms. Complementing PMGSY, the Mukhya Mantri Gram Sadak Yojana (MMGSY)⁵, launched in 2015, has upgraded 40,593 km of rural roads during Phase I & II and significantly improved access to previously unserved habitations, thereby contributing to enhanced rural mobility and socio-economic development.

B. Project Description

3. The project aims to improve the quality, capacity, safety, and climate resilience of Maharashtra's strategic rural road network while strengthening rural road asset management. It will support the upgrading of approximately 3,500 km of priority rural roads to all-weather conditions, primarily using durable cement concrete pavements and climate-resilient design interventions, drainage facilities, cross-drainage structures, and road safety improvements. The upgraded roads will enhance connectivity between rural habitations (villages with populations above 1,000 (Census 2011) or more) and higher-order roads network (MDRs, SHs, NHs), thereby improving accessibility, mobility, and economic opportunities in rural areas.

¹ NITI Aayog's Strategic Roadmap

² Maharashtra Amritkaal Road Development Plan

³ Road Network Master Plan (RNMP)

⁴ Rural Road Development of Maharashtra

⁵ <https://rdd.maharashtra.gov.in/en/scheme/mukhyamantri-gramasadak-yojana/>

C. Socioeconomic and Environmental Background⁶

4. Maharashtra is located on the coast of the magnificent Arabian Sea and occupies the western & central peninsular region of India. The State has 877.97 km long coastline & Sahyadri mountain ranges on the west, the Satpura hills along the North and Bhamragad-Chiroli-Gaikhuri ranges on the East as its natural borders. The State is surrounded by Gujarat to the Northwest, Madhya Pradesh to the north, Chhattisgarh to the East, Telangana to the Southeast, Karnataka to the South and Goa to the Southwest. For administrative convenience, the State has been divided into 36 districts and six revenue divisions. Pune, Konkan, Nashik, Nagpur, Chhatrapati Sambhajnagar and Amravati Revenue Divisions.
5. There are three Ramsar sites viz. Nandur Madhameshwar in Nashik district, Lonar crater in Buldhana district and Thane creek.
6. **Geographical Zone:** Maharashtra can be broadly divided into five major geographical zones namely Konkan, Western Maharashtra, Khandesh, Vidarbha, Marathwada.
7. **Rainfall:** The state receives rainfall mainly during the southwest monsoon season (June to September). There is heavy rainfall in coastal region (about 2000 mm), scanty rains in the rain shadow areas in central parts (about 500 mm) and medium rains in eastern parts (about 1000 mm) of the state. Fortunately, all the important rivers like Godavari, Bhima and Krishna which originate from the water sheds of the Ghats flow east across these drier regions and contribute to their economic benefit.
8. **Land Use:** The state is predominantly used for agriculture, followed by forests, settlements, water bodies, and industrial areas. Agricultural land occupies the largest share of the total geographical area.
9. **Drainage Pattern:** Maharashtra has a well-developed drainage system comprising major river basins such as the Godavari, Krishna, Tapi, Narmada, and west-flowing rivers draining into the Arabian Sea. The drainage pattern is mainly dendritic and is influenced by the Western Ghats and the Deccan Plateau.
10. **Soil:** The state has diverse soil types, including black cotton soil (regur), red soil, laterite soil, alluvial soil, and shallow gravelly soils. Black cotton soil is the most extensive and is highly suitable for cotton and other crops.
11. **Agriculture:** Agriculture is one of the major occupations in Maharashtra. The principal crops include paddy, cotton, soybean, sugarcane, wheat, jowar, bajra, pulses, and horticultural crops such as grapes, oranges, bananas, and mangoes.
12. **Forest:** By the end of 2024-25, the State's forest area stood more than 62 thousand sq km, representing 20.2 per cent of its total geographical area. This area is distributed

⁶Economic survey of Maharashtra 2025-26

among the Forest Department (55,850.87 sq km), the Forest Development Corporation of Maharashtra (FDCM) (3,548.36 sq km), private forests under the Forest Department's possession (1,184.67 sq km) and the Revenue Department (1,432.52 sq km). As per the 2023-24 land-use statistics, forests form the second-largest land category after agricultural land.

13. **Biodiversity and Protected Areas:** Maharashtra has diverse vegetation comprising teak, bamboo, neem, banyan, peepal, mango and other tropical deciduous and evergreen tree species. The State supports a wide range of wildlife, including deer, leopard, wild boar, monkeys, Indian gaur, peafowl, and various species of birds, reptiles and small mammals distributed across forests, grasslands and wetlands. The State has a well-established protected area network comprising 88 notified protected areas covering approximately 11,091.74 sq. km, including 6 National Parks (1,269.27 sq. km), 54 Wildlife Sanctuaries (7,944.56 sq. km), and 28 Conservation Reserves (1,877.91 sq. km). The National Tiger Conservation Authority (NTCA) conducts a tiger census at four-year intervals. As reported in the Status of Tigers in India, 2022, Maharashtra recorded an estimated tiger population of 444, compared with 312 tigers in 2018, indicating a significant increase in the State's tiger population.
14. **Renewable Energy:** Maharashtra has significant potential for renewable energy, including wind, solar, small hydro, biomass, bagasse co-generation, and waste-to-energy. The Maharashtra Energy Development Agency (MEDA) is the nodal agency responsible for promoting and developing renewable energy in the State. As of 2024–25, renewable energy accounted for 34.4% of the State's total installed electricity generation capacity, placing Maharashtra third in India in terms of installed renewable energy capacity. As per MEDA, the total installed renewable energy capacity increased from 14,113 MW as of March 2025 to 18,046 MW as of December 2025. Solar capacity increased significantly from 5,488 MW in March 2025 to 8,859 MW in December 2025, while wind capacity reached 5,806 MW. The State has an estimated total renewable energy potential of 1,68,424 MW, comprising wind (98,210 MW), solar (64,320 MW), biomass (2,630 MW), bagasse co-generation (1,580 MW), small hydro (786 MW), and waste-to-energy sources. The growing renewable energy capacity provides an opportunity to integrate solar-powered facilities in road projects, including street lighting, road-side safety systems, traffic signage, and other ancillary infrastructure, thereby promoting energy-efficient and sustainable road development.

D. Identification of rural roads for project

15. The road sections for upgrading have been prioritized by MRRDA through a district-level assessment based on local development priorities, connectivity requirements, and technical feasibility. From the road network identified under the GoM, 1,008 existing road sections, averaging approximately 3 km each, have been selected based on population coverage, agricultural potential, connectivity to major transport corridors, economic and social importance, and cultural, religious, and tourism significance. All

proposed upgrading works will be undertaken strictly within the existing RoW, with no land acquisition or physical displacement.

E. Environment and Social Impacts and Risks

16. In accordance with the requirements of the AIIB Environmental and Social Framework (ESF), 2024⁷, the environmental and social risks and impacts associated with the proposed project investments are required to be identified, assessed, managed, monitored, and reported throughout the project preparation, appraisal, implementation, and operation stages. At the time of appraisal of the project, all road sections are not finalized and as such specific ES risks and impacts cannot be assessed fully. Accordingly, framework approach has been adopted so that environmental and social due diligence requirements are integrated into the planning and implementation of all eligible investments. Accordingly, this Environment and Social Management Planning Framework. (ESMPF) has been prepared to establish the principles, procedures, assessment requirements, mitigation measures, and institutional arrangements necessary to guide the identification, assessment, management, monitoring, and reporting of environmental and social risks and impacts in accordance with the AIIB ESF, 2024. The ESMPF shall serve as the overarching framework for environmental and social due diligence for all project investments.

