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Public Works Department

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Part – A: Project Preparation

Environmental and Social
Management Framework (ESMF)

Volume-I: Main Report



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ABBREVIATIONS

BPL	Below Poverty Line
CBO	Community Base Organisation
COI	Corridor of Impact
CPCB	Central Pollution Control Board
CPR	Common Property Resources
DC	District Collector
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EP	Entitled/Eligible Person
ESMF	Environmental and Social Management Framework
GSHAP	Global Seismic Hazard Assessment Programme
GoUP	Government of Uttar Pradesh
Govt.	Government
GOI	Government of India
GRC	Grievance Redressal Cell
HCA	House Construction Allowance
MoEF	Ministry of Forests and Environment
MORT&H	Ministry of Road and Surface Transport
NEIAA	National Environmental Impact Assessment Authority
NGO	Non Governmental Organisation
PAP	Project Affected Person
PAF	Project Affected Family
PDF	Project Displaced Family
PDP	Project Displaced Person
PIU	Project Implementation Unit
PWD/UPPWD	Public Works Department/ Uttar Pradesh Public Works Department
R&R	Resettlement and Rehabilitation
RAP	Rehabilitation Action Plan
RFCTLAR&R	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement act, 2013
ROW/RoW	Right of Way
RRO	Resettlement and Rehabilitation Officer
RTI	Right to Information Act
SC/ST	Schedule Caste and Schedule Tribes
SEIAA	State Environmental Impact Assessment Authority
SES	Socio-Economic Survey



SH	State Highway
SIA	Social Impact Assessment
SLAO	Special Land Acquisition Officer
SMF	Social Management Framework
SOR	Schedule of Rates
u/s	Under Section
UP/U.P.	Uttar Pradesh
UPPCB	Uttar Pradesh Pollution Control Board



0 EXECUTIVE SUMMARY

0.1 Project Background

Uttar Pradesh has a road network of 299,604 km, out of which 174,451 km is under Uttar Pradesh Public Works Department (PWD). The roads under PWD comprise 7,550 km of National Highways (NHs), 7,530 km of State Highways (SHs), 5,761 km of Major District Roads (MDRs), 3,254 km of Other District Roads (ODRs) and 138,702 km of Village Roads (VRs). Only about 60% of SHs are two-lane (7 m). In the entire state 62% of MDRs and 83% of ODRs have widths less than 7 m.

With a view to improve the transport network system, UP PWD has identified 24,095 km of Core Road Network (CRN) for the development. This network comprise NH, SH, MDR, ODR and the details are presented in the table below.

Table 0-1: Road Network in Uttar Pradesh

Road Category	Length (km)
National Highway (NH)	7,550
State Highway (SH)	7,530
Major District Road (MDR)	5,761
Other District Road (ODR)	3,254
Total	24,095

The Core road development works will consist of raising the formation level, widening to a full two lanes from the existing single and intermediate lane widths, and/or pavement rehabilitation/strengthening. Road sections with high volumes of non-motorised traffic will be widened to 2-lane black top carriageway of 7.0 m width with 1.5m full paved shoulders on either side covering a total carriageway width of 10 m. Road stretches crossing urban areas may also require upgrading to a four lane cross section, and/or provision for drains, sidewalks and parking where required. In some cases, new alignments (by-passes and/or re-alignments) may also be required.

0.2 Rationale and Objective of Environmental and Social Management Framework (ESMF)

Except for the Sharda Bridge, for which design process is getting underway, the other upgrading / reconstruction and widening activities are generally well-understood. Given that the sub-project roads can be from anywhere in the Core Road Network spanning the entire state, this guiding framework is prepared to ensure that subsequent project activities have a common understanding of the environmental and social issues involved, and a harmonized approach to handling these issues is followed. This Environmental and Social Management Framework (ESMF) will be used to identify the environmental and social impacts of each sub-project and help design commensurate mitigation/enhancement measures as well as to assign the responsibility for implementation of these measures.

The overall goal of the ESMF is to ensure that decision making in subsequent stages of the project is informed and influenced by environmental and social considerations for each of the sub-projects, many of which are still to be identified. It aims to integrate environmental and



social concerns into the project's design and implementation. In order to achieve this, main objectives of the ESMF are

- To establish clear procedures and methodologies for the environmental and social planning, review, approval and implementation of subprojects to be financed under the Project;
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to subprojects;
- To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF;
- To establish the Project funding required to implement the ESMF requirements; and
- To provide practical information resources for implementing the ESMF.

0.3 Study Methods

The ESMF for UPCRNDP has been prepared based on (i) rapid assessment of 4 sample project corridors; (ii) review of secondary data on different environmental and social components including regulatory frameworks, (iii) review of previous reports on environmental and social issues of the state of Uttar Pradesh in road sector, and (iv) consultation with different stakeholders. The objective of the above exercise was:

- To establish baseline environmental and social condition in the state at broad level
- To understand type and distribution of environmentally and socially sensitive features in the state
- Preliminary identification of environmental and social impacts likely to be triggered due to the project activities
- To assess the applicable regulations and policies
- Consultation and mitigation measures

0.4 Environmental and Social Baseline

Uttar Pradesh is a northern State and located between 23°52'N and 31°28'N latitudes and 77°3' and 84°39'E longitudes. Garlanded by the Ganga and Yamuna, the two auspicious rivers of Indian mythology, Uttar Pradesh is surrounded by Bihar in the East, Madhya Pradesh in the South, Rajasthan, Delhi, Himachal Pradesh and Haryana in the west and Uttaranchal in the north and Nepal touch the northern borders of Uttar Pradesh. The State of Uttar Pradesh comprises an area of about 243,290 km² equal to 6.88% of the total area of India, and is the fourth largest Indian state by area. With over 200 million inhabitants in 2011, it is the most populous state in the country.

0.4.1 Environmental baseline

The state can be divided into two physiographic regions: the central plains of the Ganges (Ganga) River and its tributaries (part of the Indo-Gangetic Plain), and the southern uplands. The vast majority of Uttar Pradesh lies within the Gangetic Plain, which is composed of alluvial deposits brought down from the Himalayas by the Ganges network. The geological formation of the state is characterised by rock formations ranging in age from the Archean (the Bundelkhand Graniticgneisses) to the Recent (the Ganga alluvium). The Ganga plain which dominates the landscape and nearly covers three fourth of the



geographical area of the State, lies between the rocky Himalayan belt in the north and the southern hilly tract comprised of mainly Pre-Cambrian rocks. It is filled with recent alluvial sediments which are at places more than 1,000 m thick and an amalgam of sand, silt, clay in varying proportions the southern hilly tract is roughly parallel to the Ganga-Yamuna lineament. According to GSHAP data, the state of Uttar Pradesh falls in a region of moderate to high seismic hazard. The dominant soil landscapes, representing the northern plains, constitute gently to very gently sloping lands. In some area the soil is highly calcareous. The soils in general are neutral in reaction and have moderate clay and low organic carbon content. Hydro-geologically, the States can be divided into Five units namely (1) Bhabar (2) Tarai (3) Central Ganga plains (4) Marginal Alluvial plains and (5) Southern Peninsular zone.

Uttar Pradesh has a humid subtropical climate and experiences four seasons. The winter in January and February is followed by summer between March and May and the monsoon season between June and September. Summer Temperatures shoot upto 43 degree celcius and in winter the weather temperature oscillates between 12.5 and 17.5 degree celcius. The mean annual rainfall ranges from 650 mm in the southwest corner of the state to 1000 mm in the eastern and southeastern parts of the state. About 90% of the rainfall occurs during the southwest Monsoon, lasting from about June to September. The state is well drained by a number of rivers originating in either the Himalayas to the north or the Vindhya Range to the south. The Ganges and its main tributaries—the Yamuna, the Ramganga, the Gomati, the Ghaghara, and the Gandak are fed by the perpetual snows of the Himalayas. The Chambal, the Betwa, and the Ken, originating from the Vindhya Range, drain the southwestern part of the state before joining the Yamuna. The Sone, also originating in the Vindhya Range, drains the southeastern part of the state and joins the Ganges beyond the state. The Gangetic plain is watered by the Yamuna, the Ganges and its major tributaries, the Ramganga, the Gomati, the Ghaghra and Gandak. The Betwa and Ken rivers join the Yamuna from the south-west in this region. The annual average ambient air quality in 2012 suggests that in all the major towns/cities, the concentration of PM_{10} was higher than the prescribed limit. Kanpur, Ghaziabad, Firozabad, Bareilly and Allahabad were among the most polluted cities as per the monitoring results of 2012. The concentrations of SO_2 and NO_2 in the air were found within the prescribed limit. The monitoring of surface water quality for different surface water sources including major rivers and ponds are regularly conducted by the U.P. State Pollution Control Board. Almost all the surface water bodies, from where water samples were collected, show high biological contamination in terms of Total Coliforms.

The state has an abundance of natural resources. In 2013, the recorded forest area in the state was 14,349 km² which is about 5.96% of the state's geographical area. As per Indian State of Forest Report 2013, the total forest cover in Uttar Pradesh is 14,349 km². Out of this very dense forest is 1,623 km², moderately dense forest covers 4,550 km² and open forest covers 8,176 km². Out of the total forest cover, 70.31 percent of the forest cover is Reserve Forest, 8.75 percent area is Protected Forest and rest 21.12 percent is Unclassed Forests. Uttar Pradesh has vivid fauna and flora. The fauna of UP consists Tigers, Cats, Antelopes, Deer, Wild Boars, Elephants, Rhinos and other animals that are common in basin. Chinkara, Sambar and Chital, Neel Gai, Swamp Deer, Hispid Hare and Bengal Floricans, Black Buck are the other common wild animals found in different forests of Uttar Pradesh. The avian population here comprises a mix of residents as well as migratory birds. Some of the major migratory birds during the season are greylag goose, pintail, cotton teal, red-crested pochard, gadwall, shoveler, coot and mallard. Some major local migratory and residential birds are spotwill, Sarus crane, painted stork, peacock, white ibis, dabchick, whistling teal, open-bill stork, white-necked stork, pheasant-tailed



jacana, bronze winged jacana, purple moorhen, lapwing, tern vulture, pigeon, king crow, Indian roller and bee eater.

0.4.2 Social Profile

Uttar Pradesh constitutes one of the largest states in India and the state itself represents one of the largest self-governing areas in the world in terms of population. The State of Uttar Pradesh, whilst fourth largest in India in geographical land area, has a population that is estimated to be of the order of 195 million people, a figure superseded by only six countries in the world. It covers 93,933 square miles (243,290 km²), equal to 6.88% of the total area of India. Hindi is the official and most widely spoken language in its 75 districts. Agriculture and service industries are the largest parts of the state's economy. According to the Uttar Pradesh Census 2011, the density of population in Uttar Pradesh is about 800 people per square kilometer which is way above the national average of about 380 and a major cause of concern. Hinduism is the dominant religion in Uttar Pradesh, followed by a majority of 80% people. Muslims forms the second largest community with a population of 18.4%. Rest of the population follows Sikhism, Buddhism, Christians and Jains. The scheduled castes are 17.5 % of the total population whereas scheduled tribes are less than 2 % of the total population. The literacy rate in the state has gone up in recent years and yet continues to linger at about 70% which is below the national average of 74%. The sex ratio is almost at par with the national average and stands at about 900. The land-use pattern in UP is predominantly agriculture based

0.4.3 Economic Profile

Uttar Pradesh is a major contributor to the national food grain stock. Partly this is due to the fertile regions of the Indo-Gangetic plain and partly owing to irrigation measures such as the Ganges Canal and tube-wells. Lakhimpur Kheri is a densely populated sugar producing district in the country. It is also home to 78% of national livestock population. Uttar Pradesh supports about 15% of India's total livestock population of its livestock in 1961, 15% were cattle, 21% buffaloes, 13% goats and 8% other livestock. Between 1951 and 1956 there was an overall increase of 14% in the livestock population. There are about 8,000 km² of water area, including lakes, tanks, rivers, canals and streams. The work participation rate for total workers is defined as the percentage of total workers to total population. In a similar way it is defined for main and the marginal workers. The main workers are distributed in nine industrial categories of economic activities as per 2011 census.

0.5 Environmental and Social Regulations and Policy Framework

India has developed a fairly comprehensive regulatory framework to address environmental and social concerns in relation to development projects. Its wide ranging enactments cover almost all major issues that need to be addressed in the course of development of infrastructure from a social and environmental perspective.

0.5.1 Key Environmental and Social Laws and Regulations

Table below presents Environmental and Social Regulations and Legislations relevant to this project, which are the responsibility of a number of government agencies. This is followed by salient features of important regulations and acts.



Table 0-2: Summary of Relevant Environmental and Social Legislations

Acts/Rule/Policy	Year	Objective	Applicability to this Project	Responsible Agency
Environmental (Protection) Act	1986	To protect and improve the overall environment.	Yes, all environmental legislation is covered in this umbrella Act	MoEFCC GoI; CPCB; UP State Pollution Control Board
Environment Impact Assessment Notification	2006	To provide environmental clearance to new development activities following environmental impact assessment	Yes. Applicable Only for State Highways located in Eco-sensitive Zone	State Environmental Impact Assessment Authority(SEIAA)
Indian Forest Act The Forest (Conservation) Act The Forest (Conservation) Rules	1927 1980 1981	To check deforestation by restricting conversion of forested areas into non forested areas.	Yes, both in case of acquisition of Reserved Forest Area or Roadside Trees as Protected Forest	Forest Department, Govt. of UP (for land conversion below 5 hectare & 40% density), MoEF, Regional Office and MoEF.
Wild Life (Protection) Act	1972	To protect wildlife through certain of National Parks and Sanctuaries.	Yes. Only for the project either located inside the boundary of Wildlife Sanctuary or National Park/Tiger reserves. State Highways passing through Eco sensitive zone outside the boundary of Wildlife Sanctuary/ National Parks will also need recommendation of NBWL.	Chief Conservator. Wildlife, Wildlife Wing, Forest Department, Gov. of U.P. and National Board For Wildlife, GoI.
National Forest Policy National Forest Policy (Revised)	1952 1988	To maintain ecological stability through preservation and restoration of biological diversity.	Yes For clearing of forest/ felling of Trees	Forest Department, GoI and Govt. of U.P.
Water (Prevention and Control of Pollution) Act	1974	To control water pollution by controlling discharge of pollutants as per the prescribed standards.	Yes. For establishment and operation of Hot Mix/ Stone crusher/WMM/Batching Plants during construction, etc	UPPCB
Air (Prevention and Control of Pollution) Act	1981	To control air pollution by controlling emission of air pollutants as per the prescribed standards.	Yes. For establishment and operation of Hot Mix/ Stone crusher/WMM/Batching Plants during construction, etc	UPPCB
Central Motor Vehicle Act Central Motor Vehicle Rules	1988 1989	To check vehicular air and noise pollution.	Yes. For construction vehicles	Transport Department.
Ancient Monuments and Archaeological Sites and Remains Act	1958	Conservation of cultural and historical remains found in India.	Yes. For the project located within 300 m from such features	Archaeological Dept. GOI, Indian Heritage Society and Indian National Trust for Art and Culture Heritage (INTACH).



Acts/Rule/Policy	Year	Objective	Applicability to this Project	Responsible Agency
Right to fair compensation and transparency in land acquisition, rehabilitation and Resettlement Act	2013	Fair compensation for acquisition of immovable assets; Resettlement of displaced population due to LA and economic rehabilitation of all those who are affected due to land acquisition.	Yes. In case of acquisition of land	Revenue Department. Govt. of U.P.
Seventy Third Constitution Amendment Act,	1992	The Act enables participation of Panchayat level institutions in decision-making by broadening the village level functions, supporting implementation of development schemes. The Act provides for involvement of the PRIs especially, the Gram Sabha/ Panchayat during project preparation and implementation. The Panchayats at the village level will be involved for preparation and implementation of the project.	Yes, especially for any sub project located in panchayat area	Department of Panchayati Raj, Government of Uttar Pradesh
The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act	2006	Grants legal recognition to the rights of traditional forest dwelling communities, partially correcting the injustice caused by the forest laws. Makes a beginning towards giving communities and the public a voice in forest and wildlife conservation	Yes, if project road passes through customary forest land including reserved and protected forests; protected areas and also community forest.	Ministry of Tribal Affairs, GOI and Department of Tribal Welfare, GoUP

0.5.2 Summary of Statutory Clearance/Permits Requirement

The project requires a number of statutory clearances under different Acts and Rules at different stage of the project.

Table 0-3: Summary of Statutory Clearance Requirement of the Project

S. No.	Type of Clearance/Permits	Applicability	Project Stage	Responsibility	Time Required
1.	Environmental Clearance	Prior Environmental Clearance for State Highways Located at 1000 m above mean sea level and/or located in eco-sensitive zone	Pre-Construction	PIU, UP PWD	11-12 months
2.	Forest Clearance for land diversion	For diversion of forest land including Reserved	Pre Construction	PIU, UP PWD	6-8 months



S. No.	Type of Clearance/Permits	Applicability	Project Stage	Responsibility	Time Required
		Forest and Protected Forest			
3.	Tree felling permission	For roadside tree cutting	Pre construction	PIU, UP PWD	1-2 months
4.	NOC and consents under Air & Water Act from SPCB	For Project Alignment for the State Highway Expansion project requiring environmental clearance	Pre- Construction	PIU, UP PWD	2-3 months
5.	NOC (Consent to Establish and Consent to Operate) under Air and Water Act from SPCB	For siting and erection of stone crusher and Hot Max Plants, WMM and Batching plants etc.	Construction Stage (Prior to erection and operation of Plants)	Contractor	2-4 months
6.	Explosive License from Chief Controller of Explosives,	For storing fuel oil, lubricants, diesel etc.	Construction stage (Prior to storing fuel, lubricants and Diesel, etc.)	Contractor	2-3 months
7.	Permission for storage of hazardous chemical from CPCB	Manufacture storage and Import of Hazardous Chemical	Construction stage (Prior to initiation of any work)	Contractor	2-3 months
8.	Quarry Lease Deed and Quarry License from State Department of Mines and Geology	Quarry operation	Construction stage (Prior to initiation of Quarrying)	Contractor	2-3 months
9.	Environmental Clearance for stone quarry from State environmental Impact Assessment Authority, U.P.	Opening of new Quarry and Borrow area for earth material	Construction stage (Prior to initiation of Quarrying)	Contractor	5-6 months
10.	Permission for extraction of ground water for use in road construction activities from State Ground Water board	Extraction of ground water	Construction stage (Prior to initiation of installation of Bore wells and abstraction of water from such source)	Contractor	1-2 months
11.	Permission for use of water for construction purpose from irrigation department	Use of surface water for construction	Construction stage (Prior to initiation of abstraction of water from such source)	Contractor	1-2 months
12.	Labour license from Labour Commissioner Office	Engagement of Labour	Construction stage (Prior to initiation of any work)	Contractor	2-3 months

0.5.3 World Bank Safeguard Policies

Projects financed with World Bank assistance should comply with World Bank Operational Policies. The World Bank has Environmental and Social Safeguard Policies to reduce or eliminate the adverse effects of development projects.



Table 0-4: Safeguard Policies of World Bank

World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
OP 4.01 Environmental Assessment	The objective of this policy is to ensure that Bank financed projects are environmentally sound and sustainable	The environmental issues will be addressed adequately in advance. An integrated Environmental Screening and Environmental Assessment (EA) with Environmental Management Plan (EMP) will be developed to manage environmental risks and maximize environmental and social benefits wherever it is applicable.	EIA and/or EMP required.
OP 4.04 Natural Habitats	The policy recognizes that the conservation of natural habitats is essential for long-term sustainable development. The Bank, therefore, supports the protection, maintenance and rehabilitation of natural habitats in its project financing, as well as policy dialogue and analytical work. The Bank supports and expects the Borrowers to apply a precautionary approach to natural resources management to ensure environmentally sustainable development	This policy may be triggered by the Project due to improvement activity of road requiring forest/ wildlife lands, locating close to the natural habitats with the potential to cause significant adverse impact or degradation of natural habitats whether directly (through construction) or indirectly (through human activities induced by the project).	EIA and EMP requires specialised surveys, which will be conducted at the locations wherever wildlife sanctuary, national park or any other eco-sensitive area is encountered in the project.
OP 4.36 Forests	This policy focuses on the management, conservation, and sustainable development of forest ecosystems and resources. It applies to project that may have impacts on (a) health and quality of forests; (b) affect the rights and welfare of people and their level of dependence upon forests and projects that aim to bring about changes in the management, protection or utilization of natural forests or	Impact of widening /construction activities on Forest areas required to be taken care of. Generally diversion of reserve forest will be avoided, however the roadside trees along state highways being declared as protected forest, roadside tree felling will attract the provision of Forest (Conservation) Act. The forest related issues, avoidance/ minimization of forest loss and its management should be integrated with EA study and EMP.	Forest land diversion Application has to be prepared and submitted to forest department. The issue of forest loss and its mitigation/compensatory measures is required to be integrated in EIA study and EMP.



World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
	plantations, whether they are publicly, privately or community owned. The Bank does not support the significant conversion or degradation of critical forest areas or related critical natural habitats.		
OP 4.09 Pest Management	The objective of this policy is to promote the use of biological or environmental control methods and to reduce reliance on chemical pesticides.	Pest / Vector management involvement in UPCRNDP is not likely.	Not Applicable
OP/BP 4.12 Involuntary Resettlement	The objective of this policy is to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced person in improving their former living standards; community participation in planning and implementing resettlement; and to provide assistance to affected people, regardless of the legality of title of land	There will be need for limited land acquisition for certain project corridors resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood.	Resettlement Action Plan in consultation with the community and project authorities
OP 4.10 Indigenous People	This policy aims to protect the dignity, right and cultural uniqueness of indigenous people; to ensure that they do not suffer due to development; that they receive social and economic benefits	This policy may be triggered if there are indigenous people in the project area; when potential adverse impacts on indigenous people are anticipated; and if indigenous people are among the intended beneficiaries.	Indigenous people development Plan
OP/BP 4.11 Physical Cultural Resources	This policy aims at assisting in the preservation of cultural property, historical, religious and unique natural value-this includes remains left	This policy may be triggered by sub-projects under UPCRNDP in those areas where cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features	Application has to be prepared and submitted to Archeological department in case any impact is envisaged due to widening of the project. The impact on



World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
	by previous human inhabitants and unique environment features, as well as in the protection and enhancement of cultural properties encountered in Bank-financed project.	may be affected during widening and strengthening work of the sub-projects.	such features should be integrated with EIA study and included in EMP

The UPCRNDP has been categorized as Category-A based on the location of sensitive receptors already identified in the project such as a bird Sanctuary close to the project road Utraula-Faizabad Road and new major bridge across river Sharda.