F. Categorisation of Project

17. As the proposed rural road upgradation activities are expected to result in site-specific, temporary, and manageable impacts. The work will be implemented primarily within the existing right-of-way, without land acquisition and displacement. Potential environmental and social impacts are expected to be localized, temporary, predictable, may include vegetation clearance, dust, noise, waste generation, soil erosion, drainage modifications, material sourcing, traffic disruption, utility shifting, labour management, and occupational and community health and safety risks. These impacts are manageable and addressed through appropriate screening, assessment, and implementation of site-specific mitigation measures in accordance with the ESMPF, while incorporating measures to minimize impacts on sensitive environmental and social receptors. Accordingly, the project is categorized as Category B as per the AIIB's ESF 2024 for environmental and social risks. All Category A and other high-risk road sections are excluded from the project financing, including roads traversing protected areas, key biodiversity areas, critical habitat or other ecologically sensitive areas and sections presenting material Indigenous Peoples or resettlement risks.

G. Applicable AIIB Environmental and Social Standards

18. The Project has been assessed against the requirements of the AIIB ESF, 2024.
 - a. Environmental and Social Assessment and Management (ESS1);
 - b. Land Acquisition and Involuntary Resettlement (ESS2);

⁷ National Tiger Conservation Authority (NTCA) & Wildlife Institute of India (WII), Status of Tigers in India – 2022, Government of India, 2023

⁸Asian Infrastructure Investment Bank (AIIB), *Environmental and Social Framework*, June 2024. Available at: [AIIB Environmental and Social Framework \(June 2024\)](#)

- c. Indigenous Peoples (ESS 3), where applicable based on screening outcomes;
- d. Environmental and Social Exclusion List (ESEL)

Based on the nature and scope of the proposed interventions, the applicability is assessed as follows:

Table 1: Applicability of Environment and Social Standards

ESP-ESS	Principle	Status	Safeguard
ESS 1	When the Project is likely to have environmental and/or social risks and impacts, the Client is required to undertake environmental and social assessment and establish measures to avoid, minimize, mitigate and manage such risks and impacts.	Applicable	The proposed rural road upgradation works involve minimum environmental and social impacts including impacts related to vegetation clearance, dust and noise emissions, borrow areas and material sourcing, utility shifting, traffic management, occupational and community health and safety. Accordingly, environmental and social screening will be undertaken for all selected road sections to identify site-specific risks and impacts. Based on the nature and significance of impacts, proportionate environmental and social assessments will be carried out in line with ESMPPF.
ESS 2	If the Project is likely to involve Involuntary Resettlement, the Bank requires the Client to address this in the social section of the assessment report, complemented by more in-depth coverage, as required under ESS 2. The Client covers this in a plan or framework, as applicable, which may be called a land acquisition and resettlement plan, land acquisition plan or resettlement plan (LARP/LAP/RP) or, in the case of a framework, a land acquisition and resettlement planning framework, land acquisition planning framework or resettlement planning framework (LARPF/LAPF/RPF). This plan or framework is provided to the Bank as a freestanding document, an annex to the assessment report, or incorporated as a recognizable element of the report.	Not applicable	The project will be implemented entirely within the available RoW of existing rural roads; therefore, no land acquisition or physical displacement is anticipated. Minor temporary economic displacement or livelihood impacts during construction due to temporary restricted access to roadside shops, agricultural fields, businesses, or community facilities will be identified through subproject-level social screening and addressed through appropriate mitigation measures for continued access and minimize disruption to affected livelihoods.

ENVIRONMENT AND SOCIAL MANAGEMENT PLANNING FRAMEWORK

ESS 3	If the Project would involve Indigenous Peoples, the Bank requires the Client to address this in the social section of the assessment report, complemented by more in-depth coverage, as required under ESS 3. The Client covers impacts on Indigenous Peoples in an Indigenous Peoples plan (IPP) or Indigenous Peoples planning framework (IPPF), which is provided to the Bank as a freestanding document, an annex to the assessment report, or incorporated as a recognizable element of the report.	Section specific applicability to be Determined through Screening	Based on the preliminary review of the indicative project corridors, impacts on Indigenous Peoples are not anticipated. Screening shall be carried out for all subprojects to determine the presence of Scheduled Tribe communities and other Indigenous Peoples within the Project area of influence. Where Indigenous Peoples are present and may be affected by Project activities, appropriate assessments, consultations and planning measures consistent with ESS 3 shall be undertaken.
ESEL	The Bank will not knowingly finance projects or activities included in the AIIB Environmental and Social Exclusion List (ESEL), which comprises activities involving significant adverse environmental and social impacts, prohibited or restricted activities under international conventions, and other excluded sectors or activities. Screening shall be undertaken to confirm that project activities do not fall within the ESEL.	Applicable	All proposed road sections and associated facilities will be screened against AIIB's ESEL. Any activities falling under the ESEL will be excluded from AIIB financing.

H. Assessment of Existing Environmental and Social Management Approach

19. **Policy and Regulatory Framework:** The key regulations governing environmental protection and environmental assessment in India are the Environment (Protection) Act, 1986 and the EIA Notification, 2006 (along with its amendments). The EIA Notification, 2006 issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC) classifies projects based on potential environment impacts into category A (requiring clearance from the ministry) and category B (requiring clearance from the MoEF&CC or State Environment Impact Assessment Authority). The Rural Roads under the proposed project do not fall under the purview of EIA notification. Similarly, RFCTLARR Act, 2013 (came into force on 01 January 2014) for social categorization should be followed during ESMP preparation. The list of acts and regulations for environment and social protection applicable for road projects in Maharashtra, India is given in **Annexure 1**.
20. **Comparative review:** Environmental and social regulatory framework of India and the State of Maharashtra provide comprehensive provisions for environmental protection, pollution control, forest and biodiversity conservation, land acquisition and compensation, labour welfare, occupational health and safety, public consultation, stakeholder participation, institutional arrangement and grievance redressal. Accordingly, it is assessed that the national and state regulatory framework is largely aligned with AIIB ESF. The detailed comparison between applicable national regulations and the AIIB ESF requirements is provided in **Annexure 2**.
21. **Gap Assessment and Measures under the ESMPF:** While the national regulatory framework provides a strong basis for managing environmental and social aspects, certain requirements of the AIIB Environmental and Social Framework require a more structured and project-specific approach such as procedures for screening, assessment, implementation of mitigation measures, and monitoring of subprojects. Further, integration of climate resilience considerations, and systematic monitoring of environmental and social performance of sub projects during project implementation shall be undertaken in compliance with ESF. AIIB ESF requirements shall prevail in case of any gaps identified between national/ state systems and ESF.
22. **Applicable Statutory Permits:** Project implementation shall be undertaken in compliance with all applicable statutory permits, approvals, licenses and clearances prescribed under national and state regulations. During construction, the contractor shall obtain and maintain all necessary permissions related to pollution control, operation of construction facilities, material sourcing, water use, tree cutting, labour welfare, occupational health and safety, and waste management, as mandated by the competent authorities. The responsibility for obtaining, maintaining and complying with the conditions of such permits shall rest with the contractor and will be monitored by the implementing agency throughout the Project period. The indicative list of applicable permits, approvals and regulatory requirements is provided in **Annexure 3**.

The following sections provide detailed process and guidance on the preparation of DPRs and assessment of ES risks for each road package, typically with a cumulative length of 15-25 kms distance. Each DPR shall include the E&S assessment report and ESMP per following details. For a comprehensive application, each DPR, bid document shall refer to the ESMPF as E&S instrument for the Project and that its provisions are applicable.

I. Assessment of Environmental and Social Impacts and Risks

23. The proposed rural road development may have temporary environmental and social impacts during construction. Key environmental impacts may include vegetation loss, soil erosion, dust, noise, drainage disturbance, and construction waste. Social impacts may include temporary access restrictions, land requirements, traffic and safety risks, and disturbance to local communities. The assessment will identify affected areas, vulnerable groups, and potential risks associated with the project.
24. Appropriate mitigation measures, including drainage, dust control, safety measures, and waste management, will be proposed. Community consultation, grievance redressal, and applicable environmental and social safeguards will also be considered. The assessment findings and recommended mitigation measures will be incorporated into the Detailed Project Report (DPR) by the DPR Consultant.
25. The DPR Consultant will assess the project roads for conformity with the applicable environmental and social standards of the AIIB-ESF. The DPR process includes the following:
 - a. Obtain an official permission letter from the Executive Engineer addressed to the Gram Panchayat for carrying out field surveys.
 - b. topographic and road condition surveys along the project roads.
 - c. collect data such as trees, culverts, electric poles, water supply structures, other public utilities and community assets.
 - d. Conduct community consultations with local villagers and other stakeholders to understand local concerns and requirements.
 - e. Assess existing drainage systems and identify locations requiring improvement.
 - f. Identify and document sensitive receptors located along the project roads, such as schools, hospitals, religious places, and other socially or environmentally sensitive locations.
 - g. Obtain No Objection Certificates (NOCs) from the concerned Gram Panchayats, wherever required.
 - h. Carry out road centreline marking and chainage marking with the assistance of the survey team.
 - i. Prepare hydraulic designs for the improvement or reconstruction of culverts based on hydrological and hydraulic assessments.
 - j. Identify locations requiring animal crossing passages and incorporate suitable designs where necessary.

- k. Assess low-lying and flood-prone sections of the road and recommend embankment improvements to ensure safe and reliable road connectivity.
- l. Compile all survey findings, field observations, consultation outcomes, and engineering recommendations for incorporation into the DPR.
- m. Identify specific E&S risks and impacts based on above surveys and studies
- n. Cause to conduct additional studies if needed, in respect of Biodiversity or Indigenous Peoples or advise MRRDA to exclude the sections from project financing.

J. Environmental and social screening checklist

26. The Environmental and Social (E&S) Screening Checklist is used to identify potential environmental and social risks associated with the proposed rural road project at the planning stage. It considers key aspects such as land requirements, vegetation clearance, forests and wildlife, water bodies, drainage, soil erosion, pollution, traffic and road safety, labour and working conditions, community health and safety, gender, GBV/SEA/SH risks, and impacts on vulnerable groups. The screening results help determine the level of E&S assessment required and guide the preparation of appropriate mitigation measures and the Environmental and Social Management Plan (ESMP) for each road package.

Table 2: Environmental and Social Screening Checklist

i. Basic Subproject Information

District		PIU Taluka / Block	
Name of Road		Road Code / Package	
Length (km)		Date of Field Screening	
Existing Width		Proposed Carriageway (5.50 m / 3.75 m / Other)	
Proposed Pavement (CC/Bituminous/Other)		Available RoW/ Formation Width	
Start Coordinates		End Coordinates	
Habitations / Villages Connected		Proximity to Nearest Highway (km)	
Road Classification (ODR / VR)		DPR Consultant	
Average Daily Traffic (ADT)		Existing Surface Type	
Population Served (incl. SC/ST %)		Motorized: Non- motorized Split	
Rainfall / Agro-climatic Zone		Purpose of Connectivity (school/PHC/market/bus route)	
Estimated Project Cost		New Construction / Upgradation / Renewal	

AIIB Funding Cost		MMRDA Funding Cost	
-------------------	--	--------------------	--

ii. Land, Right of Way and Access

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
1.	Is the proposed upgradation within the existing available RoW/alignment?				
2.	Is any additional private land likely to be required/acquired?				
3.	Will any house, shop, compound wall, structure or other private asset be affected?				
4.	Are there any encroachments within the proposed improvement area?				
5.	Impacts/assessment on squatters, non-title holders, leaseholders				
6.	Is any livelihood impact likely for shops, vendors, businesses or access to farms / properties? If yes, is the impact on primary livelihoods?				
7.	Can any identified land / asset impact be avoided through design modification, local narrowing, retaining wall, drain adjustment or similar measure?				
8.	Is land ownership status (Government / Revenue / Private) verified through 7/12 extract or equivalent record?				
9.	Is any land parcel affecting the alignment under dispute or litigation?				
10.	Is the RFCTLARR Act, 2013 applicable on account of private land requirement?				
11.	Are any common property resources (grazing land, threshing floor, village pond access, etc.) affected?				
12.	Has an estimated resettlement / compensation cost been worked out where impact is identified?				
13.	Is any land required to be acquired through voluntary donation for the proposed project?				

ENVIRONMENT AND SOCIAL MANAGEMENT PLANNING FRAMEWORK

14.	Is private land acquisition through negotiation required?				
15.	Is any standing crop present within the proposed project/right-of-way area?				
16.	What is the type of standing crop affected?				
17.	What is the extent/area of standing crop likely to be affected by the project?				
18.	What is the expected date/season of harvesting of the affected crop?				
19.	Can construction activities be scheduled after harvesting of the standing crop?				
20.	Will compensation be required for the standing crop affected by the project?				
21.	Has the standing crop and its estimated value been jointly assessed/verified?				
22.	Has the required provision for standing-crop compensation been included in the project cost?				
23.	Are there any other crop-related impacts or issues that need to be addressed before commencement of construction?				

iii. Forest, Trees, Ecology and Water Bodies

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
24.	Does the road pass through or adjacent to (within 100 m) a forest area?				
25.	Does the proposed road alignment pass through or fall within the boundary of an Eco-Sensitive Zone (ESZ), Wildlife Sanctuary, National Park, or other protected area?				
26.	Does the road pass adjacent to a wetland, lake, pond, river, stream or canal?				
27.	Is there any endangered, threatened or legally protected species or its habitat within the project influence area?				
28.	Are there any wildlife movement routes / animal crossings that may be affected by the road?				