0.5.4 Relevant Provisions within Standard Specifications

The Ministry of Road Transport & Highways (MoRT&H) specifications that govern road and bridges construction in India also cover environmental aspects of the works. Specifically, Section 111 on Protecting the Environment, and Annexure A to Clause 501 which covers pollution aspects directly address environmental issues. Several other stipulations require works to be executed with care for environmental and social aspects. These include: stipulation of topsoil conservation (Clause 301 and 305), safety during construction (Clause 302 for blasting and 304 for excavation) and also safety for operation stage (Section 810), maintenance of existing amenities and facilities during clearing and grubbing (Clause 201), precautions during river training works (Clause 2501), location of borrow areas (Clause 305), soil erosion and control measures (Clause 306 and provision of geotextiles under Clause 702), recycle and reuse of existing pavement (Section 517) and also provision of turfing (Clause 407).

0.6 Environmental Management Framework

Environmental and Social Management Framework (ESMF) is devised as a tool for use by UPPWD to identify and address the potential environmental and social concerns or impacts of a project right from the planning stage to its implementation and post-implementation operations. The objective the ESMF is to mainstream environmental and social considerations with other project documents in the planning, execution and post-execution stages in order to ensure that environmental and social concerns are adequately taken care of in all these stages.

0.6.1 Environmental Assessment Process

The project will use a structured approach to environmental management to allow the project development process, follow the hierarchy of avoidance, minimization, compensation/mitigation for negative impacts and enhancement of positive impacts where practically feasible and advantageous. Following sections describe what needs to be done at each stage of the overall project life – sub-project selection, design of the project supported interventions, implementation of the project activities, and reporting on progress.

0.6.1.1 Sub-project Selection/Screening

This step will involve review of the available environmental information about the project road and its surrounding areas. It would help identify issues to be verified during reconnaissance site



visits and also provide a preliminary idea regarding the nature, extent, and timing of environmental issues that would need to be handled during the subsequent stages. It will also help identify opportunities for avoidance and/or minimization early in the project cycle so that the design process can be informed appropriately. The steps to be followed include the following:

- Confirm the presence of environmentally sensitive areas from secondary sources or site observations
- Verify the extent of applicability of GoUP, GoI, and World Bank policies in sub-project activities
- Identify potential negative and positive impacts and provide clarity on which issues need to be investigated more comprehensively during preparation of Environmental Impact Assessment that will be done during the Design stage.
- This should help with sequencing of sub-projects, and factoring in timelines like those associated with regulatory clearance processes into project implementation.

0.6.1.2 Environmental Impact Assessment (EIA)

The EIA is the most commonly used tool to ensure that environmental aspects are considered during decision making – by influencing design to avoid /minimize, and where unavoidable mitigating the residual adverse impacts and/or enhancing positive impacts. It also provides a platform for getting views from stakeholders including the directly affected population to improve the design so that the asset quality is improved. Detailed guidance regarding the EIA contents is available in the OP4.01 of World Bank and more sector specific guidance is provided by the MoEF's EIA Guidance Manual for Highways. EIA includes the following:

- Overview of the sub-project – its location, proposed improvements, along with a map, its benefits, costs and implementation schedule for all activities
- Characteristics of the existing environment (baseline) of the alignment, within the broader region through which it passes
- Description of potential impacts – both positive and negative, with quantified estimates where possible, otherwise qualitative judgments
- Analysis of alternatives available to minimize negative impacts and maximize positive ones, including changes to alignment, materials, technologies, etc.
- Consultations undertaken, including in project area with affected people, and with other line departments
- Management measures selected to reduce the adverse impacts and increase positive impacts, monitoring and reporting arrangements, and capacity building needs if any, along with costs of each as a management plan including roles and responsibilities of various actors – UPPWD, consultants, and contractors, and other arms of GoUP, where appropriate
- Conclusion regarding the completeness of analysis and need for any follow-on study other beyond monitoring of predicted impacts

0.6.1.3 Preparation of Environmental Management Plan

The EMP should be sub-project specific, clearly and concisely describing adverse impacts, selected management measures to bring it to an acceptable level and timelines for implementing



these measures. It should also clarify roles and responsibilities among the various stakeholders – UPPWD, PMC, Contractors, other GoUP departments. It would be useful if contract specific EMPs are prepared as this would facilitate integration with the bidding documents. The building blocks of an EMP are:

- Potential Adverse Impacts Identified and Mitigation measures to be adopted, together with conditions within which one or other measure would apply and their integration with phases operations of road construction – Design, Pre-construction, Construction/ Implementation and Operation
- Enhancement plans for positive impacts
- Monitoring Plan with indicators, mechanisms, frequency, locations,
- Budgetary allocations for all the above activities
- Institutional arrangements for each activity and mitigation measures
- Implementation schedules for each activity and its integration with the sub-project implementation timelines
- Reporting procedures, including for redressing grievances related to environmental issues

The general Environmental Concerns during DPR stage and project implementation stage associated with road projects are presented in Table 0-5 and Table 0.6. These concerns are required to be addressed properly in preparation of Environmental Management Plan.

Table 0-5: Environmental Concerns in DPR Preparation

S. No.	Activity	Items to consider	Measures to address
A.	Road Construction		
1.0	Environmental Inventory	Trees	Inventorisation of environmental features Avoidance, design modifications to minimize adverse environmental impacts Incorporating community concerns into finalizing alignment
		Forests	
		Wildlife sanctuary/National Park/Tiger reserves/ notified	
		Eco-sensitive zones	
		Rivers / water crossings	
		Water bodies	
		Wetland	
		Grazing lands	
		Cultural properties	
		Utilities	
		Community facilities	
		Major junctions	
2.0	Detailed Surveys	Geological, geotechnical studies	Stability analysis and measures to address slope instability, bridge works, etc.
		Topographical surveys	Detailing of features
		Hydrological surveys in flood prone areas	Identification of flood prone areas and measures to avoid afflux Identification of agricultural use of land
3.0	Identification of material sources	Borrow material	Utilizing alternative materials
			Minimize requirements through design modifications
			Location criteria
		Quarry material	Utilizing alternative materials
			Material extraction from existing quarries
		Water availability	Identification of perennial/community/private sources
			Scheduling construction to suit water availability Utilizing community water sources without conflict of uses



S. No.	Activity	Items to consider	Measures to address
		Water bodies	Provision of silt fencing Rehabilitation of water bodies
		Stability of slopes	Measures for slope stabilization
		Soil erosion	Erosion control measures
		Land use changes	Land use control measures adjacent to the road
			Empowering Gram Sabha to regulate development
		Agriculture lands	Avoidance from setting up construction camps, borrow areas
			Conservation of top soil
			Site restoration after construction
		Cultural properties	Avoidance through design modifications Planning for Relocation & rehabilitation
		Common Property Resources	Avoidance through design modification
			Planning for Relocation of consultation with community
		Drainage	Provision of adequate number of CD Structures
		Trees	Compensatory plantation & arrangements for roadside plantation
		Forest areas	Avoidance through design modifications
			Environment Management measures during construction
		Natural Habitats	Avoidance through design modification or formulating additional measures for avoiding impacts
5.0	Precautionary measures during construction to avoid environmental impacts	Top soil	Stockpile topsoil and preservation
		Construction sites	Provision of pollution control measures
			All measures to ensure public & worker's health/safety
			Water Management
		Construction camps	Criteria for identification of sites and Infrastructure arrangements
			Safe disposal of all wastes
			Enforcement of pollution control measures
		Borrow areas	Arrangements with land owners to include redevelopment
6.0	Consultations with community	Quarry areas	Rehabilitation of quarry areas if new quarries are opened
		Public/workers health & safety	Personal Protective Equipment to be provided
			Public safety at construction sites to be undertaken
			Measures for worker's health & hygiene at construction camps
		Land for borrowing	Agreement to include borrow area rehabilitation
		Water for construction	Agreements with owners/community for utilizing water
7.0	Finalization of alignment	Site for construction camps	Rehabilitation of the land after construction
		Removal of trees	Compensation for the trees cut
			Relocation costs to be covered in the project
			Relocation costs to be covered in the project
		Traffic during construction	Provision of alternate routes or prior notice to the users
		Concerns of community	Community concerns to be incorporated
		Environmental impacts identified	Impacts identified are to be mitigated by incorporation of provisions as per guidelines
		Design aspects	Impacts that can be mitigated through design modifications should be incorporated



S. No.	Activity	Items to consider	Measures to address
8.0	Preparation of detailed drawings	All concerns/impacts identified	Designs for enhancements and mitigation measures including cost provisions
9.0	Monitoring of Progress	All environmental aspects identified	Monitoring implementation of Environmental measures

Table 0-6: Environmental Concerns During Project Implementation –Road Projects

S. No.	Activity and Sub Activity	Impact/s	Measure/s
PC	Pre – Construction Activities		
A1.0	Alignment marking	-Nil-	(i) Co-ordination with revenue department
A2.0	Relocation of utilities	Disruption of services of current use	(i) Identification of relocation site in advance
			(ii) Scheduling the activity in consonance with the community usage pattern
A3.0	Tree Felling	Compliance with Forest Act in case trees are on forest land (the Roadside Trees are notified Protected Forests along the State Highways in U.P.)	(i) Prior clearance from Forest Department
		Loss of canopy and warming effect	(iii) Compensatory plantations & landscape designs
A4.0	Clearance of land	Affect on livelihood	(i) Compensation as per project provisions
		Affect on standing crops	(ii) Scheduling of activity and coordination
		Affect on cultural properties	(iii) Relocation of the cultural properties
		Affect on natural habitats such as national park, forest, sanctuaries, notified wetlands, fisheries and aquatic habitats.	(iv) No clearance of vegetation beyond proposed RoW.
A5.0	Diversion of forest land	Compliance with Forest Act	(i) Activity scheduling to avoid delays, conformance to legal requirements
		Affect on vegetation	(ii) Precautionary measures during construction in forest areas
		Pollution from construction activities	(iii) Precautions while operating equipment/machinery
A6.0	Transfer of land ownership	Grievances from community	(i) Addressal through Grievance Redressal Mechanisms & Consultations
		Affect on livelihood	(ii) Provision of entitlements as per resettlement framework
A7.0	Location of Storage Yards, labour camps, and construction sites	Pollution from construction camps, storage yards & labour camps	(i) Location criteria to be adopted
			(ii) Obtain NOC from State PCB
		Pressure on local infrastructure	(iii) Infrastructure arrangements to be as per guidelines
A8.0	Procurement of equipments and machinery	Machinery likely to cause pollution at settlements and natural habitats	(i) Machinery to be procured shall be in conformance with emission standards of CPCB
		Safety concerns in machinery operation	(ii) Safety equipment for workers
A9.0	Identification and Selection of Material Sources	Conflict of uses in case of water	(i) Consultations and arrangements at contractor-individual levels, documentation of agreement



S. No.	Activity and Sub Activity	Impact/s	Measure/s
		Borrowing causes depressed lands	(ii) Consultations and arrangements at contractor-individual levels, documentation of agreement
		Pollution due to material extraction from borrow and quarry areas to surrounding environment	(iii) Precautionary measures during siting of borrow areas and quarry areas
		Disturbance to Natural Habitats	(iv) Avoidance of location of material sources in Natural Habitats
A10.0	Identification of designated locations of waste disposal	Pollution due to location close to settlements, water bodies & other sensitive areas	(i) Site selection in conformance to criteria provided
B	Construction Activities		
B1.0	Site Clearance		
B1.1	Clearing and Grubbing	Effect on roadside vegetation	(i) Restricting movement of machinery/equipment
		Debris generation creating unsightly conditions	(ii) Disposal / storage of grubbing waste and possible reuse
B1.2	Dismantling of existing culverts and structures, if any	Generation of Debris creating unsightly conditions	(i) Disposal of waste and likely reuse
		Flooding due to interception to drainage paths	(ii) Provision of diversion channels and/or scheduling construction of culverts in dry months
B2.0	Planning Traffic diversions and Detours	Trampling of vegetation along traffic diversions	(i) Activity scheduling, identification of alternative track
B3.0	Material Procurement	Loss of topsoil	(i) Stripping & Storing topsoil
		Formation of stagnant water pools due to borrowing/quarrying	(ii) Rehabilitation plan for borrow areas & quarry areas
		Illegal quarrying / sand mining	(iii) Conformance of quarries selected to the SPCB requirements, including quarry rehabilitation plans
		Uncontrolled blasting at quarries	(iv) Controlled blasting to the extent required. Conformance to blasting rules as per the Indian Explosives Act
B4.0	Transport of materials to site	Fugitive emissions from transport trucks	(i) Covering of material with tarpaulin or use of covered box trucks during transport
		Dust emissions from haul roads	(ii) Haul road management
B5.0	Materials handling at site		
B5.1	Storage of materials	Contamination to water sources, leaching into ground water	(i) Provision of impervious base to storage areas
B5.2	Handling of earth	Dust rising and increase in particulate concentration in ambient air	(ii) Use of dust suppressants
B5.3	Handling of fly ash	Increase of particulate concentration and contamination of nearby areas	(iii) Use of dust suppressants
B5.4	Handling of granular material	Risk of injury to workers	(iv) Use of Personal Protective Equipment



S. No.	Activity and Sub Activity	Impact/s	Measure/s
B5.5	Handling of bituminous materials	Leaching of materials, contamination of water sources	(v) Provision of impervious base at bitumen storage areas
		Air pollution	(vi) Control of emissions from mixing
B5.6	Handling of oil/diesel	Contamination from accidental spills	(vii) Prevention of accidental spills, affecting cleaning immediately after spill
		Pollution due to incomplete burning	(viii) Use of pollution control equipment
B5.7	Waste management	Littering of debris at construction site	(ix) Waste to be disposed at disposal locations only
		Contamination of surroundings due to runoff from construction site	(x) Prevention of runoff from entering water bodies
B5.8	Operation of construction equipments and machinery	Air & Noise pollution	(xi) Conformance to Emission standards and norms
		Operational safety of workers	(xii) Conformance to Safety concerns of the road users and workers in operation, first aid provision and mandatory provision of Personal Protective Equipment
B5.9	Movement of Machinery	Trampling of vegetation	(xiii) Restriction of movement within ROW
		Damage to flora & natural habitats	(xiv) Minimizing impact on vegetation
		Damage to road side properties	(xv) Minimizing impacts on private and common properties, including religious structures
B6.0	Earthworks		
B6.1	Cutting	Uncontrolled blasting in case of rock cutting	(i) Controlled blasting to be made mandatory
		Loss of topsoil	(ii) Preservation of topsoil for reuse
		Waste generation	(iii) Safe disposal of waste & possible reuse
B6.2	Embankment construction	Interruption to drainage	(i) Drainage channels to be provided with culverts in advance to embankment construction
		Dust Rising	(ii) Dust suppression with water
		Excess water/material usage	(iii) Minimising height of embankment
		Erosion causing impact on embankment/slope stability	(v) Slope stabilization measures as seeding, mulching & bio-engineering techniques
		Formation of rills / gullies	(vi) Construction of temporary erosion control structures as per requirements
		Contamination of water bodies/ water courses	(vii) Control measures as silt fencing, vegetative barriers etc
			(viii) Avoiding disposal of liquid wastes into natural water courses
B6.3	Maintenance at construction camp	Collection of rainwater in construction camps	(ix) Temporary drains during construction
		Waste water from labour camps	(x) Disposal of waste water into soak pits
		Contamination of soil	(xi) Removal of oil / other chemical spills & wastes
B6.4	Cutting embankments of surface water bodies	Impact on the drainage flows in and out of the water body	(xii) Restoration of drainage channels



S. No.	Activity and Sub Activity	Impact/s	Measure/s
		Embankment stability	(xiii) Design of slopes of the water bodies, slope protection etc
B7.0	Sub-Base & Base courses		
B7.1	Granular sub-base	Extensive extraction of quarry materials	(i) Use of locally available materials
B7.2	Wet mix macadam	Extensive water requirement	(ii) Scheduling the activity in wet months
			(iii) Avoiding conflict of uses due to water extraction from construction
B7.3	Shoulders treatment	Movement of Machinery for compaction	(iv) Restricting movement on adjacent lands
B8.0	Culverts and Minor Bridge Works	Interruption to water flow	(i) Provision of diversion channels
		Pollution of water channels during construction	(ii) Control of sediment runoff
		Safety of Workers	(iii) Mandatory use of Personal Protective Equipment
B9.0	Surfacing		
B9.1	Bituminous surface	Worker's safety during handling of hot mix	(i) Mandatory use of Personal Protective Equipment
		Damage to vegetation (burning/ cutting)	(ii) Avoiding use of wood as fuel for heating bitumen
			(iii) Hot mix plant location on waste lands
		Contamination due to bituminous wastes	(iv) Safe disposal of bituminous wastes
		Impacts on Air quality	(v) Ensuring compliance of hotmix plants with the CPCB emission standards
B9.2	Concrete surfacing for roads crossing built up areas	Contamination of surroundings due to concrete mixing	(vi) Mixing concrete at designated locations away from habitation and agriculture lands
B10.0	Road furniture/Signage	-Nil-	To be provided as per design
B11.0	Shoulder protection	Requires material extraction from quarries	(i) Use locally available material
			(ii) Ensure that all shoulders are clear of debris or construction materials
B12.0	Enhancements	-Nil-	(i) To be included in DPR
B13.0	Monitoring environmental conditions	-Nil-	(i) To be as per the codes of environmental practice
C	Post Construction Activities		
C1.0	Clearing of construction camps		
C1.1	Dismantling of campsite	Waste generation at the construction site	(i) Disposal of waste at designated locations (ii) Restoration of site to original or better condition
C1.2	Campsite rehabilitation	Change of land use due to setting up of construction camp	(ii) Campsite to be restored to its original condition as per the rehabilitation plan
			(iii) Restoration of top soil
C2.0	Clearing of Water Channels, side drains and culverts	Generation of debris & silt	(i) Removal of Debris and disposal
C3.0	Rehabilitation of borrow areas	-Nil-	(i) Top soil restoration, revegetation



0.6.1.4 Potential Environmental Impacts

Based on the information available about the 4 roads studied for the development of the ESMF, several important issues have been identified that would need to be evaluated in the context of each sub-project following screening and scoping exercises. A summary of the issues, and potential impacts is presented in the following paragraphs to guide preparation of upcoming EIA and EMPs as more roads get identified.

Impacts on Forests and Wildlife

Direct loss of Forest land is possible where sufficient RoW is not available in some stretches. This will result in removal of trees, increased dust in those areas, soil characteristics changes, etc. In such cases, minimization of forest land, which is quite scarce in UP is a chosen strategy. Clearance under the Forest (Conservation) Act, 1980 would be taken in each case and to that extent compensatory afforestation through Forest Department is expected. Once such roads are identified through screening, the EIA will pay special attention to analysis of alternatives that can reduce impacts on Forests and Wildlife.

Material Use

The use of stone, earth, sand, water can be stress on the natural resource base. This can be an important concern with respect to stone since this is a scarce material in the alluvial plains that form majority of the state. Unmitigated borrowing of earth and sand from rivers has the potential to have irreversible impacts. Use of other chemicals – bitumen, fuels, and hazardous substances has the potential of safety hazards, as well as pollution of the land and water in case of indiscriminate disposal or spillage due to negligence/accident.

Changes to water flow due to Road Level/Alignment Changes

Flooding or erosion due to the raising of levels of road in the flat areas of Uttar Pradesh is possible. Especially for sections that are frequently overtopped, raising can cause flooding and/or erosion and can make roadsides very unsafe, especially during monsoon. Debris management can be an issue in stretches where the entire pavement is to be removed since very few suitable disposal areas may be available. Consideration of climate change related aspects should also be integrated here since it may affect the final design of drainage structures, for example.

Impacts on Water Bodies

There could be loss of volume if the road expansion requires building embankments in waterbodies and would be a permanent loss like agricultural or forest land lost. Deterioration in water quality is also possible during earthworks, if proper care is not taken. Spills of material during construction can also impact water quality.

Contractors' Camp and Plant Sites

Improper siting of these elements could cause stress on the local infrastructure, may also cause social friction if the host communities feel that their resources are being used by 'outsiders'. Pollution for the duration of the project implementation from construction plants is also potential adverse impact that needs to be planned for in advance.

Air Pollution



Increase in noise level during construction has the potential to disturb many people. There may be schools or hospitals or other such locations like places of worship where permanent noise increase may follow road upgradation. Temporary or permanent increase in air pollution levels with regard to local pollutants like Particulate Matter and global pollutants like GHG emissions is also identified as one of the key negative impacts that would need to be suitably mitigated.

Demolition Waste

Where waterway crossings need realignments, demolition of structures is required. If dismantled structures are not disposed off properly, they cause waterlogging/obstruction in waterways.

Safety

One of the project components aims to improve safe conditions along project roads. It will therefore strive to ensure that roadsides are safer and people and animals have safe passages across improved roads where speeds will increase. Access to road side resources would need to be protected for continued use. For workers, like those working high structures like bridge across the river Sharda, occupational safety concerns would also need to be addressed.

Other Project Benefits

The improved connectivity provided by upgraded roads is expected to benefit the road users. It is expected to provide economic opportunities to a large section of the rural population of UP. The overall long term benefits would likely outweigh the short term, mostly construction related negative impacts since majority of the improvements are likely to be within the Right of Way already with UPPWD. Better access to education facilities, as well as health facilities will improve the well-being of roadside dwellers. Local businesses will also benefit from the increased activities along the sub-project roads.

0.7 Social Management Framework

This ESMF defines (a) the approach for identifying the social issues associated with the project, (b) the requirements for conducting social screening and social assessment studies, and (c) measures to prevent, mitigate and manage adverse impacts and enhance positive ones. This SMF includes a simplified screening checklist, which will be used to determine the degree of social assessment. Based on screening results, Social Impact Assessment (SIA) will be carried out and Resettlement Action Plan (RAP) and Indigenous Peoples Development Plan (IPD)) for specific initiatives will be prepared if required. This SMF includes a resettlement policy framework describing mechanisms for addressing the possible temporary disruption of services and income (e.g., temporary displacement of informal vendors), and temporary restrictions on access to facilities while the construction work is ongoing in the project area. The SMF includes guidance on preparing of indigenous peoples development plan, gender action plan; consultation mechanism; capacity building measures and a monitoring mechanism.

0.7.1 Social Issues

The social screening and initial impact assessment of the four (4) candidate roads identified following social impacts:



- Loss of agricultural land in case of private land acquisition;
- Loss of structures used for residential, commercial and other purposes and associated loss of livelihood i.e., loss of livelihood due to impacts on sources of earning;
- Loss of other properties and assets such as boundary walls, hand pumps, bore wells, dug wells, ponds etc.;
- Disruption of livelihood due to clearing of RoW particularly, petty shop owners, squatters and encroachers;
- Loss of common property resources such as religious places, Samadhi, graveyard, cremation places, water resources, village gates, passenger shelters, etc;
- Likelihood of increased accidents due to road widening;
- Traffic blocks disrupting lives of people due to the landslides after heavy monsoon. Cutting of slopes may trigger landslides causing loss of assets and access in hilly sections;
- Likelihood of spread of HIV/AIDS among construction workers and road side community.

0.7.2 Social Screening Process

0.7.2.1 Identification of Impacts

The purpose of screening is to get an overview of the nature, scale and magnitude of the issues in order to determine the need for conducting Social Impact Assessment (SIA) and preparing Resettlement Action Plan (RAP). After identifying issues, the applicability of the Bank's environment and social safeguard policies is established along with Government of India's and state government's regulatory requirements. Based on this, boundaries and focus areas for the SIA along with the use of specific instruments will be determined. The possibility of any adverse impact in the sub-project site will be identified during the screening process. The screening format has been designed to identify sub-project/s with potential social issues that may need to be addressed at the project planning stage.