29.	Is tree cutting required? If yes, indicate approximate number and chainages.				
30.	Can tree cutting be avoided or minimized through design modification?				
31.	Is compensatory / avenue plantation required?				
32.	Sufficient space identified? CPP prepared, including arrangements for maintenance and survival monitoring?				
33.	Is any notified Biodiversity Heritage Site present in the vicinity?				
34.	Has a tree inventory (species, girth, count) been prepared for CAT / compensatory afforestation valuation?				
35.	Is the alignment within a groundwater recharge zone or high borewell-density area?				

iv. Drainage, Flooding, Soil and Climate Resilience

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
36.	Is the road in a flood-prone or waterlogging area?				
37.	Is the road exposed to flash floods or extreme rainfall events based on historical evidence or local knowledge?				
38.	Does the road pass through paddy fields / low-lying land?				
39.	Are natural drainage paths likely to be affected?				
40.	Are additional / improved cross-drainage works required?				
41.	Are side drains required in habitation / built-up portions?				
42.	Is poor / expansive / black-cotton soil present?				
43.	Is subgrade CBR below 3% at any location?				
44.	Is embankment raising required based on flood level, drainage and site conditions?				

45.	Are geotextile, stabilization, FDR, replacement, drainage improvement or other ground-improvement measures required?				
46.	Is there evidence of existing or historical landslides, rockfall, rockslide, subsidence or slope failure along the road?				
47.	Are climate-resilience / adaptation measures required in the engineering design?				
48.	What is the source, reference, and basis for the Highest Flood Level (HFL) adopted in the DPR?				
49.	Has geotechnical investigation (borehole / soil test data, CBR test locations) been carried out and summarized?				
50.	What design return period has been adopted for cross-drainage structures?				
51.	Is there any recorded history of landslide / slope instability on this or nearby stretches (relevant for Sahyadri / Western Ghats sections)?				
52.	Is the taluka classified as drought-prone (relevant for Marathwada / Vidarbha regions)?				
53.	Is the road located in a cyclone-prone or high-wind zone that requires special design considerations?				
54.	Emergency preparedness and response measures requirement for flood events, accidents, hazardous material spills, fire incidents or any other site-specific risks assessment?				

v. Utilities and Community / Sensitive Receptors

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
55.	Are Electric poles/lines, water-supply pipelines or other utilities likely to be affected?				
56.	Is utility shifting required?				

ENVIRONMENT AND SOCIAL MANAGEMENT PLANNING FRAMEWORK

57.	Has the utility relocation plan prepared/coordinated with relevant utility agencies?				
58.	Are dust, noise and vibration impacts anticipated near settlements/sensitive receptors?				
59.	Are schools, hospitals, religious places or other sensitive receptors located near the road?				
60.	Are there any culturally significant sites, such as sacred groves or burial grounds, near the proposed alignment?				
61.	Is any well, hand pump or drinking-water source located close to the road?				
62.	Are telecom towers / optical fibre cables present along the alignment?				
63.	Are petroleum bunk / gas pipelines present along or crossing the alignment?				
64.	Agricultural Produce Market Committee/market yards, cremation/burial grounds or government offices located close to the road?				
65.	Could traditional livelihoods, such as forest produce collection, shifting cultivation, or fishing, be affected?				
66.	Has the road alignment been plotted on a GIS map showing all sensitive receptors?				

vi. Construction-Stage Environmental Impacts

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
67.	Is significant dust generation likely near habitation or sensitive receptors?				
68.	Are noise / vibration-sensitive receptors present?				
69.	Is borrow earth required? If yes, identify approved / proposed source.				
70.	Are quarry / aggregate materials required? If yes, identify approved / proposed source.				

71.	Has a suitable construction-material stockpiling area been identified?				
72.	Is construction waste / debris disposal required?				
73.	Is there risk of fuel / oil spill requiring storage and spill-control measures?				
74.	Is temporary traffic diversion / access management required?				
75.	Is a contractor / labour camp required?				
76.	Has a construction-water source been identified without adversely affecting community use?				
77.	Has baseline ambient noise / air quality been recorded near sensitive receptors, where applicable?				
78.	Has a disposal site for excess excavated material been identified?				
79.	Are construction timing restrictions required relative to the agricultural / harvest season?				
80.	Are emergency / first-aid arrangements provided at the construction site?				
81.	Any associated facilities required for road section? (Include the definition of associated facilities in footnote, as per AIIB ESF)				
82.	Has the associated facility been screened for E&S risks consistent with Project requirements?				

vii. Social, Labour, Community Safety and Consultation

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
83.	Are vulnerable households / persons likely to be affected?				
84.	Are temples, mosques, churches, shrines, cemeteries or other cultural/religious properties affected?				
85.	Is there any potential impact on physical cultural resources?				

ENVIRONMENT AND SOCIAL MANAGEMENT PLANNING FRAMEWORK

86.	Is screening required under the Project IPPF / ESS3 for Indigenous Peoples / Scheduled Tribe-related considerations?				
87.	Has consultation with local community / Gram Panchayat / road users been undertaken?				
88.	Have local authorities/forest/revenue departments been consulted as applicable?				
89.	Have concerns / suggestions raised during consultation been recorded and addressed in the DPR where relevant?				
90.	Is significant labour influx expected?				
91.	Opportunities for local employment, especially for women during construction, maintenance, plantation, any other				
92.	Does the road connect to markets, healthcare facilities, or educational institutions that may experience increased traffic?				
93.	Would the road change traffic patterns in a manner that could affect neighbouring communities?				
94.	Are there any women's safety or security concerns that require specific design measures, such as improved lighting, enhanced visibility, or bus shelters?				
95.	Is there a requirement for bus stops or passenger shelters?				
96.	Have alternative alignments been assessed as an avoidance measure?				
97.	Are community health and safety measures required beyond standard contract provisions?				
98.	Have community concerns been incorporated into the DPR?				
99.	How will the Grievance Redress Mechanism (GRM) be communicated to illiterate community members?				
100.	Are any GBVH / social-conflict risk mitigation measures required under the Project framework?				
101.	Is a baseline socio-economic / consultation survey on record (dates, attendee list, gender-disaggregated count)?				

102.	Is any Particularly Vulnerable Tribal Group (PVTG) present, beyond general IPPF screening?				
103.	Are minimum wage, child-labour and POSH (workplace harassment) compliance measures built into contract provisions?				
104.	Is local / skilled employment preference incorporated in labour engagement?				
105.	Has the composition of the Grievance Redress Committee been defined and disclosed to local communities?				

viii. Road Safety Screening

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
106.	Are special safety measures required near schools, habitations or pedestrian activity areas?				
107.	Are traffic safety risks anticipated during construction?				
108.	Is there any sharp horizontal / vertical curve or inadequate sight distance?				
109.	Is there any high embankment or steep side slope requiring protection?				
110.	Is there any bridge / culvert approach safety issue?				
111.	Does the road pass through or affect customary lands or traditional territories?				
112.	Does the road run along a river, canal, valley side or water body requiring barrier / protection?				
113.	Are there any heavy vehicle routes that require special consideration?				
114.	Does a junction with NH / SH / MDR require improvement?				
115.	Are signs, markings, speed calming, pedestrian treatment, delineators or crash barriers required?				

116.	Is accident history data available for the existing alignment (where an upgradation project)?				
117.	Has IRC: SP:88 (Manual of Specifications & Standards for Rural Roads) safety compliance been checked?				
118.	Are cattle / livestock / or other animals crossing points identified and provided for?				
119.	Is street lighting required near habitation stretches?				

ix. Statutory / Regulatory Screening

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
120.	Is any forest clearance / tree-felling permission potentially required?				
121.	Is any permission related to water body, irrigation canal, wetland or drainage authority potentially required?				
122.	Is any consent / authorization required for borrow area, quarry, crusher, hot-mix / batching plant or waste disposal facility?				
123.	Is any utility-owner approval / shifting permission required?				
124.	Is any other statutory / local authority permission required before construction?				
125.	PESA Act applicable and Panchayat approval needed?				
126.	Is Environmental Clearance category applicability confirmed for crusher / hot-mix plant use, if any?				
127.	Is MPCB Consent to Establish / Operate required for batching or hot-mix plants?				
128.	Is a CGWB NOC required for groundwater extraction used in construction?				
129.	Is a mining lease / royalty clearance required for the identified borrow area?				

x. Climate Resilience and Sustainability

Sl. No.	Preliminary Assessment	Yes	No	N/A	Remarks / Chainage / Proposed Measure
130.	Is use of local / recycled materials (e.g. reclaimed aggregate, fly ash) planned in the design?				
131.	Is a compensatory / avenue plantation ratio defined and included in the BOQ?				
132.	Is solar road lighting or other low-carbon energy option considered where lighting is required?				
133.	Are rainwater-harvesting or groundwater-recharge structures incorporated in the design?				
134.	Are heatwave / drought adaptation measures (e.g. shade plantation, water-point provision) considered for the corridor?				
135.	Does the design provide adequate lighting and safe pedestrian space for women and girls' mobility?				
136.	Were women community members proportionately represented in consultations (gender-disaggregated count)?				
137.	Were separate consultations conducted with women-headed HHs, vulnerable groups where relevant?				
138.	Are safe-access considerations addressed near schools / Anganwadi for women and children?				

xi. Screening Outcome and Required Follow-up

Select Screening Level:

Level 1 – Routine / Low Risk: No material ES sensitivity identified. Standard mitigation measures to be incorporated in DPR, BOQ and bidding / contract documents.

Level 2 – Site-Specific Issues: Limited site-specific issues identified. Appropriate mitigation measures / site-specific management requirements to be incorporated in DPR and contract; specialist review where needed.

Level 3 – Further Assessment Required: Potential material land / asset, forest / wetland, Indigenous Peoples, significant tree cutting, major community, ecological, safety or other ES issue identified. Detailed assessment / specialist review required before DPR / tender finalization.

Key follow-up actions / mitigation to be included in DPR:

xii. **Certification**

It is certified that the proposed road has been screened for environmental and social risks based on field inspection, available records and stakeholder consultation. The issues identified through this checklist have been appropriately addressed in the DPR / design / BOQ, or referred for further assessment where required, in accordance with the Project ESMPF and applicable AIIB and Government requirements.

DPR Consultant – Highway / Design Engineer	Environmental / Social Screening Personnel
Name & Signature: Date:	Name & Signature: Date:
MRRDA PIU – Deputy Engineer / Authorized Engineer	Executive Engineer, PIU – Review
Name & Signature / Date:	Name & Signature / Date:

K. Environmental and Social Management Plan (ESMP).

27. Consistent with the environmental and social risk classification of the Project as Category B under the AIIB ESF, the environmental and social risks and impacts associated with individual subprojects are expected to be site-specific, temporary, reversible and readily mitigated through established management measures. Accordingly, the environmental and social assessment and management plan (ESMP) is prepared to identify potential environmental and social risks and impacts, specify mitigation and monitoring measures, define institutional responsibilities, and establish reporting requirements to ensure compliance with applicable regulatory standards and the provisions of the AIIB ESF. E&S requirements will be incorporated into bidding documents and contracts, including implementation of ESMPs/CESMPs, occupational and community health and safety measures, ESHS staffing requirements, GBVH prevention measures, incident reporting and contractor monitoring and reporting requirements.
28. To facilitate preparation of specific environmental and social management plan during project preparation for each package, a Generic Environmental and Social Management Plan (ESMP) Matrix under this ESMPF is provided in **Annexure 4**. The Generic ESMP Matrix outlines the environmental and social mitigation measures, Climate change adaptation and mitigation measures, C & D waste utilization measures, institutional responsibilities, implementation arrangements, reporting requirements and good

management practices to be considered which shall be incorporated in the contract document for the necessary action by contractor and other stakeholders during the project implementation under supervision of MRRDA. Compliance with and implementation of the ESMP shall be monitored through regular inspections, reporting and verification using the checklist provided in **Annexure 5**.

29. **Climate Risk Vulnerability Assessment (CRVA) and Adaptation Measures:** A state level CRVA shall be used by the DPR Consultant when evaluating road specific climate risks, particularly, information related to the future climate projections. The DPR consultants shall undertake a site-specific assessment using template provided in **Annexure 6** of the proposed road corridor to identify locations vulnerable to climate-related hazards, particularly flooding, waterlogging, landslides and erosion, and shall recommend appropriate adaptation and resilience measures based on the site conditions. The identified vulnerable locations, proposed measures and their implementation requirements shall be incorporated into the ESMP, along with appropriate monitoring indicators, so that implementation and effectiveness of the climate adaptation measures can be monitored and reported during project implementation.
30. **Climate Change Mitigation Measures:** DPR Consultant shall promote low-carbon and resource-efficient solutions, including the use of fly ash/GGBS to reduce cement consumption and low-carbon alternatives such as gabion walls in place of conventional cement-concrete retaining structures, wherever technically feasible.
31. **Construction and Demolition Waste Reuse:** Subject to technical suitability and applicable requirements, C&D waste may be reused for construction of approach roads for farmers/villagers, plinth filling, development of parking areas, road diversions, and other suitable non-structural applications.
32. **Statutory Requirements:** The indicative environmental quality monitoring parameters to be considered during project implementation, including air quality (NAAQS 2009), water quality (IS 10500:2012), soil quality (ICAR & CPCB Guidelines) and noise level (Noise Pollution Rules, 2000) monitoring requirements, are presented in **Annexure 7**. In addition to environmental quality monitoring, monitoring shall include ESHS performance indicators such as incident reporting, grievance trends, number of trees removed and planted, plantation survival rate, wildlife collision incidents, traffic safety, contractor compliance, labour camp conditions, and community health and safety measures.
33. **Environmental Monitoring Plan (EMoP)** establishes the framework for monitoring environmental performance during project implementation, including monitoring locations, frequency, responsibilities, reporting requirements and ESMP compliance. The EMoP prepared as part of the CESMP shall form part of the contract documents

and shall be implemented by the contractor under the supervision of MRRDA. An EMoP has also been developed under this ESMPF and is provided in **Annexure 8**.

L. Biodiversity Conservation and Management

34. The Project shall avoid, minimize, and mitigate adverse impacts on biodiversity and ecosystem services in accordance with the applicable requirements of the AIIB ESF, national regulations, and good international industry practices. During DPR preparation and environmental and social assessment, each proposed road section shall be screened to identify the presence of natural habitats, ecologically sensitive areas, wildlife movement corridors, wetlands, water bodies, protected flora and fauna, avenue plantations, and other biodiversity-sensitive receptors within the area of influence. The biodiversity screening checklist is provided in **Annexure 9**.
35. Where biodiversity risks are identified, appropriate avoidance and mitigation measures shall be incorporated into the project design and ESMPF. Such measures may include minimization of vegetation clearance, protection of mature trees and ecologically important species, plantation, native species plantation, restoration of disturbed areas, and implementation of erosion and sediment control measures. Attention shall be given to maintaining ecological connectivity and reducing wildlife-vehicle conflicts through the provision of suitably designed cross-drainage structures, culverts, bridges, and other wildlife passage opportunities, where technically feasible and ecologically justified. Traffic calming measures, speed restrictions, wildlife crossing signage, reflective markers, fencing, and other road safety interventions shall be considered in locations with known or potential wildlife movement.
36. The level of biodiversity assessment and mitigation shall be commensurate with the nature, scale, location, and significance of the identified risks and impacts. If necessary, Additional ecological studies, biodiversity surveys, wildlife movement assessments, or habitat evaluations shall be undertaken during DPR preparation where screening indicates the potential for significant biodiversity impacts or where road sections are in proximity to ecologically sensitive areas.