0.7.2.2 Establishing Impacts

Having identified the potential impacts of the relevant sub-projects, the next step is to develop action plans to mitigate the impacts. This will require detailed social impact assessment. The Consultant along with Project authority will undertake a survey for identification of the persons and their families likely to be affected by the project.

0.7.2.3 Sub-Project Approval

In the event that a subproject involves land acquisition against compensation or loss of livelihood or shelter, UP PWD shall:

- not approve the subproject until a satisfactory RAP has been prepared and shared with the affected person and the local community; and
- not allow works to start until the compensation and assistance has been made available in accordance with the framework.

0.7.3 Resettlement Action Plan (RAP)

RAP provides a link between the impacts identified and proposed mitigation measures to realize the objectives of involuntary resettlement. The RAPs will take into account magnitude of impacts and accordingly prepare a resettlement plan that is consistent with this framework for Bank



approval before the sub-project is accepted for Bank financing.

- Sub-projects that will affect more than 200 people due to land acquisition and/or physical relocation and where a full Resettlement Action Plan (RAP) must be produced.
- Sub-projects that will affect less than 200 people will require an abbreviated RP (Resettlement Plan).
- The above plans will be prepared as soon as subproject is finalized, prior to Bank's approval of corresponding civil works bid document.
- Projects that are not expected to have any land acquisition or any other significant adverse social impacts; on the contrary, significant positive social impact and improved livelihoods are exempted from such interventions.
-

0.7.4 Resettlement Policy and Land Acquisition Framework

The guidelines are prepared for addressing the issues limited to this project for resettlement and rehabilitation of the PAPs. This policy has been developed based on the Right to Fair Compensation and transparency in land Acquisition, Rehabilitation and Resettlement Act, 2013 subject to subsequent supplements by GoUP orders and World Bank Operational Policy 4.12 on involuntary resettlement.

0.7.5 R & R Benefits for Project Affected Families

The resettlement and rehabilitation (R&R) benefits shall be extended to all the Project Affected Families (PAF) whether belonging to below poverty line (BPL) or non-BPL. The details are provided in the entitlement matrix (Table 5.1 below).

For tribal the following provisions will be adhered.

- Each Project Affected Family of ST category shall be given preference in allotment of land.
- Tribal PAFs will be re-settled close to their natural habitat in a compact block so that they can retain their ethnic/linguistic and cultural identity
- The Tribal Land Alienated in violation of the laws and regulations in force on the subject would be treated as null and void and-the R&R benefits would be available only to the original tribal land owner.

Table 0-7: Entitlement Matrix

S. No.	Application	Definition of Entitled Unit	Entitlement	Details
A. Loss of Private Agricultural, Home-Stead & Commercial Land				
1	Land within the Corridor of Impact (COI)	Titleholder family and families with traditional land Right	Compensation at Market value, Resettlement and Rehabilitation	a) Land for land, if available. Or, Cash compensation for the land at Market value, which will be determined as provided under section 26 of RFCTLARR Act 2013. b) The land if allotted will be in the name of both husband and wife. c) If post acquisition, residual land is economically unviable, the land owner will have the choice of either retaining or sell off rest of the land.



S. No.	Application	Definition of Entitled Unit	Entitlement	Details
				d) Refund of stamp duty and registration charges incurred for replacement land to be paid by the project; replacement land must be bought within a year from the date of payment of compensation to project affected persons. e) Subsistence allowance of Rs. 36000 as one time grant f) One time grant of Rs. 500,000 or annuity g) Compensation at market value for loss of crops if any
B. Loss of Private Structures (Residential/Commercial)				
2	Structure within the Corridor of Impact (Col)	Title Holder/ Owner	Compensation at Market value, Resettlement & Rehabilitation Assistance	a) Cash compensation for the structure at Market value which would be determined as per as per section 29 of the RFCTLARR Act 2013. House under Indira Awas Yojna in rural area or Rs 50000 in lieu off and house under RAY in urban area or Rs 100,000 in lieu off. The house if allotted will be in the name of both husband and wife. b) Right to salvage material from the demolished structures. c) Three months' notice to vacate structures. d) Refund of stamp duty and registration charges for purchase of new alternative houses/shops at prevailing rates on the market value as determined in (a) above. Alternative houses/shops must be bought within a year from the date of payment of compensation. e) In case of partially affected structures and the remaining structure remains viable, additional 10% to restore the structure. In case of partially affected structures and the remaining structure becomes unviable additional 25% of compensation amount as severance allowance. f) Subsistence allowance equivalent to Rs. 36000 as one time grant. G) Each affected family getting displaced shall get a one-time financial assistance of Rs 50,000 as shifting allowance. h) Each affected family that is displaced and has cattle, shall get financial assistance of Rs 25,000/- for construction of cattle shed. i) One time grant of Rs. 50,000 as resettlement assistance j) Each affected person who is a rural artisan, small trader or self-employed person and who has been displaced (in this project owner of any residential-cum commercial structure) shall get a one-time financial assistance of Rs 25,000/-for construction of working shed or shop. j) One time grant of Rs. 500,000
3	Structure within the Corridor of Impact (Col)	Tenants/ Lease Holders	Resettlement & Rehabilitation Assistance	a) Registered lessees will be entitled to an apportionment of the compensation payable to structure owner as per applicable local laws. b) In case of tenants, three months written notice will be provided along with Rs 50,000 towards shifting allowance.
C. Loss of Trees and Crops				
4	Standing Trees,	Owners and beneficiaries	Compensation at market	a) Three months advance notice to project affected persons to harvest fruits, standing crops and removal of trees.



S. No.	Application	Definition of Entitled Unit	Entitlement	Details
	Crops . within the Corridor of Impact (Col)	(Registered/ Un-registered tenants, contract cultivators, leaseholders & sharecroppers	value	b) Compensation to be paid at the rate estimated by: i) The Forest Department for timber trees ii) The State Agriculture Extension Department for crops iii) The Horticulture Department for fruit/flower bearing trees. c) Registered tenants, contract cultivators & leaseholders & sharecroppers will be eligible for compensation for trees and crops as per the agreement document between the owner and the beneficiaries. d) Un-registered tenants, contract cultivators, leaseholders & sharecroppers will be eligible for compensation for trees and crops as per mutual understanding between the owner and the beneficiaries.
D. Loss of Residential/ Commercial Structures to Non-Titled Holders				
5	Structures within the Corridor of Impact (Col) or Govt, land	Owners of Structures or Occupants of structures identified as per Project Census Survey	Resettlement & Rehabilitation Assistance	a) Non vulnerable encroachers shall be given three months' notice to vacate occupied land b) Vulnerable encroachers will be provided cash assistance at replacement cost for loss of structures as described in section 29 of the RFCTLARR Act 2013. . c) Any encroacher identified as non-vulnerable but losing more than 25% of structure used will be paid cash assistance at replacement cost for loss of structures. The amount will be determined as per section 29 of the RFCTLARR Act 2013. d) All squatters to be paid cash assistance for their structures at replacement costs which will be determined as mentioned in section 29 of the RFCTLARR Act 2013. e) All squatters (other than kiosks) will be eligible for one time grant of Rs 36000 as subsistence allowance. f) All squatters other than Kiosks will be given shifting allowance of Rs 50,000 per family as one time grant for a permanent structure and Rs. 30,000 for a semi-permanent structure and Rs. 10,000 for a temporary structure. g) Each affected person who is a rural artisan, small trader or self-employed person assistance' of Rs 25,000/- for construction of working shed or shop. h) In case of Kiosks, only Rs. 5000 will be paid as one time grant.
E. Loss of Livelihood				
6	Families living within the Corridor of Impact (Col)	Title Holders/ Non-Title holders/ sharecroppers, agricultural labourers and employees	Resettlement & Rehabilitation Assistance	a) Subsistence allowance of Rs. 36,000 as one time grant. (PAPs covered under 1(f), 2 (f) and 5 (e) above would not be eligible for this assistance). b) Training Assistance of Rs 10,000/- for income generation per family. c) Temporary employment in the project construction work to project affected persons with particular attention to vulnerable groups by the project contractor during construction, to the extent possible.
F. Additional Support to Vulnerable Families				
7	Families within	SC, ST, BPL	Resettlement &	One time additional financial assistance of Rs. 50,000.



S. No.	Application	Definition of Entitled Unit	Entitlement	Details
	the Corridor of Impact (Col)	WHH families	Rehabilitation Assistance	Squatters and encroachers already covered under clause 5 are not eligible for this assistance.
G. Loss of Community Infrastructure/Common Property Resources				
8	Structures & other resources (e.g. land, water, access to structures etc.) within the Corridor of Impact (Col)	Affected communities and groups	Reconstruction of community structure and common property resources	Reconstruction of community structure and Common property resources in consultation with the community.
H Temporary Impact During Construction				
9	Land & assets temporarily impacted during construction	Owners of land & Assets	Compensation for temporary impact during construction e.g. diversion of normal traffic, damage to adjacent parcel of land / assets due to movement of heavy machinery and plant site.	Compensation to be paid by the contractor for loss of assets, crops and any other damage as per prior agreement between the 'Contractor' and the 'Affected Party'.
I. Resettlement Site				
10	Loss of residential structures	Displaced titleholders and non-titleholders	Provision of resettlement site/ vendor market	Resettlement sites will be developed as part of the project, if a minimum of 25 project displaced families opt for assisted resettlement. Vulnerable PAPs will be given preference in allotment of plots/flats at the resettlement site. Plot size will be equivalent to size lost subject to a maximum of provision given in RFCTLARR Act 2013. Basic facilities shall be provided by the project at resettlement site as per the provisions given in the Third Schedule of RFCTLARR Act 2013. Similarly, if at least 25 displaced commercial establishments (small business enterprises) opt for shopping units, the Project Authority will develop the vendor market at suitable location in the nearby area in consultation with displaced persons. Basic facilities such as approach road, electricity connection, water and sanitation facility, will be provided in the vendor market by the project. Vulnerable PAPs will be given preference in allotment of shops in vendor market. One displaced family will be eligible for only one land plot at resettlement site or shop in the vendor market.

0.8 Indigenous Peoples Development Framework (IPMF)

0.8.1 Objective

The objective is to design and implement projects in a way that fosters full respect for Indigenous Peoples' dignity, human rights, and cultural uniqueness and so that they: (a) receive culturally compatible, gender and inter-generationally inclusive social and economic benefits; and (b) avoid adverse effects during the development process, or if not feasible ensure that these are minimized, mitigated or compensated.



0.8.2 Procedure for Preparing an Indigenous Peoples Development Plan (IPDP)

In order to prepare an IPDP the following steps will be taken:

- Social screening to establish the presence of tribes in the project area or have collective attachment to the project area
- based on a detailed social assessments establish baseline data on the tribal people (subsistence, employment, community networks) in the project area;
- review Acts / policy guidelines applicable in the respective states regarding tribal groups and also the central Acts / Policies;
- identify the impacts (both positive and negative) and prepare an IPDP;
- disclose the draft IPDP

0.8.3 Implementation Issues and Strategy

It is envisaged that proper implementation of IPDP is possible only through community participation. The participatory approach will ensure:

- Promotion of community concern and involvement
- Proper organization and management of resources
- Setting up of criteria and fixing criteria and procedures for project execution are done at the grass root level
- Identification, selection and strengthening of implementing agency at the grass roots level
- Monitoring indicators and grievance redress mechanism

0.9 Gender Assessment and Development Framework

The project designs should be gender responsive based on the gender analysis, and should be included in the DPR. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action. Listed below are the key action points:

0.9.1 Core Requirement for Mainstreaming Gender

- All data should be disaggregated by gender, caste, ethnicity, location and age
- Issues of division of labour, access to resources and decision making power (who is doing what, who has access to what, who makes the ultimate decision) have to be assessed for their gender differential impact on women and men of different social identity group.
- Assessment of policies, programs, institutional arrangements, human resources issues and M&E system has to be done from a gender perspective of project, project authorities and community groups.

0.10 Consultation Framework and Information Disclosure

0.10.1 Consultation Framework

The Consultation Framework envisages involvement of all the stakeholders' at each stage of project planning and implementation. The UP PWD through DPR consultants and partner NGO during implementation will be responsible for ensuring participation of the community at sub-project level. Involvement of the community is not limited to interactions with the community but



also disclosing relevant information pertaining to the project tasks.

0.10.2 Information Disclosure

The mechanism of information dissemination should be simple and be accessible to all. Two of the important means that have been followed until now include briefing material and organization of community consultation sessions. The briefing material (all to be prepared in local language) can be in the form of (a) brochures (including project information, land requirements and details of entitlements including compensation and assistance to be given to the PAPs) that can be kept in the offices of local self-government (municipal office in case of urban area and gram panchayat office in case of rural area) and PWD; (b) posters to be displayed at prominent locations and (c) leaflets that can be distributed in the impacted zone of the sub project. Consultation meetings should also be organized at regular intervals by the PWD to acquaint the PAPs of the following:

- Timeline and progress of the project;
- Information on compensation and entitlements;
- Information on land acquisition and market valuations of property;
- Time line for acquisition.

0.10.3 Stakeholder Mapping

Through the formal and informal consultation, following stakeholder mapping has been done, identifying their interests concerned with the project activities.

Table 0-8: Stakeholder Mapping

Stakeholder Category	Interests	Potential/Probable impacts
Primary stakeholders		
Project affected people	Access to the facility, Project entitlement, Time-bound delivery of benefits, enhanced quality of life	(+/-)
Beneficiaries	Access to the facility, Project entitlement, Time-bound delivery of benefits, enhanced quality of life	(+/-)
Secondary stakeholders		
UP PWD & PAPs	Project implementation, Contracting; Project management, Monitoring and evaluation	(+/-)
NGOs, CSOs, Local Administration	Development, Community participation, and Community welfare	(+/-)

0.11 Institutional Arrangement for Environmental and Social Management Plans

0.11.1 Environment

The Government of Uttar Pradesh has setup Project Management Unit (PMU) for UPCRNDP to streamline decision-making and provide more autonomy for project execution and delivery. The PMU is headed by Chief Engineer, World Bank Projects (Roads) supported by Superintending Engineer (Planning) and Project Director, UPCRNDP at Head Office. The Project Director will have overall responsibility for implementation and procurement of projects. An Environmental and Social Development Cell (ESDC) has been set up at PMU. The cell is headed by an Executive Engineer. He is overall responsible for EIA preparation and EMP Implementation, coordinating and liaising with government organization as well as the World Bank with respect to different forest and environmental issues. He will also be responsible for progress monitoring of Environmental safeguards during project execution and submission of quarterly/ annual report on



EMP compliance to the funding Agency. In the field, there is provision of World Bank Circles headed by Superintending Engineers. The Division offices will act as Project Implementation Units (PIUs). Executive Engineers in each World Bank Circle will be responsible to oversee the project progress at site in their respective area. It is proposed to have one Environmental Nodal Officer at Office of each Executive Engineer who will look into the compliance with the safeguards, liaising with local authorities in connection with different permits and licenses, redressing the public complaints on environmental issues, etc.

The PMU has appointed Project Management Consultant to assist with project preparation and support implementation as Engineer in-charge who will supervise the Contractors activities, compliances and monitor the overall progress of work. There is provision of Environmental Specialist in PMC. The Contractor team will also include Environment and Safety Officer. The Roles and responsibility of implementation and Supervision Agencies at different levels have been defined in table below.

Table 07: Roles and Responsibilities of Environmental Personnel at different levels

Position	Roles & Responsibilities
PMU's Environmental and Social Nodal Officer (ESD Cell)	<ul style="list-style-type: none">Finalize the EIA and EMP for individual sub-project with inputs from PMCConfirm integration of EMP provision related to works in the contract documentsProvide guidance on environmental issues to PIUs Environmental and Social officers as requestedCoordinate with regulatory agencies like Forest Departments, and at request of PMC and/or Contractor, UPPCBPrepare regular reports on progress on EMP implementation across the project with inputs from the PMC's environmental specialistDocument experiences of developing and implementing environmental mitigation measures and convert it into training material for internal and external capacity buildingFacilitate interaction between environmental teams of different sub-projects to allow cross-fertilization of ideas, successes and learnings
Environmental and Social Nodal Officer at PIU (Division Office)	<ul style="list-style-type: none">Coordinate with PMC's environmental specialist to monitor and report on progress on EMP implementation as part of works contractsParticipate in and facilitate consultations with stakeholdersParticipate in project meetings and report on the issues related to environmental management to provide for any mid-course corrections that may be required based on situation on the groundAssist PAPs in resolving their grievancesCoordinate on the training and capacity building initiatives
Environmental Specialist, PMC	<ul style="list-style-type: none">Lead the development of the sub-project specific EIA and EMP for the entire projectReview contract documents to ensure that EMP provisions related to works are included in the contract documentsAssist the Environmental Specialist in the PMU to follow-up with state government departmentsOversee and report to the PMU on implementation of EMP provisions included in the works contract for each sub-projectAct as a resource person in trainings based on experience on implementing this project and previous relevant work
Contractors' Environmental and Safety Officer	<ul style="list-style-type: none">Lead the implementation of EMP measures included in the ContractReport on progress and shortcomings of the measures implemented to Environmental Specialist of PMC

0.11.2 Social

The PMU and the decentralized dedicated teams (PIUs) will be supported by also competitively recruited experts, as needed. A social specialist and an environment specialist will be hired by



PMU and one official in PIU will be designated as Environmental and Social Officer. The project will take help of partner NGOs in implementation of RAP. The responsibilities of all role players in the project are given below.



Table 0.8: Responsibilities of Social Specialists and NGO

Levels	Roles and Responsibilities
PMU Social Specialist	<ul style="list-style-type: none"> Finalize safeguard documents; Provide policy guidance to the project level counterparts Ensure dissemination of R&R Policy at state level Monitoring R&R and Land acquisition activities. Make budgetary provisions for R&R activities Liaison with state administration for land acquisition and implementation of RAP; Participate in state level meetings Finalize TOR of contracting NGO for implementation and external agency for monitoring and evaluation Prepare training schedule for state and project level social development officials for capacity building to implement the RAP; Prepare TOR for any studies required and qualitative dimensions to the implementation of RAP; Facilitate appointment of consultants to carry out the studies and co-ordinate them. Monitor physical and financial progress on implementation of RAP; Assist PAPs in addressing their grievances
PIU Social Officer	<ul style="list-style-type: none"> Co-ordinate with district administration and NGO responsible for implementation of ESMF/ RAP and other safeguard documents; Translation of R&R policy in local language and ensure dissemination at state; district and community level - prepare pamphlets on policy for information dissemination Coordinate with the state and district level officials for acquisition of private land and implementation of ESMF/ RAP; Liaison with district administration for dovetailing of government schemes for Income Restoration Schemes Monitor physical and financial progress of implementation of RAP, Participate in the project level meetings Report progress, highlighting social issues not addressed, to provide for mid-course correction, Coordinate training of project level staff with agencies involved. Organise by-monthly meetings with NGO to review the progress of R&R, and gender actions Assist PAPs in addressing their grievances
NGO	<ul style="list-style-type: none"> Conduct the verification for the affected families and update the census and socio-economic data Develop rapport with PAFs and between PAFs and project Design and carry out information campaign and consultations with the local community during the implementation of the RAP, Provide information to PAFs and local community and conduct awareness on R&R Policy and distribute the policy to the affected families Prepare and submit the micro plans for the PAFs Assist the PAFs in receiving the compensation and rehabilitation assistance Motivate and guide PAP for productive utilization of the compensation and assistance amount Assess the level of skills and efficiency in pursuing economic activities, identify needs for training and organize training program Assist PAFs in approaching the grievance redressal mechanism Assist the PAFs in getting benefits from the appropriate local development schemes Prepare monthly progress reports and participate in monthly review meetings Participate in the training program for capacity building Carry out other responsibilities as required from time to time

0.12 Grievance Redressal Mechanism (GRM)

An integrated system will be established with Grievance Redressal Cells (GRCs), with necessary



officers, officials and systems, at the state as well as sub project levels. Grievances if any, may be submitted through various mediums, including in person, in written form to a noted address, through a toll free phone line or through direct calls to concerned officials, and online. PWD will appoint a person to receive such calls and online messages. The person incharge based on nature of complaint, will forward the same to the concerned official. A ticket or a unique number will be generated for all such call and messages. The complainant will follow up based that unique number. All calls and messages will be responded within two weeks. In response is not received within 15 days, the complaint will be escalated to next level. As part of IGRM (Integrated GRM), a Grievance Redressal Cell (GRC) will be set up at the district level. The staffing of GRC will include Environmental and Social Nodal officer of PMU; Environmental and Social Nodal officers of PIU; and two representatives from community / beneficiary / affected persons. The head of the cell will be a person of repute but not continuing in the government service.

A project affected person however is free to approach judiciary system of the country if he or she is not satisfied with the verdict given by GRC.

0.13 Monitoring and Reporting

The PMU through the respective PMUs will monitor all the sub projects to ensure conformity to the requirements of the ESMF. The monitoring will cover all stages of planning and implementation. The monitoring will be carried out through the environmental and social safeguard compliance reports that will form a part of Quarterly Progress Reports (QPR) for all sub projects and regular visits by the environmental and social specialists of the PMU and PIU.

An external evaluation of the RAP implementation prepared for sub projects will also be undertaken twice during the implementation of the project – midterm and at the end of the implementation as per the terms of reference. During implementation, meetings will be organized by PMU inviting all PIUs for providing information on the progress of the project work.

Project monitoring will be the responsibility of the PMU who will submit Quarterly Progress Reports. The reports will compare the progress of the project to targets set up at the commencement of the project. The list of impact performance indicators will be used to monitor project objectives. The socio-economic survey conducted will provide the benchmarks for comparison.

0.14 Consultation and Public Disclosure

0.14.1 Stakeholder Consultation

Since this is a category A project, consultations with stakeholders across the spectrum are needed early and continuously in the project. The identified stakeholders include project affected people-with an emphasis on disadvantaged groups, youth, local NGOs, road users, private sectors, local leaders, officials from other GoUP Departments. Some roads may have special groups that may need to be sensitively handled like Scheduled Castes. UPPWD should be geared up to carry out consultations from the Identification stage, through project planning and design, as well as during implementation.

The state-level ESMF workshop was carried out on November 7, 2014. The objective of consultation was to receive feedback from various stakeholders and wider dissemination on draft



ESMF document. The consultation was carried out in local language (Hindi). The executive summary of draft ESMF and project specific R&R policy in Hindi was circulated prior to the consultation. The issues discussed during the consultation included:

- Objective & approach of the Projects under UPCRNDP & ESMF
- Minimizing adverse environmental and social impacts such as minimize tree cuttings; provide safety measures near schools and health centres
- Procedure of Environmental and Social Safeguards in different sub-projects
- Safety of women and children during construction
- Safety measures for road users and public
- Bus stops and bus shelters at major habitations
- Drains in urban areas
- Land prices and prices of the properties affected to be finalized in consultation with the community
- Replacement of community properties
- Facilities for solid waste management in urban areas

0.14.2 Information Disclosure

For the benefit of the community in general and PAPs in particular, RAP and R&R policy will be translated in Hindi and kept at

- Public Libraries of the districts
- Office of Chief Development Officer, and
- Libraries of various colleges in the district.
- PWD offices in project districts
- Schools of the villages affected, and
- Any other public place along the highway

A copy of RAP and R&R policy will also be placed at the office of Chief Engineer, UP PWD, Lucknow and respective PWD circles and divisions.