M. Occupational and Community Health and Safety

37. A Site-Specific Occupational and Community Health and Safety plan in ESMP shall be implemented to address risks associated with construction activities and interactions with construction workers and local communities. This includes provision for worker health and safety, construction hazards, emergency preparedness and response, traffic management, public safety measures, accident prevention, communicable disease management, labour welfare, personal protective equipment, training and awareness programmes, and incident reporting mechanisms.

N. Quarry Site Management

38. Where aggregates, stone, boulders materials are required for project implementation, the Contractor shall either (i) develop a new quarry, (ii) obtain material from an existing leased quarry or (iii) procure material from a legally authorized third-party quarry possessing all applicable statutory approvals.
39. For development of a new quarry, the Contractor shall ensure compliance with the applicable provisions of the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments and obtain all necessary statutory approvals, including Environmental Clearance (EC), wherever applicable, from the competent authority such as SEIAA/MoEF&CC. The Contractor shall also obtain applicable mining leases, approved mining plans, blasting permissions, Consent to Establish (CTE), Consent to Operate (CTO), and other approvals required under prevailing laws and regulations.
40. Where material is sourced from an existing leased quarry or third-party quarry, the Contractor shall undertake due diligence of third-party quarry suppliers to confirm legal compliance, valid permits, absence of unresolved environmental or social violations, and implementation of adequate ESHS practices. The contractor shall then obtain and maintain copies of the valid Environmental Clearance, mining lease, approved mining plan, Consent to Operate, blasting permissions and other statutory approvals of the supplier quarry. Details of such approvals shall be incorporated in the Quarry Site Management Plan.
41. The rehabilitation measures, post-closure land use, restoration responsibilities and closure obligations shall be documented through a Memorandum of Understanding (MoU) executed with the landowner prior to commencement of quarry operations. Upon completion of quarrying activities and implementation of rehabilitation measures, a No Objection Certificate (NOC) confirming satisfactory restoration of the site shall be obtained from the landowner and maintained as part of the project records.

O. Avenue Plantation

42. Where tree cutting or vegetation removal is unavoidable, compensatory afforestation shall be carried out in accordance with the applicable statutory requirements, permit conditions, and directions of the competent Forest Department. In addition to the mandatory compensatory plantation, extra plantation at the rate of 50 trees per kilometre, as directed by the Engineer-in-Charge, shall be undertaken in accordance with IRC: SP:103-2014 and Environmental Code of Practice (ECOP-16).

P. Land Acquisition and Resettlement & Rehabilitation

43. The project will be executed entirely within the existing RoW corridor. As all project activities are confined to the available RoW, no land acquisition will be required, and no adverse impacts related to physical displacement, economic displacement, or loss of assets and livelihoods are anticipated. The project will avoid involuntary resettlement,

prevent adverse impacts on affected persons, and address any unforeseen impacts through appropriate mitigation measures, stakeholder consultation, and the ESMPF. Any sections requiring LA will be excluded from the project scope.

Q. Entitlement Matrix

44. The proposed rural road project will be implemented entirely within the existing RoW, and no private land acquisition or physical displacement is anticipated. As there are no impacts requiring land acquisition or resettlement, a detailed entitlement matrix is not applicable to this project. Any minor impacts, such as the temporary disturbance or relocation of common property resources or public utilities, if encountered during implementation, will be addressed through consultation with the concerned Gram Panchayat and local stakeholders. Appropriate mitigation measures will be undertaken in accordance with applicable government guidelines and the project's ESMPF.

R. Institutional Arrangements

45. For effective implementation of environmental and social management measures, a suitable institutional framework will be established involving agencies at different levels of project planning, implementation, monitoring, and grievance redress. The institutional arrangement is designed to ensure proper implementation of environmental and social measures, compliance with applicable requirements, and effective coordination among various stakeholders.
- Maharashtra Rural Road Development Association (MRRDA)
 - Project Management Unit (PMU)
 - Project Advisory and Coordination Unit (PACU)
 - Project Implementation Unit (PIU)
 - Construction Supervision Support Consultant (CSSC)
46. MRRDA will be the responsible agency for overall implementation and compliance with environmental and social requirements. MRRDA will provide key decisions and oversee the E&S performance of the PMU and PIUs. It will also coordinate with state-level authorities and ensure adherence to applicable national regulations and AIIB requirements.
47. The PMU will be established at MRRDA headquarters under the leadership of the Chief Engineer and Superintending Engineer. The PMU will be responsible for overall project planning, coordination, implementation management, procurement oversight, contract management, monitoring and reporting, quality assurance, financial management, progress review, and coordination with AIIB and Government departments. The PMU will also oversee approval of DPRs, implementation schedules, monitoring systems, and performance-based maintenance arrangements.

48. The PACU will be established at MITRA to provide strategic advisory and coordination support. The PACU will facilitate coordination between MRRDA, AIIB, and various State Government departments. It will support project appraisal, policy alignment, institutional strengthening, Finance Plus initiatives, road sector modernization initiatives, capacity building, monitoring of implementation milestones, and compliance with AIIB requirements.
49. The PIU will be established at district level under Executive Engineers for implementation and supervision of project activities. The PIUs will be responsible for road surveys, field coordination, supervision of DPR preparation, utility shifting coordination, execution monitoring, contractor management, quality control, progress reporting, coordination with local authorities, and monitoring of maintenance activities. PIUs will also coordinate with consultants, contractors, and local stakeholders during project implementation.
50. Construction Supervision Support Consultant: The CSSC shall provide technical and contract management support to the implementing Agency in supervising civil works, monitoring progress, reviewing quality and safety, verifying measurements, reviewing contractor payment claims, administering contracts, and ensuring compliance with the approved designs, specifications, environmental and social safeguards, and other applicable requirements.