0.15 Budget

Each sub-project will have its own budget to cover the EMP costs relating to mitigation measures, enhancements, wherever included in the plan, and monitoring costs. In addition, training and capacity building costs need to be added for specific issues that EIA and EMPs may bring out. For instance, there may be a need to have short courses on specific topics, experience exchanges on common issues, and so on.



1 INTRODUCTION

1.1 Project Background

Uttar Pradesh has a road network of 299,604 km, out of which 174,451 km is under Uttar Pradesh Public Works Department (PWD). The roads under PWD comprise 7,550 km of National Highways (NHs), 7,530 km of State Highways (SHs), 5,761 km of Major District Roads (MDRs), 3,254 km of Other District Roads (ODRs) and 138,702 km of Village Roads (VRs). Only about 60% of SHs are two-lane (7 m). In the entire state 62% of MDRs and 83% of ODRs have widths less than 7 m.

With a view to improve the transport network system, UP PWD has identified 24,095 km of Core Road Network (CRN) for the development. This network comprise NH, SH, MDR, ODR and the details are presented in the table below.

Table 1-1: Road Network in Uttar Pradesh

Road Category	Length (km)
National Highway (NH)	7,550
State Highway (SH)	7,530
Major District Road (MDR)	5,761
Other District Road (ODR)	3,254
Total	24,095

Although National Highways are an integral and significant part of Core Roads Network of the State, but their widening/strengthening and maintenance activities are carried out through the resources of Government of India and their ownership also lies with central government. The Government of Uttar Pradesh has a long-term program to improve the Core Road Network (CRN) and, as part of this program, has applied for a financial assistance from the World Bank for developing the Uttar Pradesh Core Road Network Development Project (UPCRNDP). The State Government has proposed improvement of about 3650.0 Kms of roads out of entire core network of 24,095 Kms, which has to be implemented in three phases as part of its ambitious programme.

The Core road development works will consist of raising the formation level, widening to a full two lanes from the existing single and intermediate lane widths, and/or pavement rehabilitation/strengthening. Road sections with high volumes of non-motorised traffic will be widened to 2-lane black top carriageway of 7.0 m width with 1.5m full paved shoulders on either side covering a total carriageway width of 10 m. Road stretches crossing urban areas may also require upgrading to a four lane cross section, and/or provision for drains, sidewalks and parking where required. In some cases, new alignments (by-passes and/or re-alignments) may also be required.

The UPCRNDP will have three Components:



- Upgrading/reconstruction/widening as well as rehabilitation of selected roads from the Core Road Network (CRN) including construction of a new Sharda Bridge at Pachpheri Ghat in Lakhimpur district.
- Road Safety Component: A comprehensive and coordinated package of road safety sub-components to be delivered by the Transport, Home, Public Works and Health Departments.
- Road Sector and Institutional Reform Component: This component is likely to include a program to strengthen PWD asset management of SHs, MDRs and ODRs, to support the application of IT systems for human resource management and works budgeting and management across the PWD organization.

The GoUP through the PWD will be the executing agency for the project.

The road development projects can have potentially negative environmental and social impacts at different stages in the project cycle. Management of environmental and social impacts is a very important component of such developmental activities and, rightly therefore, it has been emphasized to take care of environmental and social issues relevant to the projects under UPCRNDP.

1.2 Rationale and Objective of Environmental and Social Management Framework (ESMF)

Except for the Sharda Bridge, for which design process is getting underway, the other upgrading / reconstruction and widening activities are generally well-understood. Given that the sub-project roads can be from anywhere in the Core Road Network spanning the entire state, this guiding framework is prepared to ensure that subsequent project activities have a common understanding of the environmental and social issues involved, and a harmonized approach to handling these issues is followed. This Environmental and Social Management Framework (ESMF) will be used to identify the environmental and social impacts of each sub-project and help design commensurate mitigation/enhancement measures as well as to assign the responsibility for implementation of these measures.

The overall goal of the ESMF is to ensure that decision making in subsequent stages of the project is informed and influenced by environmental and social considerations for each of the sub-projects, many of which are still to be identified. It aims to integrate environmental and social concerns into the project's design and implementation. In order to achieve this, main objectives of the ESMF are

- To establish clear procedures and methodologies for the environmental and social planning, review, approval and implementation of subprojects to be financed under the Project;
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to subprojects;
- To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF;
- To establish the Project funding required to implement the ESMF requirements; and
- To provide practical information resources for implementing the ESMF.



1.3 ESMF Sctructure

The ESMF includes the following information:

- Study Methods
- Environmental and Social Baseline of the State and Key Issues
- Regulatory Framework Applicable to the Project
- Environmental and Social Management Framework
- Community Consultation
- Institutional Arrangement for Implementation
- Grievance Mechanism and Public Disclosure
- Capacity Building

Study Methods adopted in preparation of ESMF is described in the following section.

1.4 Study Methods

The ESMF for UPCRNDP has been prepared based on (i) rapid assessment of 4 sample project corridors; (ii) review of secondary data on different environmental and social components including regulatory frameworks, (iii) review of previous reports on environmental and social issues of the state of Uttar Pradesh in road sector, and (iv) consultation with different stakeholders. The objective of the above exercise was:

- To establish baseline environmental and social condition in the state at broad level
- To understand type and distribution of environmentally and socially sensitive features in the state
- Preliminary identification of environmental and social impacts likely to be triggered due to the project activities
- To assess the applicable regulations and polices
- Consultations and mitigation measures

1.4.1 Secondary Data Collection

The secondary data on various environmental and social aspects were taken mainly from the published government documents and publications for providing general environmental and social profile of the project area and to identify the critical environmental and social concerns. Topographic maps were also collected for the purpose. The following table summarizes the sources of the secondary data collection:

Table 1-2: Sources of Secondary Data

S. No.	Information	Source
1.	Toposheets, District Planning Maps	Survey of India, Govt. of India
2.	Meteorological data	Directorate of Economics and Statistics, Govt. of Uttar Pradesh, Indian Meteorological Department, Govt. of India
3.	Geological data	Geological Survey of India, Directorate of Mines and Geology, Government of Uttar Pradesh
4.	Reserve Forests, Protected Forests and Wildlife Sanctuaries	Department of Forests, Govt. of Uttar Pradesh and State of Forest report, Forest Survey of India
5.	Landuse Pattern	Department of Economics & Statistics, Government of Uttar Pradesh,
6.	Forests Statistics	Department of Forests, Govt. of Uttar Pradesh



S. No.	Information	Source
7.	Air & Water Quality	UP Pollution Control Board and MoEF
8.	Wildlife Sanctuary/ National Parks/Tiger Reserves	Wildlife Department/ Forest department, U.P.
9.	Wetland Atlas	MoEF, Govt. of India
10.	Demographic Profile	District Census Handbook, Govt. of India,
11.	Archeological Monuments/Sites	Archaeological Survey of India
12.	Legislative Acts and Rules	Department of Economics & Statistics, Government of Uttar Pradesh, Ministry of Environment and Forest, Govt. of India
13	Census Data of 2011	Census of India, Government of India
14	Statistical Abstract of Uttar Pradesh 2012	Government of Uttar Pradesh

1.4.2 Visit to Sample Roads

The study team visited 4 sample roads to understand and assess environmental and social conditions of the project area and to identify specific environmental and social hotspots. Team conducted community consultations during the site visits. Following 4 roads were visited:

Table 1-3: List of Phase-I Roads

S. No.	Road Name	SH No.	District
1	Hamirpur-Rath-Gursarai-Chirgaon (Jhansi)	SH-42	1. Hamirpur 2. Jhansi
2	Utraula-Faizabad	SH-9	1. Balrampur 2. Gonda
3	Bhajoi- Gajraula (Badaun- Bilsa- Bijnaour Road)	SH-51	1. Badaun
4	Gola- Shahjahapur	SH-93	1. Lakhimpur Khiri 2. Shahjahanpur

1.4.3 Stakeholder Consultation

During preparation of ESMF, consultation with different Stakeholders was carried out to understand the environmental and social issues and their implications. Following stakeholders were consulted on various issues pertaining to environmental features in the area.

Table 1-4: Stakeholder Consultation

S. No.	Stakeholders	Purpose
1	Divisional Forest Officer (DFO)	Forest related issues such as forest areas, legal status of forest, forest boundary. Type of vegetation, forest maps, Legal procedures notifications etc.
2	Forest Secretary, Uttar Pradesh	Legal procedures notifications etc.
3	Wildlife Department	Location of Wildlife Sanctuaries, National Park and eco-sensitive zones, Information regarding Wildlife animals, migratory animals and legal procedures with respect to the project.
4	PWD Officers, Local Engineers	Alignment details, issues related to environment & Social
5	Revenue Department	Village maps, land records and tentative land cost
6	Chief Development Officer (CDO) of concern district	Various ongoing/proposed schemes
7	School Authority at Kalauli Teer	Sanitation facility and house keeping and local issues
8	Local residents of different settlement areas en-route	Project awareness and specific localised issues identifications, Common Property Resources (CPR)
9	UP Pollution Control Board Officials	Environmental data, legal aspects on environmental issues.



2 ENVIRONMENTAL AND SOCIAL BASELINE OF THE STATE

Uttar Pradesh is a northern State and located between 23°52'N and 31°28'N latitudes and 77°3' and 84°39'E longitudes. Garlanded by the Ganga and Yamuna, the two auspicious rivers of Indian mythology, Uttar Pradesh is surrounded by Bihar in the East, Madhya Pradesh in the South, Rajasthan, Delhi, Himachal Pradesh and Haryana in the west and Uttaranchal in the north and Nepal touch the northern borders of Uttar Pradesh. The State of Uttar Pradesh comprises an area of about 243,290 km² equal to 6.88% of the total area of India, and is the fourth largest Indian state by area. With over 200 million inhabitants in 2011, it is the most populous state in the country.

2.1 Physiography

The state can be divided into two physiographic regions: the central plains of the Ganges (Ganga) River and its tributaries (part of the Indo-Gangetic Plain), and the southern uplands. The vast majority of Uttar Pradesh lies within the Gangetic Plain, which is composed of alluvial deposits brought down from the Himalayas by the Ganges network. Most of this area is a featureless, though fertile plain varying in elevation from about 300 meters in the northwest to about 60 meters in the extreme east. The southern uplands form part of the highly dissected and rugged Vindhya Range, which rises generally toward the southeast. The elevation of this region rarely exceeds 350 m. Physiographic Map and Physical Map of Uttar Pradesh is given in **Figure 2.1** and **Figure 2.2** respectively.



Figure 2-1: Physiographic Map of Uttar Pradesh

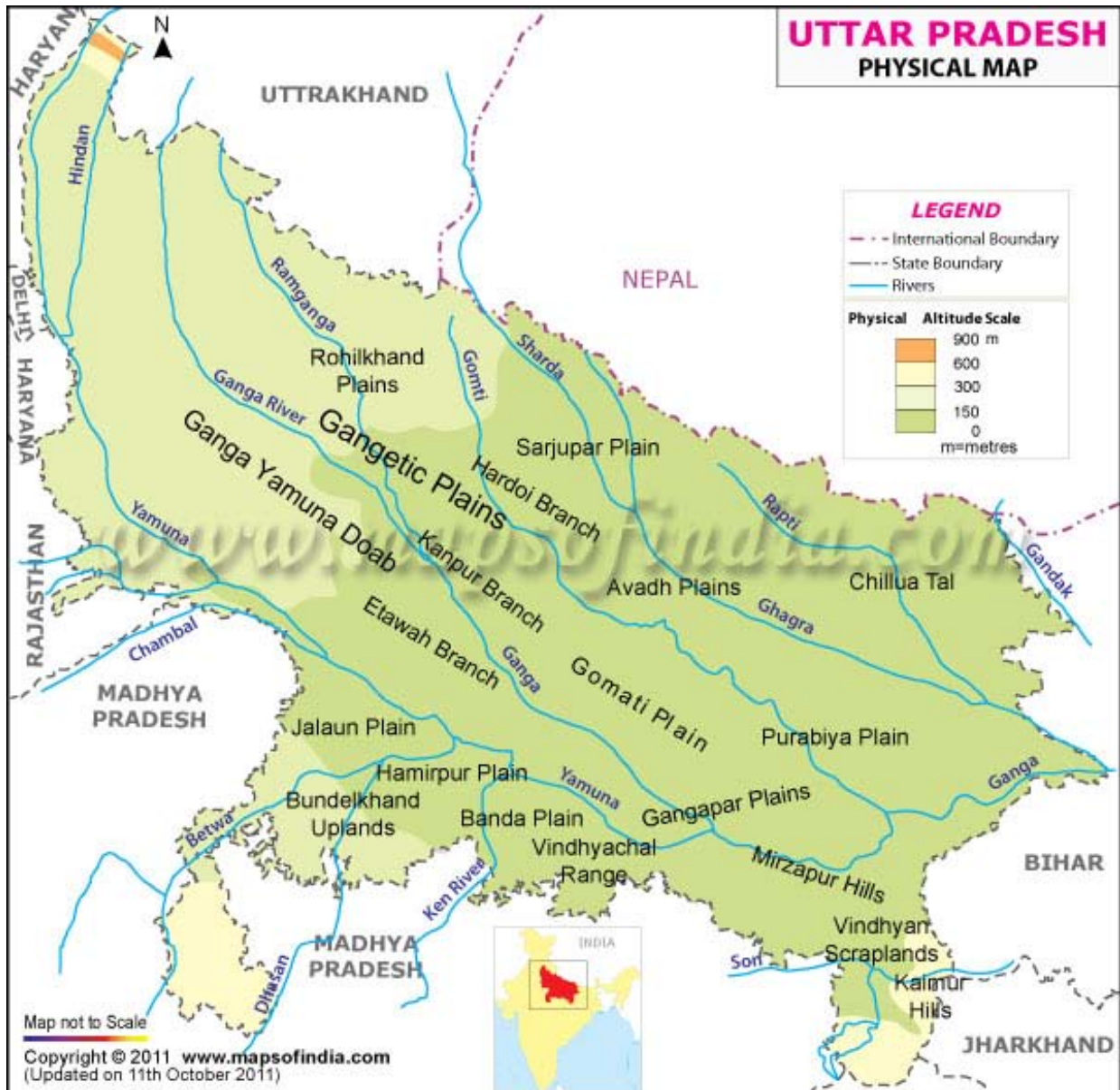


Figure 2-2: Physical Map of Uttar Pradesh

2.2 Geology

The geological formation of the state is characterised by rock formations ranging in age from the Archean (the Bundelkhand Graniticgneisses) to the Recent (the Ganga alluvium). The Ganga plain which dominates the landscape and nearly covers three fourth of the geographical area of the State, lies between the rocky Himalayan belt in the north and the southern hilly tract comprised of mainly Pre-Cambrian rocks. Flexing of the Indian lithosphere in response to the compressive forces due to collision, and thrust fold loading produced the Ganga Plain foreland basin. It is filled with recent alluvial sediments which are at places more than 1,000m. thick and an amalgam of sand, silt, clay in varying proportions the southern hilly tract is roughly parallel to the Ganga-Yamuna lineament. The tract is underlain by granitic complex in Bundelkhand region and in Sonbhadra. It is overlain by rocks Mahakoshal (Bijawar) and Vindhyan Supergroup. The younger rock comprise of coal bearing Gondwana in south Sonbhadra and



basaltic rocks in southern part of Lalitpur.

The granitic complex is considered to be potential for the search of metallic minerals like copper, lead, zinc, molybdenum, gold, nickel, uranium and platinum group of elements. The overlying sediments of Mahakoshal (Bijawar) and associated Iron Formation show a potential for the search of copper, uranium, and gold in Lalitpur and alusite, sillimanite, gold, calcite, marble and clay in Sonbhadra. The lower Vindhyan sediments of Sonbhadra contain deposits of cement grade limestone, flux grade dolomites, building stone and are also potential for the search of placer gold and other metals. While the Upper Vindhyan sandstones are suitable for making decorative slab/tiles or ballast. Deposits of silica sands and bauxite are available in Allahabad and Chitrakoot districts while coal deposits occur in the Gondwana rocks in southwestern corner of Sonbhadra. The geological map of Uttar Pradesh is given in **Figure 2.3**.

Seismic Zone: According to GSHAP data, the state of Uttar Pradesh falls in a region of moderate to high seismic hazard. The Seismic Zone of Uttar Pradesh is shown in **Figure 2.4**.

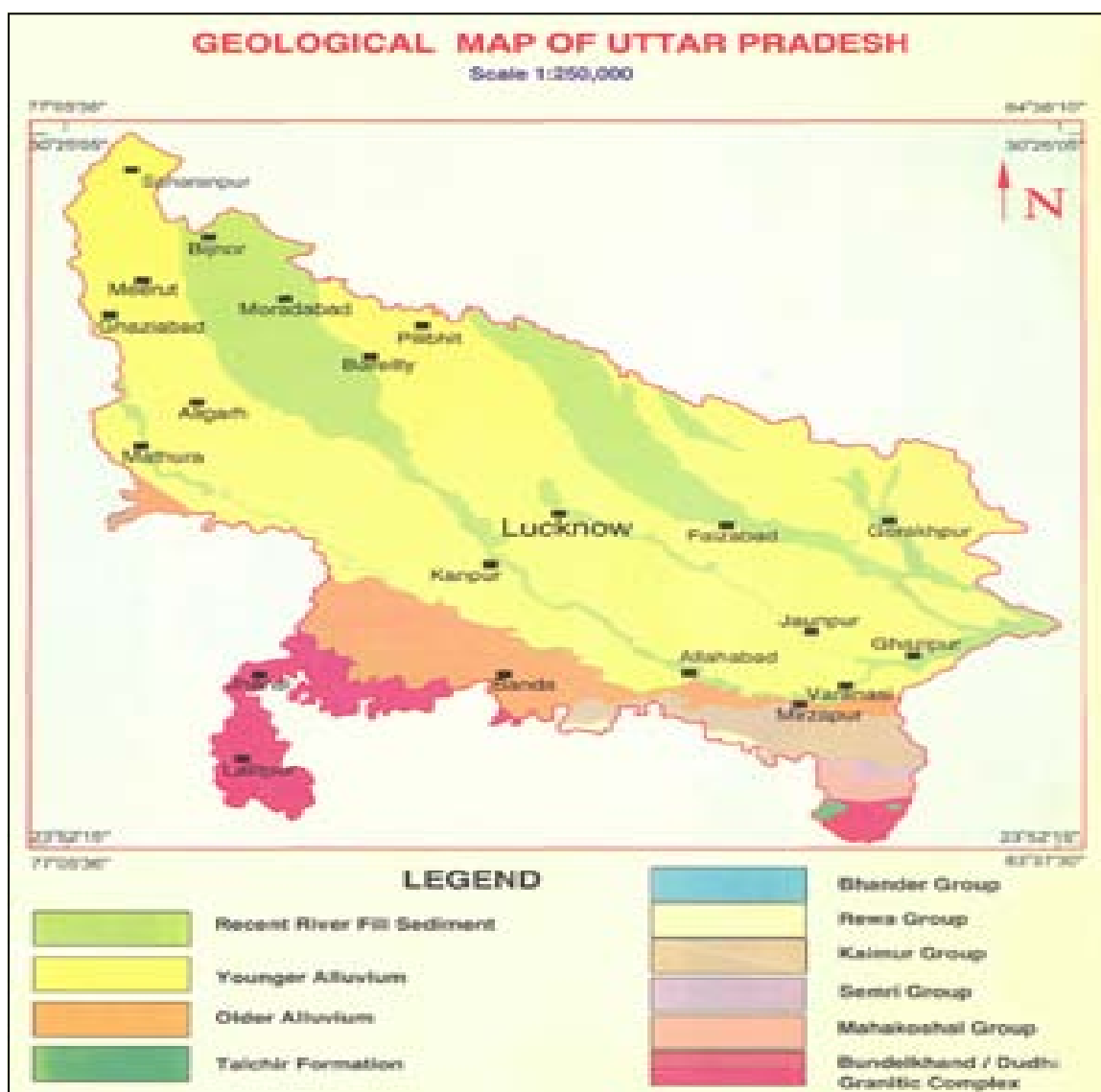


Figure 2-3: Geological Map of Uttar Pradesh

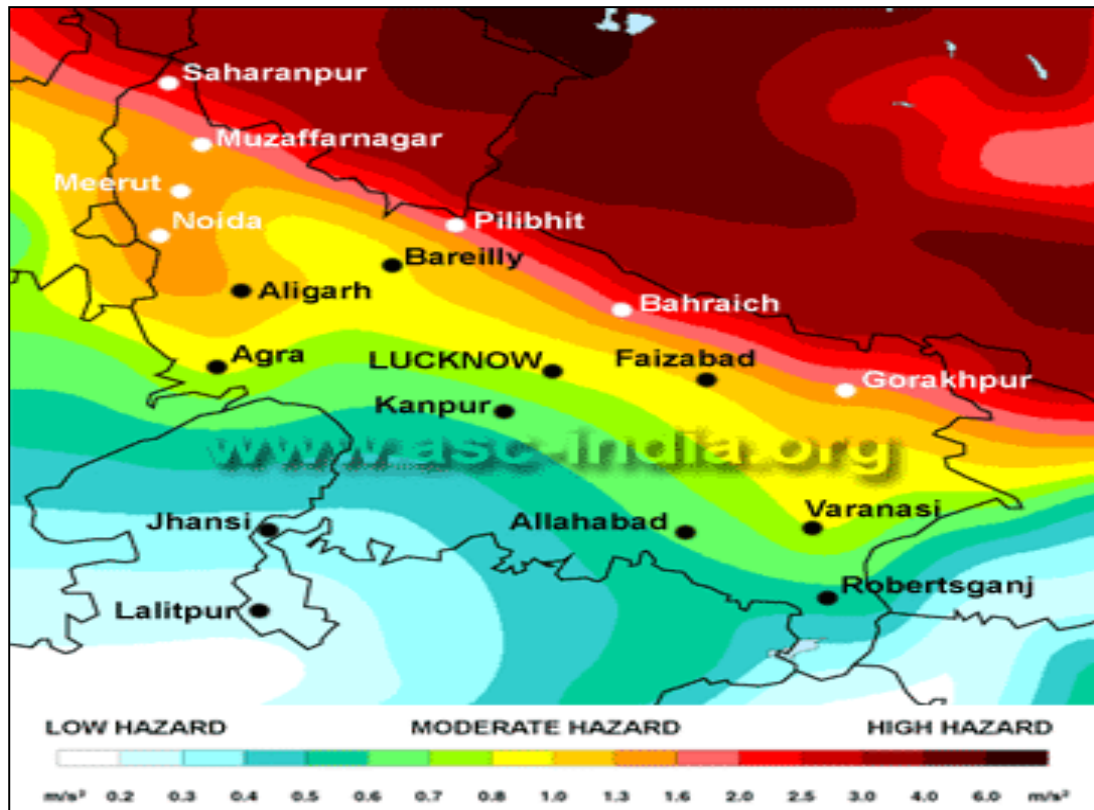


Figure 2-4: Seismic Zone of Uttar Pradesh

2.3 Soils

The dominant soil landscapes, representing the northern plains, constitute gently to very gently sloping lands. In some area the soil is highly calcareous. The soils in general are neutral in reaction and have moderate clay and low organic carbon content. Traditionally rain fed and irrigated agriculture is common. The main crops grown are rice, maize, pigeon pea, sorghum, pearl millet, moong beans during kharif and wheat, bengal gram, green peas, rapeseed and mustard and lentil during rabi season. Sugarcane is the main cash crop. Rice-wheat cropping system is more predominant.