Table 3: Roles and Responsibilities for Environmental and Social Safeguard Implementation

Activity	Responsible Agency
Establishment of safeguard institutional arrangements and designation of Environmental and Social Officers	MRRDA/ PMU / PIU
Safeguard orientation, training, and capacity-building programs	PMU / CSSC
Environmental and social screening of subprojects	PMU / PIU / DPR Consultant
Preparation and updating of safeguard instruments (ESMP, LMP, GAP, etc.)	DPR Consultant / CSSC under PMU guidance
Review and approval of safeguard instruments	PMU
Stakeholder consultations and community engagement	PIU / DPR Consultant
Disclosure of safeguard documents and project information	MRRDA/ PMU / PIU
Establishment and operation of the Grievance Redress Mechanism (GRM)	PMU/PIU
Management of temporary construction-related social impacts	PIU / Contractor
Implementation and monitoring of labour, health, safety, and community welfare measures	PIU / Contractor
Appointment and mobilization of Contractor's qualified ESHS personnel	Contractor / PIU

Monitoring of gender, social inclusion, and vulnerable group measures	PIU / CSSC
Incident reporting / investigation	Contractor/PIU/PMU
Monitoring contractor compliance with safeguard requirements	PIU
Preparation of periodic safeguard monitoring reports	PIU
Consolidation and submission of safeguard reports to AIIB	PMU
Safeguard awareness and institutional strengthening activities	PMU / PIU
Corrective action planning and compliance follow-up	PMU / PIU

S. Public Consultation and Stakeholder Management

51. **Identification of Stakeholders:** In accordance with the AIIB Environmental and Social Policy (ESP) and the good international practices of meaningful stakeholder engagement, consultations will be carried out with a broad range of stakeholders during project preparation. Stakeholders will be identified based on their potential exposure to project impacts, their role in project implementation, and their interest in project outcomes.

Primary Stakeholders

- Project Affected Persons (PAPs), including titleholders, non-titleholders, vendors, tenants, and vulnerable households;
- Road users and local communities residing along the project corridor;
- Beneficiaries of improved transport connectivity;
- Maharashtra Rural Road Development Association (MRRDA) as the Executing Agency (EA);
- Project Management Unit (PMU) and Project Implementation Units (PIUs).

Secondary Stakeholders

- District administration and revenue authorities;
- Village Panchayats, Sarpanches, and local elected representatives;
- Village administrative officers;
- Women's groups and community-based organizations;
- Scheduled Caste (SC), Scheduled Tribe (ST), and other vulnerable groups;
- Business associations, transport operators, and local market representatives;
- Contractors, supervision consultants, and implementation support agencies.

52. **Public Consultation:** Public consultation will be undertaken as a continuous, two-way process during the planning stage of the project. The objective will be to ensure informed participation of affected persons and other stakeholders in project design, identification of impacts, development of mitigation measures. Both formal and informal consultations will be conducted through village meetings, focus group discussions and stakeholder interactions. The project will focus on understanding local concerns, livelihood issues, road safety needs, and community suggestions related to the proposed road improvements.

53. **Methods of Consultation:** Consultations will be conducted along the project corridor with affected households, local communities, and institutional stakeholders. All affected households will be identified during the census survey consulted.

Table 4: Consultation Methods

Stakeholder Group	Consultation Method
Project Affected Persons (PAPs)	Census survey, household interviews, and public consultations
Village Sarpanch and community leaders	Formal meetings at Panchayat level
Local communities	Public meetings and focus group discussions (FGDs)
Women's groups	Women-focused FGDs and gender consultations
Vulnerable groups (SC/ST/BPL)	Targeted consultations and FGDs
Business owners and vendors	Individual interviews and group discussions

54. **Scope of Consultation:** Consultations will be conducted with prior information and in a manner that encouraged open participation. Women members of the survey team facilitated discussions with women participants to capture gender-specific concerns. The consultation process sought to:

- Obtain views on road alignment and opportunities to minimize impacts;
- Capture the concerns and suggestions of women participants;
- Identify impacts on community assets and relocation needs;
- Understand local transportation and road safety issues;
- Assess community expectations from the project;
- Identify vulnerable households requiring additional support.

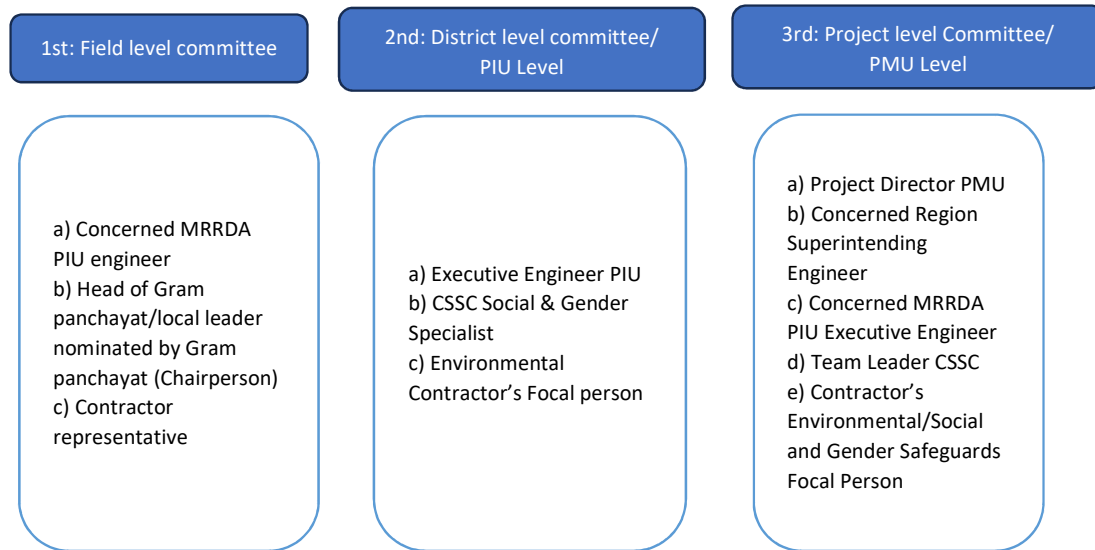
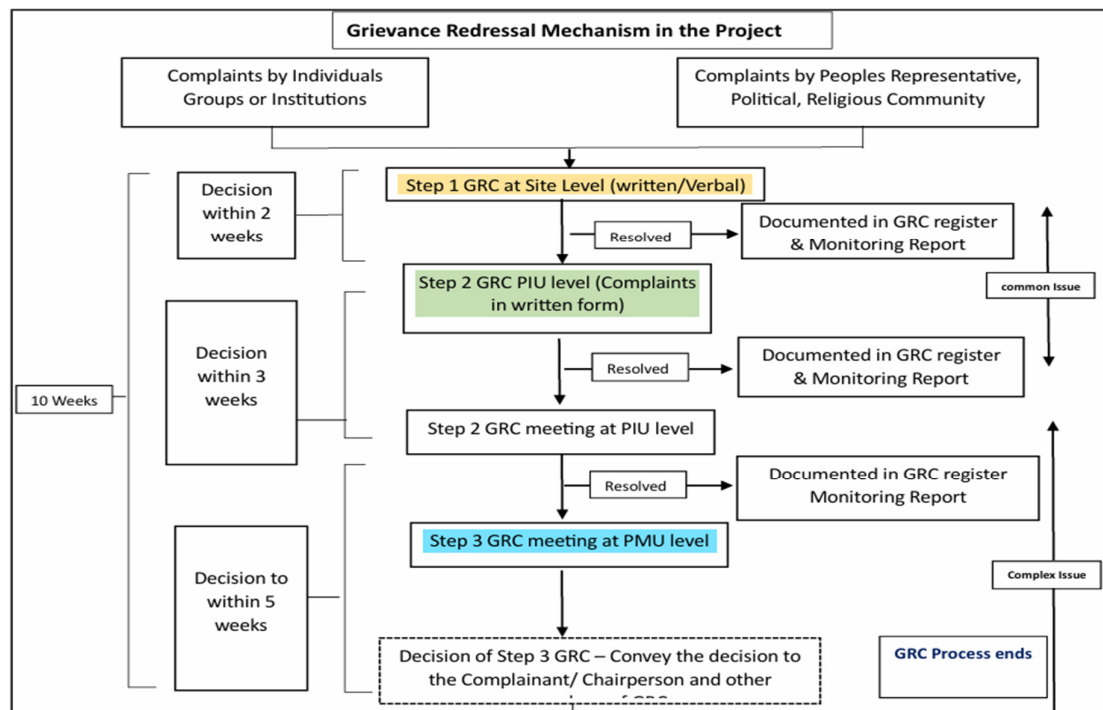
55. **Information Disclosure:** Consistent with AIIB disclosure requirements, relevant project information will be disclosed in a timely and accessible manner. Disclosure will be carried out through the MMRDA website, district and village offices, panchayat offices, public meetings, and other locally appropriate means. Environmental and Social Management Planning Framework (ESMPF) will be disclosed in English, and its summary is made available in Marathi. Package wise E&S assessments and management plans will be disclosed.