In the western districts of Uttar Pradesh viz. Saharanpur, Meerut, Muzaffarnagar, Bijnor, Moradabad, Pilibhit and Bareilly, the soil is typically the same. It is, generally, deep brown and loamy in some places, also mixed with sand. The soil is shallow, gravely and full of stones – being generally acidic. In the western plains (Saharanpur, Meerut and Muzaffarnagar) the soil is deeper and fertile. Further east- wards (Bareilly, Moradabad, Bijnor and Pilibhit) the soil gets to be loamy, still further down the Pilibhit district, some of the soil become acidic while the rest shows some alkaline properties. The soil in the central regions comprising Lakhimpur Kheri, Sitapur, Lucknow, Barabanki, Hardoi, Kanpur and Azamgarh districts is loamy and sandy loms.

In the eastern part of the state, the districts of Gorakhpur, Basti, Mahrajganj, Siddarthnagar and Gonda contain two varieties of the soil, which are locally known as 'bhat' and 'banjar'. The alluvial soil is called 'dhuh'. The one described as 'mant' is loamy sandy- calcareous, comparatively. The soil in the north western district of the state contains less of phosphate. The district of Jaunpur, Azamgarh and Mau are found to be lacking in potash and the drier areas are known as 'usar' and 'reh'. The soil of Aligarh, Mainpuri, Kanpur, Etah, Etawah, Sitapur, Unnao, Raibareilly and



Lucknow is salt affected and known as 'usar' and 'reh' soils.

Mixed red and black soil is found in the Jhansi division of the state and the districts of Mirzapur and Sonbhadra as well as the Karchhana and Meja tehsils of Allahabad besides Chakia and Varanasi district. Black soil is sticky, calcareous and fertile. It expands as it soaks moisture and contracts on drying up. In the upper plateau of these districts the soil is red and is of two kinds – 'parwa' and 'rackar'. 'Parwa' is light sandy or sandy-loam while 'rackar' is alkaline.

2.4 Climate

Uttar Pradesh has a humid subtropical climate and experiences four seasons. The winter in January and February is followed by summer between March and May and the monsoon season between June and September. Summer Temperatures shoot upto 43 degree celcius in the summer months of April, May and June. Torrid, scorching winds blow throughout the plains of U.P. generally. In the winter the weather temperature oscillates between 12.5 and 17.5 degree celcius. Agra and Jhansi are the hottest districts. The Gangetic plain varies from semiarid to sub-humid. The mean annual rainfall ranges from 650 mm in the southwest corner of the state to 1000 mm in the eastern and southeastern parts of the state. About 90% of the rainfall occurs during the southwest Monsoon, lasting from about June to September. With most of the rainfall concentrated during this four-month period, floods are a recurring problem and cause heavy damage to crops, life, and property, particularly in the eastern part of the state, where the Himalayan-origin rivers flow with a very low north-south gradient. Some sporadic rains due to the western disturbances and North-East Monsoon also occur in different part of the state. Rainfall pattern is shown in **Figure 2.5**.

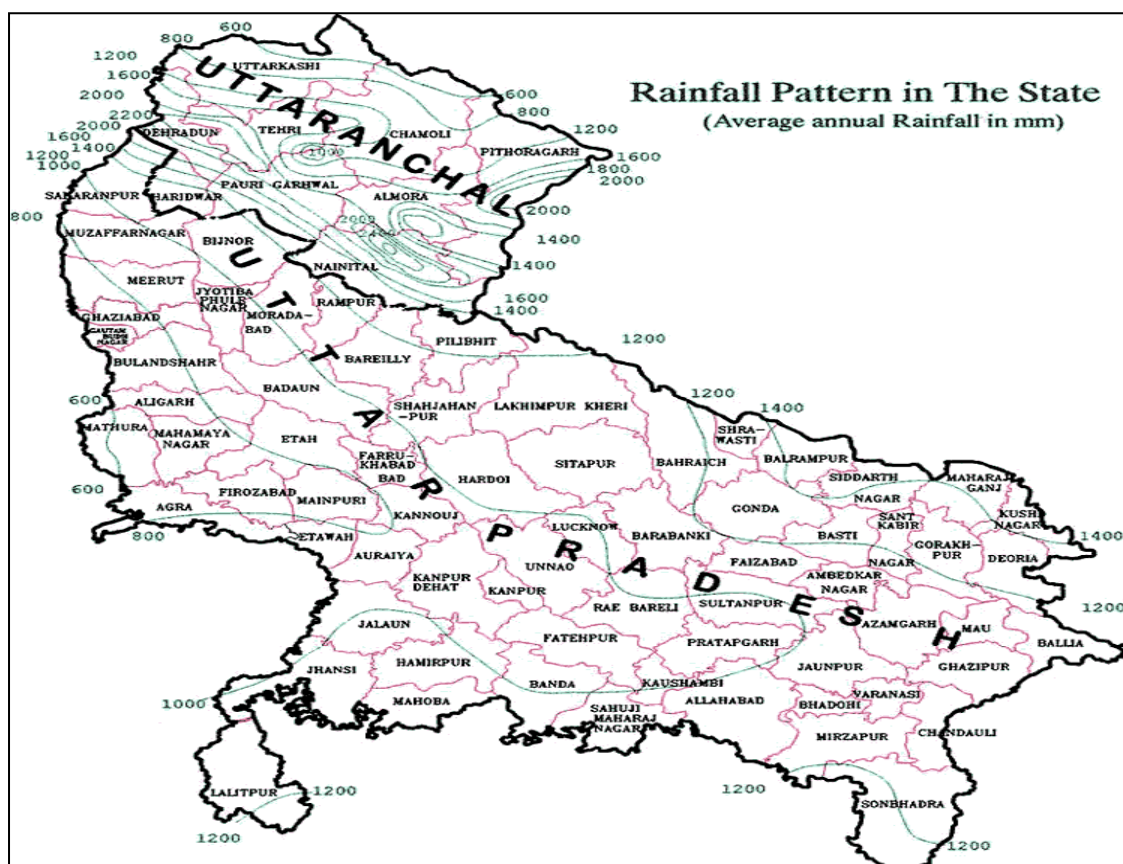




Figure 2-5: Rainfall Pattern in Uttar Pradesh

2.5 Drainage

The state is well drained by a number of rivers originating in either the Himalayas to the north or the Vindhya Range to the south. The Ganges and its main tributaries—the Yamuna, the Ramganga, the Gomati, the Ghaghara, and the Gandak are fed by the perpetual snows of the Himalayas. The Chambal, the Betwa, and the Ken, originating from the Vindhya Range, drain the southwestern part of the state before joining the Yamuna. The Sone, also originating in the Vindhya Range, drains the southeastern part of the state and joins the Ganges beyond the state. The Gangetic plain stretches across the entire length of the state from east to west. The entire alluvial plain can be divided into three sub-regions. The first in the eastern tract consisting of 14 districts which are subject to periodical floods and droughts and have been classified as scarcity areas. The other two regions, the central and the western are comparatively better with a well-developed irrigation system. They suffer from water logging and large-scale user tracts. The Gangetic plain is watered by the Yamuna, the Ganges and its major tributaries, the Ramganga, the Gomati, the Ghaghara and Gandak. The whole plain is alluvial and very fertile. The Southern fringe of the Gangetic is demarcated by the Vindhya Hills and plateau. It comprises the four districts of Jhansi, Jalaun, Banda, and Hamirpur in Bundelkhand division, Meja and Karchhana tehsils of Allahabad district, the whole of Mirzapur District south of Ganges and Chakia tehsil of Varanasi District. The ground is strong with low hills. The Betwa and Ken rivers join the Yamuna from the south-west in this region. The map of major rivers and drainage basins is presented in **Figure 2.6**.

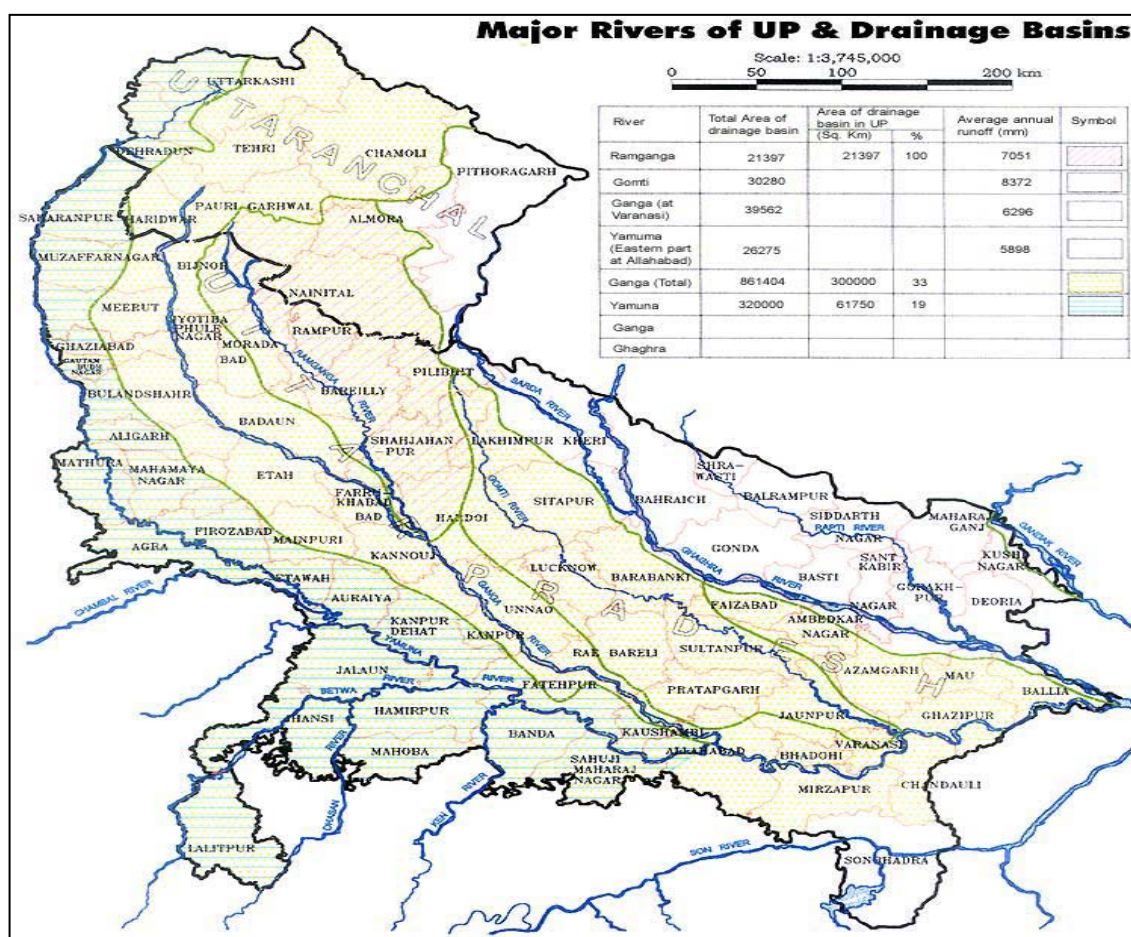


Figure 2-6: Drainage Pattern of Uttar Pradesh

2.6 Hydrogeology

Hydrogeologically, the States can be divided into Five units namely (1) Bhabar (2) Tarai (3) Central Ganga plains (4) Marginal Alluvial plains and (5) Southern Peninsular zone. The first one is in the extreme north followed successively by the rest southwardly. The yield of tube wells tapping Bhabar and Tarai zones ranges between 100-300 m³/hr and 100-200 m³/hr, respectively. The water level is deep in Bhabar where as in Tarai auto flow conditions are noticed with piezometric head of 6-9 magl. The Central Ganga plain is characterized by low relief and numerous alluvial features. There are four major aquifers in the depth range of 700 mbgl. The yield of these tube wells ranges from 90 to 200 m³/hr. The thickness of sediments in Marginal alluvium is 50-300 m and yield of tube wells is between 35 to 70 m³/hr. The yield prospects of Vindhyan & Crystalline rocks in the southern peninsular region are limited.

2.7 Environmental Quality

2.7.1 Ambient Air Quality

In general the state suffers from high dust problem. The state pollution control board conducts regular monitoring of ambient air quality in major towns of the state. The annual average ambient air quality in 2012 (Refer to Table 2.1) suggests that in all the major towns/cities, the concentration of PM₁₀ was higher than the prescribed limit. Kanpur, Ghaziabad, Firozabad, Bareilly



and Allahabad were among the most polluted cities as per the monitoring results of 2012. The concentrations of SO₂ and NO₂ in the air were found within the prescribed limit.

Table 2-1: Average Ambient Air Quality of Major Cities of U.P. in the Year 2012

S. No.	Name of District	Name of Station	Category	Concentration (µg ⁻³)		
				PM ₁₀	SO ₂	NO ₂
1	Lucknow	Hazratganj	Commercial	181.4	7.7	30.9
		Mahanagar	Residential	183.4	7.7	30.8
		Talkatora	Industrial	197.0	8.2	32.5
		Aliganj	Residential	178.8	7.8	32.1
		Sarai Mali Khan Chowk	Commercial	189.0	7.9	31.6
2	Kanpur	Darshanpurva	Commercial	212.5	7.5	37.5
		Kidwai Nagar	Residential	203.1	6.8	41.2
		Panki Site-5	Industrial	214.8	7.9	38.7
		Shastri Nagar	Residential	203.1	7.5	37.3
		Awas Vikas Kalyanpur	Residential	200.1	7.3	37.3
		Dada Nagar	Residential	306.5	21.8	33.7
		I.I.T. Campus	Residential	171.2	2.1	10.5
		Ramadevi	Commercial	295.5	2.8	31.6
3	Agra	Bodla	Sensitive	184.1	7.9	18.0
		Nunhai	Sensitive	216.4	9.4	23.8
4	Sonebhadra	Anpara Colony	Residential	132.5	17.5	27.4
		Renu Sagar Colony	Residential	136.7	17.6	27.4
5	Gajraula	Raunak Auto	Industrial	150.2	18.8	27.5
		Indra Chowk	Commercial	161.2	21.4	30.8
6	Ghaziabad	Sahaibabad	Industrial	249.3	29	33.9
		Bulandshahar	Industrial	243.0	29.7	34.2
7	Varanasi	Jawahara Nagar	Residential	139.3	17.7	21
		Shivpur	Residential	139.4	18	21.6
8	Noida	G.P. Electroplating Ltd.	Industrial	141	9.3	36.1
		R.O. Noida	Residential	136.7	8.1	31.5
9	Firozabad	C.D.G.I., S.N. Marg	Sensitive	219.9	13.8	32.3
		Tilak Nagar	Sensitive	206.4	12.3	29.8
		Raza Ka Tal	Sensitive	202.3	12.9	32.4
10	Jhansi	Virangana Nagar	Residential	96.3	7.1	33.2
		Manik Chowk	Industrial	124.3	8.4	23.0
11	Khurja	CGCRI Campus	Industrial	177.8	27.6	27.3
		Ahirpara	Residential	160.4	23.0	23.0
12	Allahabad	Square Crossing, Laxmi Talkies	Commercial	347.4	4.8	34.1
		Bharat Yantra Ltd.	Residential	285	3.5	28.3
13	Meerut	Begum Bridge	Commercial	129.5	4.3	41.2
		Kesarganj Thana Railway Road	Residential	128.8	4.2	38.5
14	Moradabad	P.T.C.	Residential	142.1	12.3	20.5
		Budhh Bazar	Commercial	188.7	14.5	25.6
15	Bareilly	I.V.R.I.	Residential	201.9	11.4	21.8
		I.O.C. Office Civil Lines	Commercial	247.9	13.7	24.5
16	Raibareilly	Townhall Colony	Residential	155.5	10.0	14.7
		Koya Mandi Tiraha Lucknow Road	Commercial	169.4	11.9	16.9
		Amawan Road	Industrial	175.7	10.0	14.7
17	Mathura	Combined Defulent Treatment Plant	Sensitive	182.5	21.9	29.7
		Regional Office Building	Sensitive	198.6	23.5	31.1



S. No.	Name of District	Name of Station	Category	Concentration (μg^{-3})		
				PM ₁₀	SO ₂	NO ₂
18	Saharanpur	Clock Tower	Commercial	209.2	9.1	31.2
		I.I.I. Saharanpur	Residential	167.5	11.4	28.5
19	Gorakhpur	M.M.M.E.C.	Residential	87.2	14.3	25.8
		Jal Kal Bhawan	Commercial	130.4	20.2	36.7
		GIDA	Industrial	144.2	22.6	45.1
20	Unnao	I.I.A. Unnao	Industrial	122.0	9.0	34.6
		Krishna Nagar Unnao	Residential	83.9	6.8	29.2

Source: Central Pollution Control Board

2.7.2 Water Quality

The monitoring of surface water quality for different surface water sources including major rivers and ponds are regularly conducted by the U.P. State Pollution Control Board. The annual averages surface water quality of major rivers and other water body for the year 2012 is presented in **Table 2.2**. Almost all the surface water bodies, from where water samples were collected, show high biological contamination in terms of Total Coliforms.

Table 2-2: Surface Water Quality of Famous River and Other Water Bodies of U.P. (Average 2012)

S. No.	Name of District	Name of River	Sample Collection Point	Year 2012		
				DO (mg/l)	BOD (mg/l)	Total Coliform (MPN/100 ml)
1	Ghaziabad	Ganga River	Down Stream, Garh Muktaswar	8.58	3.37	2125
2	Bulandshahr	Ganga River	Up Stream AnoopShahr	8.71	3.12	975
3	Bulandshahr	Ganga River	Down Stream AnoopShahr	8.38	3.22	1112
4	Bulandshahr	Ganga River	Raj Ghat Down Stream, Naurara	8.59	2.64	1178
5	Bulandshahr	Ganga River	Kachlaghat, Budaun	8.33	2.76	1517
6	Kannauj	Ganga River	Up Stream, Kannauj	8.56	3.99	24118
7	Kannauj	Ganga River	Down Stream, Kannauj	8.25	4.78	29236
8	Kanpur	Ganga River	Bithoor, Kanpur	8.63	4.13	17245
9	Kanpur	Ganga River	Up Stream, Kanpur	9.14	4.26	26691
10	Kanpur	Ganga River	Down Stream, Kanpur	6.74	8.30	111818
11	Raibareilly	Ganga River	Dal Mau, Raibareilly	7.68	3.50	7883
12	Pratapgarh	Ganga River	Kalakankar, Pratapgarh	7.80	3.43	7658
13	Kaushambi	Ganga River	Kadaghat, Kaushambi	7.81	4.83	4958
14	Allahabad	Ganga River	Up Stream, Allahabad	7.71	5.25	7500
15	Allahabad	Ganga River	Down Stream, Allahabad	7.41	5.13	9583
16	Mirzapur	Ganga River	Up Stream, Vindhyachal, Mirzapur	8.50	2.76	2575
17	Mirzapur	Ganga River	Down Stream, Mirzapur	7.84	3.31	4058
18	Varanasi	Ganga River	Up Stream, Varanasi	7.88	3.20	9167
19	Varanasi	Ganga River	Down Stream, Varanasi	7.40	4.95	44000



S. No.	Name of District	Name of River	Sample Collection Point	Year 2012		
				DO (mg/l)	BOD (mg/l)	Total Coliform (MPN/100 ml)
20	Ghazipur	Ganga River	Ganga River, Tarighat, Gazipur	7.44	3.67	16833
21	Varanasi	Varuna River	Rameshwar, Varanasi	7.53	3.45	14175
22	Varanasi	Varuna River	Before Meeting Ganga River	5.10	14.77	112583
23	Meerut	Kali River (E)	Kar Koda parishitgarh Road, Village Kol	NIL	82.16	354583
24	Kannauj	Kali River	Kannauj	7.19	6.38	26800
25	Kannauj	Ram Ganga	Kannauj	7.73	5.66	21436
26	Unnao	Sai River	Unnao	7.90	2.83	3750
27	Jaunpur	Sai River	Jalalpur Jaunpur	7.68	3.41	13200
28	Saharanpur	Hindon	Down Stream, Saharanpur	1.16	18.90	1655
29	Noida	Hindon	Down Stream, Kuleshra	NIL	45.56	212500
30	Meerut	Hindon	Sardhana-Budhna Road, Village Baparasi	NIL	51.24	268750
31	Sitapur	Gomti River	Up Stream , Sitapur	7.88	2.56	1992
32	Lucknow	Gomti River	Up Stream , Lucknow	7.25	3.16	3783
33	Lucknow	Gomti River	Down Stream , Lucknow	2.68	8.98	105417
34	Jaunpur	Gomti River	Down Stream , Jaunpur	7.50	3.50	16417
35	Varanasi	Gomti River	Before Meeting Ganga River, Rajwari	7.70	3.35	13750
36	Faizabad	Saryu River	Saryu, Faizabad	9.08	2.56	6583
37	Mathura	Yamuna River	Shahpur, Mathura	4.26	9.80	43400
38	Vindavan	Yamuna River	Kaysee Ghat, Vrindavan	3.80	11.15	61800
39	Mathura	Yamuna River	Vishram Ghat, Mathura	3.62	12.06	99700
40	Allahabad	Yamuna River	Yamuna Allahabad	7.23	2.36	3226
41	Sonebhadra	Rihandbandh	Up Stream, Renukoot	7.18	1.40	1858
42	Sonebhadra	Rihandbandh	Down Stream, Renukoot	7.38	1.63	2167
43	Gorakhpur	Ghaghra	Badhalganj, Gorakhpur	7.63	3.08	378
44	Deoria	Ghaghra	Down Stream, Deoria	7.64	2.92	339
45	Gorakhpur	Rapti	Down Stream, Gorakhpur	7.63	2.84	251
46	Gorakhpur	Rapti	Raj Ghat Down Stream, Gorakhpur	7.48	3.29	399
47	Gorakhpur	Ramgarh Lake	Ramgarh Lake, Gorakhpur	8.34	5.15	576
48	Hamirpur	Betwa River	Betwa, Hamirpur	6.49	2.56	18250
49	Jhansi	Govind Sagar	Govind Sagar, Jhansi	6.53	2.20	14750
50	Raibareilly	Lake	Sarnapur Lake, Raibareilly	5.50	4.38	8480
51	Jhansi	Pond	Mahil Talab, Orai, Jalaun	2.19	28.50	46500



S. No.	Name of District	Name of River	Sample Collection Point	Year 2012		
				DO (mg/l)	BOD (mg/l)	Total Coliform (MPN/100 ml)
52	Jhansi	Pond	Lakshmi Talab, Jhansi	0.52	37.00	70250
53	Muzaffarnagar	Pond	Suk Taal Near Ganga River	7.60	1.63	-

Source Central Pollution Control Board, 2012

2.8 Ecological Resources

2.8.1 Forests

The state has an abundance of natural resources. In 2013, the recorded forest area in the state was 14,349 km² which is about 5.96% of the state's geographical area. As per Indian State of Forest Report 2013, the total forest cover in Uttar Pradesh is 14,349 km². Out of this very dense forest is 1,623 km², moderately dense forest covers 4,550 km² and open forest covers 8,176 km².