56. **Ongoing Stakeholder Engagement:** Stakeholder engagement will continue throughout project implementation, monitoring, and completion. The PMU and PIUs will maintain regular communication with affected communities, disclose implementation progress, and ensure that grievances are addressed promptly through the established GRM. Stakeholder engagement ensures participation of women, vulnerable households, Scheduled Castes, Scheduled Tribes, and economically weaker sections in consultation and decision-making processes.

57. **Gender and Community Safeguards:** The Contractor shall implement a Code of Conduct for all workers addressing workplace behaviour, GBV, SEA/SH prevention, and respectful engagement with local communities. Mandatory awareness training shall be provided to all workers. Separate accommodation and sanitation facilities shall be provided for female workers, where applicable.
58. **Community Health and Safety:** Measures shall be implemented to minimize disturbances to nearby communities, including traffic management, control of noise and dust, restriction of unauthorized worker access to local settlements, and maintenance of appropriate worker-community interactions.
59. **Monitoring and Reporting:** The contractor shall conduct regular inspections of labour camps and maintain records on worker welfare, health and safety, grievances, incidents, and corrective actions. while the PMU and PIUs shall monitor implementation through site inspections and safeguard reporting.
60. **Roles and Responsibilities**
- **Contractor:** Establish, operate, maintain, and monitor labour camps in compliance with the state and national regulations and LCMP checklist attached as Annexure 5
 - **PIU:** Supervise implementation and monitor labour welfare and social safeguard compliance.
 - **PMU:** Provide overall oversight, review compliance reports, and ensure adherence to AIIB and statutory requirements.
61. **Compliance Requirement:** Compliance with this LCMP shall be mandatory for all contractors and subcontractors engaged under the project. Non-compliance shall result in corrective actions and may attract contractual penalties in accordance with project requirements is attached as Annexure 5

T. Grievance Redress Mechanism (GRM)

62. MRRDA shall establish a transparent, accessible, and gender-responsive GRM in accordance with AIIB ESF and proportional to the Project requirements. The GRM will enable affected persons and stakeholders to submit complaints related to land acquisition, livelihood impacts, construction activities, labour issues, community health and safety, and other project-related concerns. The GRM shall include confidential, survivor-sensitive channels for receiving and referring GBV/SH related complaints with procedure that protect privacy and avoid retaliation. AIIB's PPM applies to the project and Information on the AIIB PPM, and grievance submission procedures shall be disclosed to stakeholders as part of the project's stakeholder engagement and information disclosure process.

Figure 1: Flow chart for Grievance Redress Mechanism MMSGY Project**63. Grievance Redress Committee members****Figure 2: Details of Grievance Redressal committee members**

64. Access to Judicial Remedies and AIIB Project-Affected People's Mechanism:
 Affected persons may access the judicial system of India at any stage.

U. Gender Action Plan (GAP)

65. **Objective:** To promote gender-responsive road infrastructure, enhance women's safety and mobility, increase economic opportunities, and ensure inclusive participation throughout project implementation.

Table 5: Guidance Note: Gender Action Plan

Focus Area	Key Actions
Safe and Inclusive Road Design	Provide adequate street lighting, safe pedestrian crossings, bus bays/shelters, traffic calming measures, and universal accessibility features near schools, markets, and public facilities.
Women's Safety	Integrate road safety measures, proper signage, lighting, and community awareness programs to improve safety for women and girls.
Employment and Livelihoods	Encourage contractors to employ local women in suitable construction, maintenance, and support activities and ensure equal pay for equal work.
Labour Welfare	Provide separate sanitation facilities, drinking water, rest areas, and childcare support (where required) at construction sites.
Prevention of GBV/SEAH	Worker awareness programs, and confidential grievance procedures to prevent Gender-Based Violence (GBV) and Sexual Exploitation, Abuse, and Harassment (SEAH).
Stakeholder Engagement	Conduct separate consultations with women, women-headed households, female vendors, SHGs, and vulnerable women to capture their concerns and suggestions.
Institutional Participation	Ensure representation of women in Grievance Redress Committees (GRCs), consultation meetings, and community monitoring activities.
Capacity Building	Train PMU, PIU, AE, contractors, and workers on gender inclusion, workplace safety, and prevention of harassment.
Monitoring Indicators	Track women's participation in consultations, employment generated for women, gender-related grievances, training conducted, and safety improvements implemented.

66. Key Targets

- Minimum 30% women participation in stakeholder consultations.
- At least one-third women representation in GRCs and community engagement activities.
- Equal wages for men and women performing similar work.
- 100% contractor compliance with GBV/SEAH and labour welfare requirements.

The PMU shall monitor implementation of the GAP and report progress through periodic Environmental and Social Monitoring Reports submitted to AIIB.

V. ESS3: Indigenous Peoples Planning Framework (IPPF)

67. The proposed rural road project will be implemented within the existing RoW, and no land acquisition or involuntary resettlement is involved. The project is not expected to cause any adverse impacts on Indigenous Peoples (Scheduled Tribes). Therefore, preparation of a Indigenous Peoples Plan (IPP) is not envisaged for the subprojects in general.
68. Where Indigenous peoples are present in the project area, the project will ensure meaningful consultation, information disclosure, and culturally appropriate participation throughout project implementation. All activities will be carried out in accordance with the applicable ESMPF and IPPF, where applicable.

W. Monitoring and Reporting:

69. MRRDA/PMU/PIU will undertake periodic environmental and social monitoring to verify compliance with the approved ESMP/ESMF, applicable AIIB ESF requirements, and agreed mitigation measures, supported by site inspections and contractor records. Consolidated E&S monitoring reports will be submitted to AIIB at agreed intervals, highlighting implementation progress, identified non-compliances, corrective actions, grievances, incidents, and overall E&S performance.
70. Environmental and Social (E&S) monitoring shall be carried out throughout the project to ensure compliance with applicable safeguards, mitigation measures, and statutory requirements. Periodic monitoring reports shall be prepared and submitted to the concerned authority.
 - Contractor submits monthly ESHS/CESMP compliance reports to the Supervision Consultant.
 - Supervision Consultant verifies compliance and forwards reports to the PIU.
 - PIU consolidates reports and submits them to the PMU.
 - PMU submits semi-annual Environmental and Social monitoring reports to AIIB and coordinates with AIIB during implementation support missions.