Out of the total forest cover, 70.31 percent of the forest cover is Reserve Forest, 8.75 percent area is Protected Forest and rest 21.12 percent is Unclassed Forests. The existing forests in Uttar Pradesh can be classified into three categories: (i) wet tropical deciduous forests (ii) dry tropical deciduous forests and (iii) tropical thorny forests.

Wet tropical forests are situated in areas which receive an annual rainfall of 100 to 150 centimeters, a special feature of which is that deciduous trees of uneven shapes and sizes are to be found in elevated areas while the low-lying areas have a significant presence of bamboo, creepers and climbers as also cane together with green bushes. The trees that grow chiefly in these forests are: sal, plum, goolar, palash, mahua, amla, dhak, jamun etc.

Dry deciduous forests are to be generally found in the plains of almost the whole of central and western regions of the state. Bushes and grasses grow here in abundance because of sun light travelling right upto the ground level. Large tracts of land have, however, been cleared for agricultural purposes in these forests where sal, fig, palash and teak besides trees such as neem, peepal, mango, jamun, mahua and acacia grow nearby in rivers or in places containing moisture.

Thorny forests abound, mostly, in the south western parts of the State where rainfall is scanty (40 to 60 cms. annually). Long stretches of land are covered with thorny bushes and stunted trees, mainly, acacia and other fruit-bearing prickly plants. The land appears to be carpeted, temporarily, by short grass during the monsoon. Altogether, this part of the state is permanent open dry woodland in which a variety of trees grow, yielding resin and gum. The district wise forest coverage is presented in the **Table 2.3**.

Table 2-3: District Wise Forests Cover in Uttar Pradesh in Year 2013

S. No.	District	Geographical Area (GA) (Sq. Km)	Forest Area (Sq Km)				Percentage of GA	Scrub (Sq Km)
			Very Dense Forest	Mod. Dense Forest	Open Forest	Total		
1	Agra	4,027	0	65	208	273	6.78	74
2	Aligarh	3,650	0	7	60	67	1.84	2
3	Allahabad	5,137	0	27	69	96	1.87	48
4	Ambedkar Nagar	2,337	0	2	32	34	1.45	0
5	Azamgarh	4,234	0	1	26	27	0.64	0
6	Bagpat	1,321	0	5	13	18	1.36	0



S. No.	District	Geographical Area (GA) (Sq. Km)	Forest Area (Sq Km)				Percentage of GA	Scrub (Sq Km)
			Very Dense Forest	Mod. Dense Forest	Open Forest	Total		
7	Bahraich & Shravasti	6,878	290	315	243	848	12.33	4
8	Balia	3,349	0	0	25	25	0.75	1
9	Balrampur	2,981	225	188	116	529	17.75	3
10	Banda	4,532	0	26	77	103	2.27	29
11	Barabanki	4,402	0	4	79	83	1.89	5
12	Bareilly	4,120	0	7	37	44	1.07	0
13	Basti	2,688	0	5	13	18	0.67	0
14	Bijnore	4,561	42	228	147	417	9.14	3
15	Badaun	5,168	0	12	32	44	0.85	6
16	Bulandshahar	2,910	0	33	83	116	3.99	0
17	Chandauli	2,549	6	194	365	565	22.17	12
18	Chitrakoot	3,092	0	358	205	563	18.21	28
19	Deoria	2,538	0	1	14	15	0.59	0
20	Etah	4,446	0	9	89	98	2.20	0
21	Etawa	2,311	0	44	146	190	8.22	48
22	Faizabad	2,174	0	5	50	55	2.53	0
23	Farrukhabad	2,181	0	13	33	46	2.11	0
24	Fatehpur	4,152	0	7	38	45	1.08	14
25	Firozabad	2,361	0	4	44	48	2.03	25
26	Gautam Budh Nagar	1,442	0	12	24	36	2.50	0
27	Ghaziabad	2,590	0	18	32	50	1.93	0
28	Ghazipur	3,377	0	1	30	31	0.92	0
29	Gonda	4,003	0	60	47	107	2.67	0
30	Gorakhpur	3,321	0	40	24	64	1.93	0
31	Hamirpur	4,282	0	66	108	174	4.06	39
32	Hardoi	5,986	0	7	113	120	2.00	2
33	Hathras	1,840	0	1	22	23	1.25	0
34	Jyotiba Phule Nagar	2,249	0	24	62	86	3.82	0
35	Jalaun	4,565	0	65	180	245	5.37	49
36	Jaunpur	4,038	0	11	40	51	1.26	0
37	Jhansi	5,024	0	33	181	214	4.26	114
38	Kannauj	2,093	0	0	28	28	1.34	0
39	Kanpur Nagar & Dehat	6,176	0	12	97	109	1.76	37
40	Kaushambi	2,124	0	7	20	27	1.27	0
41	Kheri	7,680	409	475	427	1,311	17.07	1
42	Kushinagar	2,906	0	3	32	35	1.2	0
43	Lalitpur	5,039	0	128	444	572	11.35	40
44	lucknow	2,528	0	116	188	304	12.03	3
45	Maharajganj	2,952	239	113	109	461	15.62	2
46	Mahoba	2,884	0	22	73	95	3.29	96
47	Mainpuri	2,760	0	1	13	14	0.51	0
48	Mathura	3,340	0	5	53	58	1.74	6
49	Mau	1,713	0	0	7	7	0.41	0
50	Meerut	2,590	0	34	32	66	2.55	0
51	Mirzapur	4,521	0	323	544	867	19.18	51
52	Moradabad	3,718	0	5	21	26	0.7	0
53	Muzaffarnagar	4,008	0	14	27	41	1.02	0
54	Oraiya	2,015	0	8	60	68	3.37	11
55	Pilibhit	3,499	340	157	193	690	19.72	0
56	Pratapgarh	3,717	0	25	68	93	2.5	2
57	Rai Bareli	4,609	0	5	93	98	2.13	1



S. No.	District	Geographical Area (GA) (Sq. Km)	Forest Area (Sq Km)				Percentage of GA	Scrub (Sq Km)
			Very Dense Forest	Mod. Dense Forest	Open Forest	Total		
58	Rampur	2,367	4	26	47	77	3.25	0
59	Saharanpur	3,689	0	175	200	375	10.17	0
60	Sant Kabir Nagar	1,646	0	0	2	2	0.12	2
61	Sant Ravidas Nagar	1,015	0	0	1	1	0.1	0
62	Shahjahanpur	4,575	23	63	37	123	2.69	0
63	Siddharth Nagar	2,895	0	9	31	40	1.38	0
64	Sitapur	5,743	0	14	200	214	3.73	6
65	Sonbhadra	6,788	45	870	1,625	2,540	37.42	40
66	Sultanpur	4,436	0	15	162	177	3.99	0
67	Unnao	4,558	0	26	224	250	5.48	0
68	Varanasi	1,528	0	1	11	12	0.79	0
	Grand Total	2,40,928	1,623	4,550	8,176	14,349	5.96	806

Source: India State of Forest Report, 2013, Forest Survey of India, Ministry of Environment and Forests, Government of India

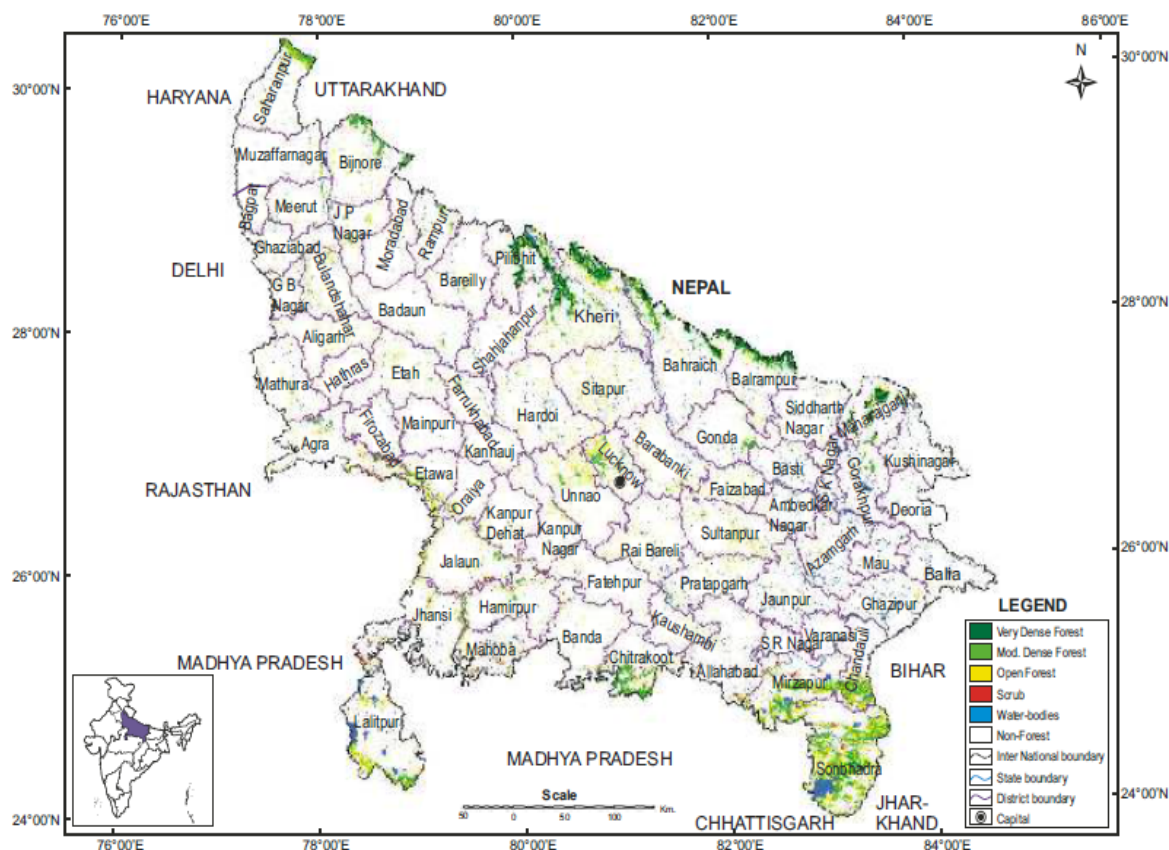
2.8.2 Roadside Trees

The predominant tree species along roads are neem, teak, shisham, babul and eucalyptus. Apart from this mango, peepal, ornamental trees like gulmohar, amaltas, *Acacia auriculiformis*, etc are prominent species. In most of the roads forest department has planted trees. In Uttar Pradesh, linear plantation along National Highways, State Highways and Canals within right of way has been declared as Protected Forests. Hence, felling of trees within existing ROW will attract provisions of Forest Conservation Act, and case documentation for diversion of forest area for non forest purpose will applicable required.

2.8.3 Fauna

Uttar Pradesh has vivid fauna and flora. The fauna of UP consists Tigers, Cats, Antelopes, Deer, Wild Boars, Elephants, Rhinos and other animals that are common in basin. Chinkara, Sambar and Chital, Neel Gai, Swamp Deer, Hispid Hare and Bengal Floricans, Black Buck are the other common wild animals found in different forests of Uttar Pradesh.

The avian population here comprises a mix of residents as well as migratory birds. The birds migrate across Himalayas from Tibet, China, Europe and Siberia during winters. Some of these birds fly over 5000 km and above 8500 meters high to reach here. Some of the major migratory birds during the season are greylag goose, pintail, cotton teal, red-crested pochard, gadwall, shoveler, coot and mallard. Some major local migratory and residential birds are spotwill, Sarus crane, painted stork, peacock, white ibis, dabchick, whistling teal, open-bill stork, white-necked stork, pheasant-tailed jacana, bronze winged jacana, purple moorhen, lapwing, tern vulture, pigeon, king crow, Indian roller and bee eater.



Source: India State of Forest Report, 2013, Forest Survey of India, Ministry of Environment and Forests, Government of India

Figure 2-7: Forest in Uttar Pradesh

2.8.4 Wildlife Sanctuary/ National Parks

Uttar Pradesh has one National Park and 23 Wildlife Sanctuary covering a total area of 5712 sq Km, which contributes 2.37 percent of the state's geographical area. The list of National Park and Sanctuaries of the state is presented in the **Table 2.4**.

Table 2-4: Wildlife Sanctuaries/ National Parks in Uttar Pradesh

S. No.	National Park/ Sanctuary	District	Remarks
1	Dudhwa National Park	Lakhimpur Kheri	All the three wildlife park put together to form the Dudhwa Tiger Reserve.
2	Kishanpur Wildlife Sanctuary	Lakhimpur Kheri	
3	Katarniaghat Wildlife Sanctuary	Bahraich	
4	Pilibhit Tiger Reserve	Pilibhit	
5	Nawabganj Bird Sanctuary	Unnao	
6	Hastinapur Sanctuary	Meerut, Muzaffarnagar, Ghaziabad, Bijnor, Jyoti-ba Phule Nagar	
7	National Chambal Wildlife Sanctuary	Agra, Etawah	
8	Mahavir Swami Sanctuary	Lalitpur	
9	Ranipur Sanctuary	Banda, Chitrakoot	
10	Chandra Prabha Sanctuary	Chandauli	



S. No.	National Park/ Sanctuary	District	Remarks
11	Kaimoor Sanctuary	Mirzapur and Sonbhadra	
12	Lakh Bahosi Sanctuary	Kannauj	
13	Samaspur Sanctuary	Rae Bareli	
14	Suhelva Sanctuary	Balrampur, Gonda, Sravasti	
15	Sandi Bird Sanctuary	Hardoi	
16	Bakhira Sanctuary	Sant Kabir Nagar	
17	Patna Bird Sanctuary	Etah	
18	Sur Sarovar Sanctuary	Agra	
19	Suraha Tal Sanctuary	Ballia	
20	Vijai Sagar Sanctuary	Mahoba	
21	Saman Sanctuary	Mainpuri	
22	Parvati Arga Sanctuary	Gonda	
23	Okhla Sanctuary	Gautam Buddha Nagar	
24	Sohagi Barwa Sanctuary	Maharajganj	
25	Kachhua Sanctuary	Varanasi	



Figure 2-8: Wildlife Sanctuaries and National Parks in Uttar Pradesh



The largest wildlife reserve in Uttar Pradesh is Dudhwa National Park that is situated in the district of Lakhimpur Kheri. Stretched in an area of nearly 500 square Kilometers, Dudhwa National Park is close to the Tarai region of Nepal and boasts off a vivid fauna and flora. This is the only park in UP where one can see tigers and rhinos. Apart from Dudhwa, the other very important reserve is Chandra Prabha sanctuary that is situated in the district of Mughal Sarai. Though this park is devoid of any member of the Indian Cat families, it has various species of Deer and Antelopes. Stretched in less that 80 square Kilometers, the park boasts off Chinkara, Sambar and Chital.

Pilibhit Tiger Reserve is home to a large number of rare and threatened species, which include Bengal tiger, Indian leopard, Swamp Deer, Hispid Hare and Bengal Floricans.

Stretched along the districts of Mirzapur in UP and Bhojpur in Bihar, Kaimoor wildlife sanctuary covers an area of around 500 square Kilometers. This sanctuary is famous for Tarai Panthers and Blackbuck. Equally popular if not more is Nawab Gunj bird sanctuary near Lucknow. This bird sanctuary boasts some of the rare bird species in India. Among others, Pochard and Shoveller can be found in abundance in this park.

2.8.5 Wetlands

The state is dotted with a number of natural wetlands. Some of them are having significant ecological importance and protected. The district wise distributions of such wetlands are presented in **Table 2.5**.

Table 2-5: District wise Wetland Area Estimates in Uttar Pradesh

District	Total Reported Area (ha)	Total No. of Wetlands	Wetland Area Pre-monsoon		Wetland Area Post-monsoon	
			(ha)	% of Total Area	(ha)	% of Total Area
Agra	399784	14	489	0.12	489	0.12
Akbarpur (Kanpur Dehat)	511136	25	3022	0.59	3022	0.59
Aligarh	502170	40	4244	0.85	4244	0.85
Allahabad	727463	64	8816	1.21	9066	1.25
Azamgarh	421985	48	4234	1.00	4657	1.10
Badaun	520523	52	5812	1.12	5812	1.12
Ballia	299265	35	5608	1.87	5739	1.92
Barabanki	447575	56	6194	1.38	7105	1.59
Bareilly	407490	28	1666	0.41	1666	0.41
Bijnor	484800	13	3465	0.71	4234	0.87
Bulandshahar	437139	17	1662	0.38	1662	0.38
Etah	443282	58	4841	1.09	4841	1.09
Etawah	436650	51	4256	0.97	4703	1.08
Faizabad	442694	27	2490	0.56	2490	0.56
Farrukhabad	428059	59	4841	1.13	4841	1.13
Fatehpur	421983	29	3917	0.93	3917	0.93
Firozabad	236274	30	4196	1.78	4196	1.78
Ghaziabad	258768	12	1721	0.66	1721	0.66
Gazipur	333209	26	6509	1.95	6705	2.01
Hardoi	598799	156	17300	2.89	17577	2.94
Haridwar	190849	3	423	0.22	423	0.22
Jaunpur	399713	26	2695	0.67	2695	0.67
Kanpur	104 328	6	353	0.34	353	0.34
Khiri	765 866	71	9341	1.22	10062	1.31
Lucknow	251 926	53	3053	1.21	3122	1.24



Mainpuri	274 058	62	6883	2.51	6883	2.51
Mathura	399 734	36	3518	0.88	3518	0.88
Mau	171 776	31	3874	2.26	5463	3.18
Meerut	392 812	8	2314	0.59	2314	0.59
Muradabad	595 378	26	3842	0.65	4525	0.76
Muzzafarnagar	417 553	16	5231	1.25	5231	1.25
Pilibhit	353 900	18	2510	0.71	2510	0.71
Pratapgarh	362 423	47	8570	2.36	9073	2.50
Raibareilly	458 453	86	7676	1.67	8324	1.82
Rampur	235 342	11	556	0.24	556	0.24
Saharanpur	394 941	4	298	0.08	298	0.08
Shahjahanpur	457 500	43	2835	0.62	2835	0.62
Sitapur	572 345	89	9641	1.68	13550	2.37
Sultanpur	439 180	64	4994	1.14	4994	1.14
Unnao	458 260	88	16071	3.51	16326	3.56
Varanasi	508 130	35	3797	0.75	5857	1.15

Source: National Wetland Atlas, 2010

Out of total wetlands of Uttar Pradesh, Brijghat to Narora Stretch of Upper Ganga River extended in Hapur and Bulandshahar districts is among the 26 Ramsar site Indian wetlands deemed to be of "international importance" under the Ramsar Convention.

Apart from this, a total number of 16 wetlands of the state have been included under National Wetlands Conservation Programme. The list of such wetlands is presented in the **Table 2.6**. Most of these wetlands form part of Bird Sanctuary.

Table 2-6: List of Wetlands of Uttar Pradesh identified under National Wetlands Conservation Programme

S. No.	Name of Wetland	District
1	Nawabganj	Gonda
2	Sandi	Hardoi
3	Lakh Bahoshi	Kannauj
4	Samaspur	Rai Baraeli
5	Alwara Wetland	Kaushambi
6	Semarai Lake- complex	Lakhimpur Kheri
7	Nagaria lake	Lakhimpur Kheri
8	Keetham Lake	Agra
9	Shekha Wetland	Aligarh
10	Saman Bird Sanctuary	Mainpuri
11	Sarsai Nawar	Etawah
12	Patna Bird Sanctuary	Etawah
13	Chando Tal	Basti
14	Taal Bhaghel	Bahraich
15	Taal Gambhirvan & Taal Salona	Azamgarh
16	Aadi Jal Jeev Jheel	Hathras

2.9 Floods and Droughts in the State

The State faces flood situation mostly in the northern and eastern parts in the catchments of River Ghaghra and Ganga. Around 73.06 lac ha. is flood-prone and the districts affected are 31 with 154 blocks and 18958 villages. In certain areas, every year flood situation arises whereas in some areas it is once in two to three years.



Regarding drought situation, the Southern part of the State i.e. areas of Bundelkhand and Vindhyan region comprising of eight districts are facing drought situation almost for 3 years in a period of five years. Incidentally, these districts are having less than fifty percent areas under irrigation.

2.10 Social Profile

Uttar Pradesh constitutes one of the largest states in India and the state itself represents one of the largest self-governing areas in the world in terms of population. The State of Uttar Pradesh, whilst fourth largest in India in geographical land area, has a population that is estimated to be of the order of 195 million people, a figure superseded by only six countries in the world. It covers 93,933 square miles (243,290 km²), equal to 6.88% of the total area of India. Hindi is the official and most widely spoken language in its 75 districts. Agriculture and service industries are the largest parts of the state's economy. According to the Uttar Pradesh Census 2011, the density of population in Uttar Pradesh is about 800 people per square kilometer which is way above the national average of about 380 and a major cause of concern. Hinduism is the dominant religion in Uttar Pradesh, followed by a majority of 80% people. Muslims forms the second largest community with a population of 18.4%. Rest of the population follows Sikhism, Buddhism, Christians and Jains. The scheduled castes are 17.5 % of the total population whereas scheduled tribes are less than 2 % of the total population. The literacy rate in the state has gone up in recent years and yet continues to linger at about 70% which is below the national average of 74%. The sex ratio is almost at par with the national average and stands at about 900.

A socio-economic snapshot of the State is given below:

Area	2,40,928 km ²
Population (2011 census)	19.95 crore (16% All India Share of Population)
Density of population (2011)	828 persons per km ²
Decadal Growth (2001-11)	20.80
Literacy rate (2011)	69.72
Tourist & Historical Places	Sarnath (Varanasi), Piprahwa, Kaushambi, Shravasti, Kushinagar, Agra, Lucknow, Chitrakut, Jhansi and Meerut
Total State Income (2009-10) – current prices	INR 4,53,020 crore
Per capita Income (2009-10) current prices	INR 23,132
Cultivated Area (2008-09)	16562 thousand hectare
Motorised Vehicles – on road (2009-10)	1,19,97,000
Total Road Length- 2010	3.0 lakh km
Public Works Department	1.75 lakh km
Other Departments	5.25 Lakh km

A summarized demographical profile (population in Lakhs)also is given below:

Place	Total / Rural/Urban	Total number of Households	Total Population	Male	Female	Scheduled Caste	Scheduled Tribes	Literate Population	Literate Female Population
India	Total	449787	270605	140044	130561	306253	223422	588392	183917
	Rural	192891	157893	81336	76557	177111	144892	251445	89426
	Urban	256896	112712	58708	54004	129142	78530	336947	94491



Uttar Pradesh	Total	72452	47426	24677	22749	79177	3686	104701	30668
	Rural	31225	29594	15165	14429	47593	2251	45091	15963
	Urban	41227	17832	9512	8320	31584	1435	59610	14705

Source: Census of India, 2011

Gender: Discussion with women in the project area shows that women work both for the labour market and for the household. Some of this work is recognized and remunerated, while most of it is not enumerated and remains unpaid. Women's contribution to the household, economy and society goes unrecognized since most of the activities females are involved in do not enter the sphere of the market and remain non-monetized. Most of the work undertaken by women is often interspersed with other household chores, making it difficult to separate the various tasks performed. The perpetuation of gender stereotypes and the social division of labour that typecasts women mainly as workers in the domestic sphere has been the chief barrier to the recognition of women's economic work participation. Non-recognition of women's participation in economic activities is not only an outcome of (a) their work being intertwined with household activities; and (b) being unpaid, making it difficult for enumerators to identify women as workers, but also stems from flawed definitions and the limited scope of economic activity.

At the all-India level, only 30 per cent of women are defined as workers, main or marginal. In Uttar Pradesh female work participation rate is lower than the national figure and the gender gap in work is higher. In female work participation rate, Uttar Pradesh is ranked 2 in the entire country with a participation rate of 20.

Uttar Pradesh has very low sex ratio reflecting the deteriorating situation of women in the state. In addition to the worsening mortality conditions, some of the reasons for this decline lie in increasing economic pressure for survival and sex selective migration. Uttar Pradesh has always recorded sex ratios below the all-India levels and one primary reason is male migration from these states. Child Sex Ratio in Uttar Pradesh is 899 as compared to 914 at all India level.

Female literacy is extremely poor in Uttar Pradesh is ranked among the top 5 worst states in terms of women's literacy. The state also has high gender gap in literacy. This could be because of low enrolment of girl child in primary schools coupled with high dropout rate.

The NFHS III findings highlight that in U.P. 53 percent of the respondent women (between the age of 20-24) were married by the age of 18. While this figure was 30 percent in the urban area, it was a high 60.1 percent in the rural area. 14.3 percent women between the age of 14-19 were already mothers or pregnant. Marriage of girls before the legal minimum age of 18 is a widespread phenomenon in Uttar Pradesh. Nearly 49 percent girls are married below the age of 18 years in Uttar Pradesh. Early age of marriage is both the symptom as well as a cause of women's subordination in the society. Girls are married off early for a complex array of causes. Socially and culturally perceived as "parayadhan", premium is put on virginity and therefore restrictive controls are imposed on her mobility and sexuality. Girls are thus seen to be protected from violence in society by an early marriage.

As per census 2011, employment opportunities seem to be much lower for women in U.P., which restricts their economic empowerment. The work participation rate (WPR) was very low for females at 16.5 percent as compared to 46.8 percent for males.

Indigenous People: In Uttar Pradesh tribes are less than 1% of the total population. The peripheral regions of Uttar Pradesh, are home to a number of tribal communities such as Agaria, Baiga, Bhar, Bhoksa, Bind, Chero, Gond, Kol and Korwa. Five of these tribal communities have



been recognized by the Government of India as disadvantaged scheduled tribes, viz. Tharus, Boksas, Bhotias, Jaunswaris and Rajis. Districts with substantial tribal population includes Sonbhadra; Kheri; Agra; Lucknow; Allahabad; Kanpur; Deoria; and Jaunpur. None of the project districts have substantial tribal population.

2.11 Land Use

The landuse pattern in UP is predominantly agriculture based. The breakup of landuse classification for the year 2008-09, reported by the Ministry of Agriculture, Government of India, is given in **Table 2.7**.

Table 2-7: Land Classification in U.P

S. No.	Land Classification	Area (Thousand Hectares)	Percent (%)
1.	Forest	1658	5.96
2.	Barren and Uncultivated land	486	2
3.	Land under non agriculture uses	2835	12
4.	Waste land unfit for Agriculture	426	2
5.	Permanent pastures and grazing land	66	0.27
6.	Area under trees and grooves	354	1
7.	Current fallow land	1215	5
8.	Other fallow land	538	2
9.	Net area sown	16592	69
Total		24171	100

Source: Landuse Statistics, Ministry of Agriculture, Govt. of India, 2008-2009

2.12 Economic Profile

Uttar Pradesh is a major contributor to the national food grain stock. Partly this is due to the fertile regions of the Indo-Gangetic plain and partly owing to irrigation measures such as the Ganges Canal and tube-wells. Lakhimpur Kheri is a densely populated sugar producing district in the country. It is also home to 78% of national livestock population. Uttar Pradesh supports about 15% of India's total livestock population of its livestock in 1961, 15% were cattle, 21% buffaloes, 13% goats and 8% other livestock. Between 1951 and 1956 there was an overall increase of 14% in the livestock population. There are about 8,000 km² of water area, including lakes, tanks, rivers, canals and streams. Growth of agricultural land and production of crops are presented in the **Table 2.8** below.

Table 2-8: Growth of Agricultural Land in Area and Production in the State of Uttar Pradesh

Crop	Area (Ha)			Production (Tonnes)		
	2001-02	2010-11	% Variation	2001-02	2010-11	% Variation
Rice	60,71,325	58,13,159	-0.5%	12855857	12334146	-0.5%
Jawar	3,22,575	2,01,120	-5.1%	309068	207108	-4.4%
Bajra	8,50,727	9,39,976	1.1%	967732	1561644	5.5%
Maize	9,31,137	7,77,207	-2.0%	1516580	1169085	-2.9%
Wheat	92,55,937	98,01,194	0.6%	25498002	30486819	2.0%
Gram	8,40,602	5,88,336	-3.9%	816795	542425	-4.4%
Other Pulses	18,42,810	18,59,791	0.1%	1559633	1474088	-0.6%



Total Pulses	26,83,412	24,48,127	-1.0%	2376428	2016513	-1.8%
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Poverty level: Approximately 38% of the total population in the state is below poverty line. A total of 738 lakh people are below poverty line. The rural urban divide shows that nearly 32% urban population and 39% in rural population, is below poverty line. The monthly per capita income in rural area is 664 as against nearly 800 in urban area.

2.13 State Economy

Uttar Pradesh is the third largest economy in India after Maharashtra and Tamil Nadu. Uttar Pradesh's gross state domestic product for 2004 is \$339.5 billion by PPP and \$80.9 billion by nominal. After partition, the new Uttar Pradesh state produces about 92% of the output of the old Uttar Pradesh state. Between 1999 and 2008, the economy grew only 4.4% per year, one of the lowest rates in India. But between 2007 and 2011 the economy grew at over 7% GDP growth rate which was higher than their respective targets set for the 11th Plan period (2007–12) so far. Uttar Pradesh registered a growth rate of 7.28% against the target of 6.10%. Uttar Pradesh attains an 8.08% GDP growth rate in 2010–2011. The state's debt was estimated at 67% of GDP in 2005. In 2012, the state was one of the highest receivers of overall remittances to India which stood at \$66.13 billion (Rs. 3.43 crore).

2.14 Employment Pattern

The work participation for various industries is summarized for the districts and presented in **Table 2.9** below.

Table 2-9: Work Participation for Various Industries

Industries	2001-02	2004-05	2007-08	2008-09	2009-10	2010-11
Agriculture & Livestock	769	754	802	808	749	749
Mining & Quarrying	13	11	12	13	12	12
Manufacturing	2224	1994	2016	1974	1963	1951
Electricity, Gas	396	398	410	414	415	418
Construction	1054	988	1009	1017	1014	1014
Trade & Commerce	807	647	636	620	618	619
Transport	492	457	471	482	493	498
Financing, Insurance & Real Estate etc.	5195	5263	5332	5390	5440	5528
Services	14689	14873	14944	14958	15040	15069
Total	25639	25385	25632	25676	25744	25858

Source: Statistical abstract on Uttar Pradesh, 2012

The work participation rate for total workers is defined as the percentage of total workers to total population. In a similar way it is defined for main and the marginal workers. The main workers are distributed in nine industrial categories of economic activities as per 2011 census.



3 ENVIRONMENTAL AND SOCIAL REGULATIONS AND POLICY FRAMEWORK

3.1 Introduction

India has developed a fairly comprehensive regulatory framework to address environmental and social concerns in relation to development projects. Its wide ranging enactments cover almost all major issues that need to be addressed in the course of development of infrastructure from a social and environmental perspective.

3.2 Institutional Framework

The increase of environmental concerns has necessitated appropriate tools to protect the environment. After Stockholm Conference, first exclusive environmental act, Water (Pollution Prevention and Control) Act was enacted in India in 1974. In accordance with this act, Central and State Boards for Prevention and Control of Water Pollution were set up. Later these boards were renamed into Central Pollution Control Board and respective State Pollution Control Boards. Department of Environment was set up in 1980. Subsequently in 1985, it was upgraded to a full-fledged Ministry of Environment and Forest to serve as the focal point in the administrative structure for the planning, promotion and coordination of environmental and forestry programmes. The Ministry of Environment and Forest (MoEF) has overall authority for the administration and implementation of government policies, laws and regulations related to the environment, including conservation, environmental assessment, sustainable development and pollution control. MoEF identifies the need to enact new laws and amend existing environmental legislation when required, in order to continue to conserve and protect the environment. At the state level, the MoEF authority is implemented by the Department of the Environment and the Department of Forest.

In 1976, the 42nd Constitutional Amendment created Article 48A and 51A, placing an obligation on every citizen of the country to attempt to conserve the environment. As a result, a number of laws related to environmental conservation were passed to strengthen existing legislation. Environment (Protection) Act, 1986 is the landmark legislation as it provides for the protection of environment and aims at plugging the loopholes in the other related acts.

The Government of India through specific legislations regulates the environmental and social management system in India. The Ministries / Statutory Bodies responsible for ensuring environmental compliance by project proponents include:

- The Ministry of Environment Forests and Climate Change (MOEFCC)
- Ministry of Rural Development (MoRD)
- Central Pollution Control Board (CPCB)
- State Pollution Control Boards (SPCBs)
- State Revenue Department
- Ministry / Department of Environment in the States

3.3 Key Environmental and Social Laws and Regulations

Table 3.1 presents Environmental and Social Regulations and Legislations relevant to this project, which are the responsibility of a number of government agencies. This is followed by salient features of important regulations and acts.


Table 3-1: Summary of Relevant Environmental and Social Legislations

Acts/Rule/Policy	Year	Objective	Applicability to this Project	Responsible Agency
Environmental (Protection) Act	1986	To protect and improve the overall environment.	Yes, all environmental legislation is covered in this umbrella Act	MoEFCC GoI; CPCB; UP State Pollution Control Board
Environment Impact Assessment Notification	2006	To provide environmental clearance to new development activities following environmental impact assessment	Yes. Applicable Only for State Highways located in Eco-sensitive Zone	State Environmental Impact Assessment Authority(SEIAA)
Indian Forest Act The Forest (Conservation) Act The Forest (Conservation) Rules	1927 1980 1981	To check deforestation by restricting conversion of forested areas into non forested areas.	Yes, both in case of acquisition of Reserved Forest Area or Roadside Trees as Protected Forest	Forest Department, Govt. of UP (for land conversion below 5 hectare & 40% density), MoEF, Regional Office and MoEF.
Wild Life (Protection) Act	1972	To protect wildlife through certain of National Parks and Sanctuaries.	Yes. Only for the project either located inside the boundary of Wildlife Sanctuary or National Park/Tiger reserves. State Highways passing through Eco sensitive zone outside the boundary of Wildlife Sanctuary/ National Parks will also need recommendation of NBWL.	Chief Conservator. Wildlife, Wildlife Wing, Forest Department, Gov. of U.P. and National Board For Wildlife, GoI.
National Forest Policy National Forest Policy (Revised)	1952 1988	To maintain ecological stability through preservation and restoration of biological diversity.	Yes For clearing of forest/ felling of Trees	Forest Department, GoI and Govt. of U.P.
Water (Prevention and Control of Pollution) Act	1974	To control water pollution by controlling discharge of pollutants as per the prescribed standards.	Yes. For establishment and operation of Hot Mix/ Stone crusher/WMM/Batching Plants during construction, etc	UPPCB
Air (Prevention and Control of Pollution) Act	1981	To control air pollution by controlling emission of air pollutants as per the prescribed standards.	Yes. For establishment and operation of Hot Mix/ Stone crusher/WMM/Batching Plants during construction, etc	UPPCB
Central Motor Vehicle Act Central Motor Vehicle Rules	1988 1989	To check vehicular air and noise pollution.	Yes. For construction vehicles	Transport Department.
Ancient Monuments and Archaeological Sites and Remains Act	1958	Conservation of cultural and historical remains found in India.	Yes. For the project located within 300 m from such features	Archaeological Dept. GOI, Indian Heritage Society and Indian National Trust for Art and Culture Heritage (INTACH).



Acts/Rule/Policy	Year	Objective	Applicability to this Project	Responsible Agency
Right to fair compensation and transparency in land acquisition, rehabilitation and Resettlement Act	2013	Fair compensation for acquisition of immovable assets; Resettlement of displaced population due to LA and economic rehabilitation of all those who are affected due to land acquisition.	Yes. In case of acquisition of land	Revenue Department. Govt. of U.P.
Seventy Third Constitution Amendment Act,	1992	The Act enables participation of Panchayat level institutions in decision-making by broadening the village level functions, supporting implementation of development schemes. The Act provides for involvement of the PRIs especially, the Gram Sabha/ Panchayat during project preparation and implementation. The Panchayats at the village level will be involved for preparation and implementation of the project.	Yes, especially for any sub project located in panchayat area	Department of Panchayati Raj, Government of Uttar Pradesh
The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act	2006	Grants legal recognition to the rights of traditional forest dwelling communities, partially correcting the injustice caused by the forest laws. Makes a beginning towards giving communities and the public a voice in forest and wildlife conservation	Yes, if project road passes through customary forest land including reserved and protected forests; protected areas and also community forest.	Ministry of Tribal Affairs, GOI and Department of Tribal Welfare, GoUP

EIA Notification, 2006: This is the Indian Government's Guidelines for environmental impact assessment governing all of the development interventions that takes place within the boundaries of India. EIA notification was issued by Ministry of Environment and Forests (MoEF) in 2006. Under this EIA Notification, the projects listed in Schedule-1 of the Notification require prior environmental clearance. The objective of the notification is to formulate a transparent, decentralized and efficient regulatory mechanism to:



- Incorporate necessary environmental safeguards at planning stage
- Involve stakeholders in the public consultation process
- Identify developmental projects based on impact potential instead of the investment criteria

As per EIA Notification, 2006 and amendment thereafter, the Expansion of State Highway doesn't require environmental clearance except for the State Highways expansion project in hilly terrain (above 1000 m above mean sea level) and/or in eco-sensitive areas. As per Hon'ble Supreme Court's direction, 10 Km radius from the boundary of wildlife sanctuary will be considered as eco-sensitive zone till the actual demarcation/boundary of the eco-sensitive zone around the wildlife sanctuary boundary is notified by the state government.

The MDR and ODRs doesn't come in the purview of EIA Notification, 2006.

Forest (Conservation) Act, 1980: This Act is of particular significance in case the project corridors require acquisition of forest land outside the RoW of the road corridors as a result of the rehabilitation work proposed.

The Indian Forest Act (1927) was amended in 1980 in an attempt to check the rapid deforestation occurring throughout India and the Forest (Conservation) Act, 1980 came in existence. At the state level, the government was empowered to declare reserves and protected forest and was also given the authority to acquire land for extension and preservation of the forests. An advisory Committee was formed to supervise compliance, within other government departments. In December 1996, a Supreme Court Judgment further defined the types of forests to be protected. The Ministry of Environment and Forests in their Corrigendum to Part II, Section 3, Sub-section (i) of Forest (Conservation) Amendment Rules, 2004 issued vide G.S.R. 107(E) dated 9th February, 2004, which explains the procedure for application for diversion of forests land depending on the area involved as follows:

- The proposal involving forest land upto 40 hectares shall be forwarded by the concerned State Government alongwith its recommendations, to the Chief Conservator or Forests or the Conservator of Forests of the Regional Office of the Ministry of Environment and Forests Government of India.
- The Chief Conservator of Forests/ Conservator of Forests of the Regional Office shall within a period of 45 days of the receipt of the proposal from concerned, decide the diversion of proposal upto 5 Ha.
- If the forest land is more than 5 and upto 40 hectare, The Chief Conservator of Forests/ Conservator of Forests of the Regional Office procee, scrutinize and forward diversion proposal along with the recommendations, if any, to Ministry of Environment and Forests, New Delhi for obtaining decision of the Central Government and inform the State Government and the User Agency concerned.
- The proposal involving more than 40 ha of forest area, shall be forwarded by the concerned State Government alongwith its recommendations, to the Ministry of Environment and Forests, New Delhi

All the forest clearance cases are now required to be applied online on the MoEF website. From there the application will be forwarded to the Nodal Officer of respective state for further processing of application.



Wild Life Protection Act: The Wildlife Protection Act, 1972 has allowed the government to establish a number of National Parks and Sanctuaries over the past 25 years, to protect and conserve the flora and fauna of the state.

The Water (Prevention and Control of Pollution) Act, 1974 resulted in the establishment of the Central and State Level Pollution Control Boards whose responsibilities include managing water quality and effluent standards, as well as monitoring water quality, prosecuting offenders and issuing licenses for construction and operation of any facility. This will include generation of liquid effluent during construction of road from civil engineering activities or from domestic activities in workers colony. There are specific penalties for violation, which include imprisonment for responsible officials.

The Air (Prevention and Control of Pollution) Act, 1981 empowers Central and State Pollution Control Boards for managing air quality and emission standards, as well as monitoring air quality, prosecuting offenders and issuing licenses for construction and operation of any facility. Air quality includes noise level standards. There are specific penalties for violation, which include imprisonment for responsible officials. This act has notified National Ambient Air Quality Standard for different regions e.g. Industrial, Residential and Sensitive. Air quality during construction and operation phases will be guided by this specific act.

Environment (Protection) Act, 1986: This act was passed as an overall comprehensive act "for protection and improvement of environment". Under this act rules have been specified for discharge/emission of effluents and different standards for environmental quality. These include Ambient Noise Standard, Emission from Motor Vehicles, Mass Emission Standard for Petrol Driven Vehicles, General Effluent Standards etc. especially important for road project.

U.P. Roadside Land Control Act, 1945: This is intended to regulate the development along the roads/highways in the state of UP. For the road sections 220 ft (67.056 m) either side of the existing National Highways and 55ft (16.76m) has been declared as protected area by the State Government and no further development is allowed after its notification in that area.

3.4 Summary of Statutory Clearance/Permits Requirement

The project requires a number of statutory clearances under different Acts and Rules at different stage of the project. These are listed in **Table 3.2**.

Table 3-2: Summary of Statutory Clearance Requirement of the Project

S. No.	Type of Clearance/Permits	Applicability	Project Stage	Responsibility	Time Required
1.	Environmental Clearance	Prior Environmental Clearance for State Highways Located at 1000 m above mean sea level and/or located in eco-sensitive zone	Pre-Construction	PIU, UP PWD	11-12 months
2.	Forest Clearance for land diversion	For diversion of forest land including Reserved Forest and Protected Forest	Pre Construction	PIU, UP PWD	6-8 months
3.	Tree felling permission	For roadside tree cutting	Pre construction	PIU, UP PWD	1-2 months
4.	NOC and consents under Air & Water Act from SPCB	For Project Alignment for the State Highway Expansion project requiring environmental	Pre- Construction	PIU, UP PWD	2-3 months



S. No.	Type of Clearance/Permits	Applicability	Project Stage	Responsibility	Time Required
		clearance			
5.	NOC (Consent to Establish and Consent to Operate) under Air and Water Act from SPCB	For siting and erection of stone crusher and Hot Max Plants, WMM and Batching plants etc.	Construction Stage (Prior to erection and operation of Plants)	Contractor	2-4 months
6.	Explosive License from Chief Controller of Explosives,	For storing fuel oil, lubricants, diesel etc.	Construction stage (Prior to storing fuel, lubricants and Diesel, etc.)	Contractor	2-3 months
7.	Permission for storage of hazardous chemical from CPCB	Manufacture storage and Import of Hazardous Chemical	Construction stage (Prior to initiation of any work)	Contractor	2-3 months
8.	Quarry Lease Deed and Quarry License from State Department of Mines and Geology	Quarry operation	Construction stage (Prior to initiation of Quarrying)	Contractor	2-3 months
9.	Environmental Clearance for stone quarry from State environmental Impact Assessment Authority, U.P.	Opening of new Quarry and Borrow area for earth material	Construction stage (Prior to initiation of Quarrying)	Contractor	5-6 months
10.	Permission for extraction of ground water for use in road construction activities from State Ground Water board	Extraction of ground water	Construction stage (Prior to initiation of installation of Bore wells and abstraction of water from such source)	Contractor	1-2 months
11.	Permission for use of water for construction purpose from irrigation department	Use of surface water for construction	Construction stage (Prior to initiation of abstraction of water from such source)	Contractor	1-2 months
12.	Labour license from Labour Commissioner Office	Engagement of Labour	Construction stage (Prior to initiation of any work)	Contractor	2-3 months

Environmental issues during construction activities stage generally involve equity, safety and public health issues. The construction agencies therefore will be required to comply with laws of the land, which include inter alia, the following:

Workmen's Compensation Act 1923 (the Act provides for compensation in case of injury by accident arising out of and during the course of employment);

Payment of Gratuity Act, 1972 (gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years);

Employees PF and Miscellaneous Provision Act 1952 (the Act provides for monthly contributions by the employer plus workers);

Maternity Benefit Act, 1951 (the Act provides for leave and some other benefits to women employees in case of confinement or miscarriage, etc.);

Contract Labor (Regulation and Abolition) Act, 1970 (the Act provides for certain welfare



measures to be provided by the contractor to contract labour);

Minimum Wages Act, 1948 (the employer is supposed to pay not less than the Minimum Wages fixed by the Government as per provisions of the Act);

Payment of Wages Act, 1936 (it lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers);

Equal Remuneration Act, 1979 (the Act provides for payment of equal wages for work of equal nature to Male and Female workers and not for making discrimination against Female employees);

Payment of Bonus Act, 1965 (the Act provides for payments of annual bonus subject to a minimum of 83.3% of wages and maximum of 20% of wages);

Industrial Disputes Act, 1947 (the Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment);

Industrial Employment (Standing Orders) Act; 1946 (the Act provides for laying down rules governing the conditions of employment);

Trade Unions Act, 1926 (the Act lays down the procedure for registration of trade unions of workers and employers. The trade unions registered under the Act have been given certain immunities from civil and criminal liabilities);

Child Labour (Prohibition and Regulation) Act; 1986 (the Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of child labour is prohibited in Building and Construction Industry);

Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979 (the inter-state migrant workers, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home to the establishment and back, etc.);

The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996 (all the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act; the employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodation for Workers near the workplace, etc.);

The Factories Act, 1948 (the Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours and rendering information-regarding accidents or dangerous occurrences to designated authorities);

Hazardous Wastes (Management and Handling) Rules, 1989 (the Rules govern handling, movement and disposal of hazardous waste);

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989, amended 1994



and 2000 (the Rules provide indicative criteria for hazardous chemicals and require occupiers to identify major accident hazards and prepare on-site and off-site emergency plans).

3.5 World Bank Safeguard Policies

Projects financed with World Bank assistance should comply with World Bank Operational Policies. The World Bank has Environmental and Social Safeguard Policies to reduce or eliminate the adverse effects of development projects. The relevant safeguard policies of World Bank are described in **Table 3.3**.

Table 3-3: Safeguard Policies of World Bank

World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
OP 4.01 Environmental Assessment	The objective of this policy is to ensure that Bank financed projects are environmentally sound and sustainable	The environmental issues will be addressed adequately in advance. An integrated Environmental Screening and Environmental Assessment (EA) with Environmental Management Plan (EMP) will be developed to manage environmental risks and maximize environmental and social benefits wherever it is applicable.	EIA and/or EMP required.
OP 4.04 Natural Habitats	The policy recognizes that the conservation of natural habitats is essential for long-term sustainable development. The Bank, therefore, supports the protection, maintenance and rehabilitation of natural habitats in its project financing, as well as policy dialogue and analytical work. The Bank supports and expects the Borrowers to apply a precautionary approach to natural resources management to ensure environmentally sustainable development	This policy may be triggered by the Project due to improvement activity of road requiring forest/ wildlife lands, locating close to the natural habitats with the potential to cause significant adverse impact or degradation of natural habitats whether directly (through construction) or indirectly (through human activities induced by the project).	EIA and EMP requires specialised surveys, which will be conducted at the locations wherever wildlife sanctuary, national park or any other eco-sensitive area is encountered in the project.
OP 4.36 Forests	This policy focuses on the management, conservation, and sustainable development of forest ecosystems and resources. It applies to project that may have impacts on (a) health and quality of forests;	Impact of widening /construction activities on Forest areas required to be taken care of. Generally diversion of reserve forest will be avoided, however the roadside trees along state highways being declared as protected forest, roadside tree felling will attract the provision of Forest (Conservation) Act. The forest related issues, avoidance/ minimization of forest loss and its management should be integrated with EA study and EMP.	Forest land diversion Application has to be prepared and submitted to forest department. The issue of forest loss and its mitigation/compensatory measures is required to be integrated in EIA study and EMP.



World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
	(b) affect the rights and welfare of people and their level of dependence upon forests and projects that aim to bring about changes in the management, protection or utilization of natural forests or plantations, whether they are publicly, privately or community owned. The Bank does not support the significant conversion or degradation of critical forest areas or related critical natural habitats.		
OP 4.09 Pest Management	The objective of this policy is to promote the use of biological or environmental control methods and to reduce reliance on chemical pesticides.	Pest / Vector management involvement in UPCRNDP is not likely.	Not Applicable
OP/BP 4.12 Involuntary Resettlement	The objective of this policy is to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced person in improving their former living standards; community participation in planning and implementing resettlement; and to provide assistance to affected people, regardless of the legality of title of land	There will be need for limited land acquisition for certain project corridors resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood.	Resettlement Action Plan in consultation with the community and project authorities



World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
OP 4.10 Indigenous People	This policy aims to protect the dignity, right and cultural uniqueness of indigenous people; to ensure that they do not suffer due to development; that they receive social and economic benefits	This policy may be triggered if there are indigenous people in the project area; when potential adverse impacts on indigenous people are anticipated; and if indigenous people are among the intended beneficiaries.	Indigenous people development Plan
OP/BP 4.11 Physical Cultural Resources	This policy aims at assisting in the preservation of cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features, as well as in the protection and enhancement of cultural properties encountered in Bank-financed project.	This policy may be triggered by sub-projects under UPCRNDP in those areas where cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features may be affected during widening and strengthening work of the sub-projects.	Application has to be prepared and submitted to Archeological department in case any impact is envisaged due to widening of the project. The impact on such features should be integrated with EIA study and included in EMP

The UPCRNDP has been categorized as Category-A based on the location of sensitive receptors already identified in the project such as a bird Sanctuary close to the project road Utraula-Faizabad Road and new major bridge across river Sharda.

3.6 Relevant Provisions within Standard Specifications

The Ministry of Road Transport & Highways (MoRT&H) specifications that govern road and bridges construction in India also cover environmental aspects of the works. Specifically, Section 111 on Protecting the Environment, and Annexure A to Clause 501 which covers pollution aspects directly address environmental issues. Several other stipulations require works to be executed with care for environmental and social aspects. These include: stipulation of topsoil conservation (Clause 301 and 305), safety during construction (Clause 302 for blasting and 304 for excavation) and also safety for operation stage (Section 810), maintenance of existing amenities and facilities during clearing and grubbing (Clause 201), precautions during river training works (Clause 2501), location of borrow areas (Clause 305), soil erosion and control measures (Clause 306 and provision of geotextiles under Clause 702), recycle and reuse of existing pavement (Section 517) and also provision of turfing (Clause 407).



4 ENVIRONMENT MANAGEMENT FRAMEWORK

4.1 Introduction

Environmental and Social Management Framework (ESMF) is devised as a tool for use by UPPWD to identify and address the potential environmental and social concerns or impacts of a project right from the planning stage to its implementation and post-implementation operations. The objective the ESMF is to mainstream environmental and social considerations with other project documents in the planning, execution and post-execution stages in order to ensure that environmental and social concerns are adequately taken care of in all these stages.

The ESMF would be used for incorporation of environmental and social safeguards in the planning, execution and operation stages of each sub-project activity. A step-by-step methodology has been provided that can be followed along with engineering and institutional interventions required for the sub-project activities.

4.2 Environmental Assessment Process

The project will use a structured approach to environmental management to allow the project development process, follow the hierarchy of avoidance, minimization, compensation/mitigation for negative impacts and enhancement of positive impacts where practically feasible and advantageous. Following sections describe what needs to be done at each stage of the overall project life – sub-project selection, design of the project supported interventions, implementation of the project activities, and reporting on progress.

4.2.1 Sub-project Selection/Screening

This step will involve review of the available environmental information about the project road and its surrounding areas. It would help identify issues to be verified during reconnaissance site visits and also provide a preliminary idea regarding the nature, extent, and timing of environmental issues that would need to be handled during the subsequent stages. It will also help identify opportunities for avoidance and/or minimization early in the project cycle so that the design process can be informed appropriately. The steps to be followed include the following:

- Confirm the presence of environmentally sensitive areas from secondary sources or site observations
- Verify the extent of applicability of GoUP, GoI, and World Bank policies in sub-project activities
- Identify potential negative and positive impacts and provide clarity on which issues need to be investigated more comprehensively during preparation of Environmental Impact Assessment that will be done during the Design stage.
- This should help with sequencing of sub-projects, and factoring in timelines like those associated with regulatory clearance processes into project implementation.

The following table provides the criteria that would be used for evaluating the candidate roads as they are identified:



S. No.	Environmental Feature	Category Assigned (High/Medium/Low)	Significance (based on extent of length affected or numbers involved)	Remark/Explanation
Physical Environment				
	Drainage Conditions			
	Surface Water Resources			
	Erosion Prone stretches			
	Construction Material			
	Topography			
Biological Environment				
	National Park / Wildlife Sanctuary			
	Non-NP/WLS areas			
	Migratory routes			
	Reserved Forests			
	Green Tunnels/ Large Trees			
	Protected Forests			
Human Environment				
	Settlement			
	Sensitive Receptors			
	Drinking Water sources			
	Physical cultural Resources – Religious			
	Physical cultural resources – community			
	Utilities like electricity lines, pipelines for gas, etc			

The results of the screening will help:

- To determine all regulatory and policy considerations that would need to be applied; including whether GoI Clearance under the Environmental Impact Assessment (EIA) notification is required, and from which level – NEIAA or SEIAA
- To estimate the timeframe for obtaining the clearance and regulatory permissions as per GoI
- To focus on the subsequent environmental impact assessment by identifying key impacts

This information will help with the prioritization / phasing of sub-project both for subsequent EIA preparation and implementation. A detailed guideline on undertaking Environmental Screening is provided in **ANNEXURE-4.1**.

4.2.2 Environmental Impact Assessment (EIA)

The EIA is the most commonly used tool to ensure that environmental aspects are considered during decision making – by influencing design to avoid /minimize, and where unavoidable



mitigating the residual adverse impacts and/or enhancing positive impacts. It also provides a platform for getting views from stakeholders including the directly affected population to improve the design so that the asset quality is improved. Detailed guidance regarding the EIA contents is available in the OP4.01 of World Bank and more sector specific guidance is provided by the MoEF's EIA Guidance Manual for Highways. EIA includes the following:

- Overview of the sub-project – its location, proposed improvements, along with a map, its benefits, costs and implementation schedule for all activities
- Characteristics of the existing environment (baseline) of the alignment, within the broader region through which it passes
- Description of potential impacts – both positive and negative, with quantified estimates where possible, otherwise qualitative judgments
- Analysis of alternatives available to minimize negative impacts and maximize positive ones, including changes to alignment, materials, technologies, etc.
- Consultations undertaken, including in project area with affected people, and with other line departments
- Management measures selected to reduce the adverse impacts and increase positive impacts, monitoring and reporting arrangements, and capacity building needs if any, along with costs of each as a management plan including roles and responsibilities of various actors – UPPWD, consultants, and contractors, and other arms of GoUP, where appropriate
- Conclusion regarding the completeness of analysis and need for any follow-on study other beyond monitoring of predicted impacts

The key steps in preparing the EIA would include:

- Defining the scope in line with the already completed screening following EIA Manual of MoEF, and the Operational Policies of the World Bank
- Obtaining from primary or secondary sources information regarding the current conditions of environmental features within the influence area of the sub-project
- Carrying out effective stakeholder consultations, including along the proposed alignment
- Identifying feasible alternatives for alignment changes, use of alternative materials /technologies etc. in close collaboration with the Design team
- Identifying and estimating quantitatively to the extent possible key impacts and classify these for ease of understanding and determination of significance (by severity, duration, project phase, etc.)
- Selecting measures that can help manage these impacts in cost effective manner – reduce the negative ones; and enhance positive ones and estimate the residual impacts, including those that may need further study
- Clarifying the institutional arrangements, any capacity building needs, and resource requirements including budget as part of the preparation of environmental management plan

The following will be the outline contents for each EIA under the project:

- Executive Summary



- Project Description
- Policy, Legal and Institutional Framework
- Current (Baseline) Environmental Status
- Potential Environmental Impacts
- Analysis of Alternatives
- Stakeholder Consultations, including Community Consultations
- Environmental Management Plan (including additional studies, if any)
- Recommendations and Conclusion
- Annexes (including data sources, List of EIA preparers, consultation details, etc.)

The detailed guidelines on environmental screening & scoping report, and EIA have been presented in Volume II **Annexure 4.1** and **Annexure 4.2**

4.2.3 Preparation of Environmental Management Plan

An Environmental Management Plan (EMP) is the key document focused on implementation, after the potential impacts have been identified. It starts operationalizing the avoidance / minimization aspects from Design/ Pre-construction phase and ensures that the project impacts are reduced to an acceptable level during implementation of the sub-project. Thus, EMP becomes the document for ensuring that all the preceding analysis is used to preserve/improve environmental quality within the influence area of the project.

The EMP should be sub-project specific, clearly and concisely describing adverse impacts, selected management measures to bring it to an acceptable level and timelines for implementing these measures. It should also clarify roles and responsibilities among the various stakeholders – UPPWD, PMC, Contractors, other GoUP departments. It would be useful if contract specific EMPs are prepared as this would facilitate integration with the bidding documents. The building blocks of an EMP are:

- Potential Adverse Impacts Identified and Mitigation measures to be adopted, together with conditions within which one or other measure would apply and their integration with phases operations of road construction – Design, Pre-construction, Construction/ Implementation and Operation
- Enhancement plans for positive impacts
- Monitoring Plan with indicators, mechanisms, frequency, locations,
- Budgetary allocations for all the above activities
- Institutional arrangements for each activity and mitigation measures
- Implementation schedules for each activity and its integration with the sub-project implementation timelines
- Reporting procedures, including for redressing grievances related to environmental issues

Volume II **Annexure 4.3** provides the detailed guidelines of preparation of Environmental Management Plan.



4.2.4 Potential Environmental Impacts

Based on the information available about the 4 roads studied for the development of the ESMF, several important issues have been identified that would need to be evaluated in the context of each sub-project following screening and scoping exercises. A summary of the issues, and potential impacts is presented in the following paragraph to guide preparation of upcoming EIA and EMPs as more roads get identified. Volume II **Annexure 4.4** provides a more comprehensive view of the environmental issues/concerns and the potential mitigation measures of highway projects.

The proposed activities as part of the project are likely to have varying degrees of impacts on the surrounding environment across Uttar Pradesh. These could be on forest areas, agricultural/homestead lands, some roadside cultural properties, and in a few locations on wildlife, which may not be confined to 'protected areas' like National Parks or Wildlife Sanctuaries.

These impacts could be short term or long term and some may not even be direct i.e. induced impacts on development for example. There could also be cumulative impact of substantial extraction of raw material like stone or sand for construction. Potential impacts due to synergy with other developments in the state may also become significant in select sub-projects.

Adverse impacts are possible on roadside forests, water bodies, local drainage, public or private water supply sources, and sensitive receptors like schools, hospitals and places of worship. These could include damage or loss of access or increased pollution. The possibility of unsafe conditions being exacerbated is minimized since one of the key project objectives is to build 'safer' roads across Uttar Pradesh.

Impacts on Forests and Wildlife

While roads are not likely to pass through protected areas, there is a possibility that some may be close to such havens and can have impact on wildlife. In the roads identified until now, a bird sanctuary is located very close to the alignment of Utraula Faizabad road.

Direct loss of Forest land is possible where sufficient RoW is not available in some stretches. This will result in removal of trees, increased dust in those areas, soil characteristics changes, etc. In such cases, minimization of forest land, which is quite scarce in UP is a chosen strategy. Clearance under the Forest (Conservation) Act, 1980 would be taken in each case and to that extent compensatory afforestation through Forest Department is expected. Once such roads are identified through screening, the EIA will pay special attention to analysis of alternatives that can reduce impacts on Forests and Wildlife.

Loss of Agriculture Land

Where RoW is not available, agriculture land would need to be acquired. This may put pressure on less arable lands nearby and can also cause environmental degradation. This will be considered in the SIA and RAP preparation.

Material Use

The use of stone, earth, sand, water can be stress on the natural resource base. This can be an important concern with respect to stone since this is a scarce material in the alluvial plains that form majority of the state. Unmitigated borrowing of earth and sand from rivers has the potential



to have irreversible impacts. Use of other chemicals – bitumen, fuels, and hazardous substances has the potential of safety hazards, as well as pollution of the land and water in case of indiscriminate disposal or spillage due to negligence/accident.

Changes to water flow due to Road Level/Alignment Changes

Flooding or erosion due to the raising of levels of road in the flat areas of Uttar Pradesh is possible. Especially for sections that are frequently overtopped, raising can cause flooding and/or erosion and can make roadsides very unsafe, especially during monsoon. Debris management can be an issue in stretches where the entire pavement is to be removed since very few suitable disposal areas may be available. Consideration of climate change related aspects should also be integrated here since it may affect the final design of drainage structures, for example.

Impacts on Water Bodies

There could be loss of volume if the road expansion requires building embankments in waterbodies and would be a permanent loss like agricultural or forest land lost. Deterioration in water quality is also possible during earthworks, if proper care is not taken. Spills of material during construction can also impact water quality.

Contractors' Camp and Plant Sites

Improper siting of these elements could cause stress on the local infrastructure, may also cause social friction if the host communities feel that their resources are being used by 'outsiders'. Pollution for the duration of the project implementation from construction plants is also potential adverse impact that needs to be planned for in advance.

Air Pollution

Increase in noise level during construction has the potential to disturb many people. There may be schools or hospitals or other such locations like places of worship where permanent noise increase may follow road upgradation. Temporary or permanent increase in air pollution levels with regard to local pollutants like Particulate Matter and global pollutants like GHG emissions is also identified as one of the key negative impacts that would need to be suitably mitigated.

Demolition Waste

Where waterway crossings need realignments, demolition of structures is required. If dismantled structures are not disposed off properly, they cause waterlogging/obstruction in waterways.

Safety

One of the project components aims to improve safe conditions along project roads. It will therefore strive to ensure that roadsides are safer and people and animals have safe passages across improved roads where speeds will increase. Access to road side resources would need to be protected for continued use. For workers, like those working high structures like bridge across the river Sharda, occupational safety concerns would also need to be addressed.

Other Project Benefits

The improved connectivity provided by upgraded roads is expected to benefit the road users. It is expected to provide economic opportunities to a large section of the rural population of UP. The



overall long term benefits would likely outweigh the short term, mostly construction related negative impacts since majority of the improvements are likely to be within the Right of Way already with UPPWD. Better access to education facilities, as well as health facilities will improve the well-being of roadside dwellers. Local businesses will also benefit from the increased activities along the sub-project roads. Volume II **Annexure 4.5** includes more detailed guidelines on some of the issues discussed above. The TOR for Environmental Assessment and Designing is provided in Volume II Annexure 4.6.

4.3 Stakeholder Consultations

Stakeholder consultations are integral to development projects and need to be carried out all through the project life. These are an effective way to communicate about the priorities for both the UPPWD and the stakeholders should be used extensively as the project progresses. These consultations can provide insights that may elude designers and help unravel inexplicable responses to proposals effectively. Ensuring an open and transparent information exchange right from start is a key ingredient of successful project implementation. Recognizing this, UPPWD has begun consultations right from the start of the project.

Since this is a category A project, consultations with stakeholders across the spectrum are needed early and continuously in the project. The identified stakeholders include project affected people-with an emphasis on disadvantaged groups, youth, local NGOs, road users, private sectors, local leaders, officials from other GoUP Departments. Some roads may have special groups that may need to be sensitively handled like Scheduled Castes. UPPWD should be geared up to carry out consultations from the Identification stage, through project planning and design, as well as during implementation.

At the identification stage, the general public in the area would be informed regarding the possible sub-project interventions and feedback would be sought on the overall picture. This will also help the scoping of the EIA since the local information regarding environmental aspects may be more robust and relevant for identifying key issues.

Second round would start once iteration has happened with design response to the first round of inputs from stakeholders. There should be clarity regarding what is accepted, what is not accepted for consideration for integration with project design. There should be clear and convincing reasons for each choice made to maintain the integrity and sanctity of the process and to nurture trust among the stakeholders. Additional details on consultations process for the project are available in Section 6.1 and Annexure 5.6.

Where mandatory consultations are required, such as Public Hearing for clearance under the EIA notification, these would be led by the respective authorities and UPPWD would provide its full support. On other occasions, UPPWD would be in-charge and would seek to ensure that the consultations are useful to the affected groups, are non-discriminatory by social status, and supplemented with timely and relevant information.

These consultations would:

- Make UPPWD aware of community needs and preferences for its sub-projects, with reference to improved road conditions, including safety;
- Identify what alignment / cross-section options work best and have minimum practicable impact on the stakeholder resources



- Bring options of bypasses and other major deviations responsive to the needs of the local people under the constraint of the project objectives;
- Identify mitigation measures for adverse impacts and enhancement of positive impacts informing the selection of the measures in the EMP
- Identify any opportunities to involve local stakeholders in subsequent project activities, including providing feedback
- Disseminate information regarding avenues available for redressing grievances, including those about environmental quality.

4.4 Institutional Arrangements for Implementation of Environmental Safeguards

For successful implementation of Environmental safeguards Institutional setup plays a vital role. The Government of Uttar Pradesh has setup Project Management Unit (PMU) for UPCRNDP to streamline decision-making and provide more autonomy for project execution and delivery. The PMU is headed by Chief Engineer, World Bank Projects (Roads) supported by Superintending Engineer (Planning) and Project Director, UPCRNDP at Head Office.

The Project Director will have overall responsibility for implementation and procurement of projects.

The Superintending Engineer (Planning) is responsible to assist Chief Engineer in ensuring that overall expenditure under each of the agreed component does not exceed the total cost specified in the project document. S/he will also assist Chief Engineer in monthly plan review and monitoring meeting wherein physical and financial review will be done at the level of Chief Engineer and for budget provision/Allotment/ Cash Credit Limit /Assurance/Rules/Draft Para/Audit Para/PAC Para.

An Environmental Social Development and Resettlement Cell (ESDRC) has been set up at PMU. The cell is headed by an Executive Engineer. He is overall responsible for EIA preparation and EMP Implementation, coordinating and liaising with government organization as well as the World Bank with respect to different forest and environmental issues. He will also be responsible for progress monitoring of Environmental safeguards during project execution and submission of quarterly/ annual report on EMP compliance to the funding Agency.

In the field, there is provision of World Bank Circles headed by Superintending Engineers. The Division offices will act as Project Implementation Units (PIUs). Executive Engineers in each World Bank Circle will be responsible to oversee the project progress at site in their respective area. It is proposed to have one Environmental Nodal Officer at Office of each Executive Engineer who will look into the compliance with the safeguards, liasoning with local authorities in connection with different permits and licenses, redressing the public complaints on environmental issues, etc.

The PMU has appointed Project Management Consultant to assist with project preparation and support implementation as Engineer in-charge who will supervise the Contractors activities, compliances and monitor the overall progress of work. There is provision of Environmental Specialist in PMC. The PMC's environmental specialist will oversee the implementation of the EMPs by the Contractor and will also provide technical guidance to the Contractor for implementation of the EMP and prepare checklists/formats/reports, etc. for implementing each of the activities as per the EMP. He will prepare periodical monitoring reports on EMP implementation and compliance with environmental clauses of Contract Agreement.



The Contractor team will include Environment and Safety Officers who will be responsible for day-to-day activities that pertain to the works. S/He will ensure compliance of the instructions given by the PMC. S/He will maintain close interaction with PMC and his field representative and seek instructions and guidance from PMC's Environmental Specialist on any issue related to implementation of environment and safety measures. He shall be responsible for record keeping, and reporting to the PMC through PM on actions taken. He will also give in-house training to the workers on environment and safety.

The Roles and responsibility of implementation and Supervision Agencies at different levels have been defined in table. The proposed Institutional structure, is presented in Figure 4.1. The qualification and experience criteria for appointment of Environmental Specialist of PMC and the Contractor's Environment and Safety Officer is given in Volume-II Annexure-4.7 and 4.8, respectively.

Position	Roles & Responsibilities
PMU's Environmental and Social Officer (ESD Cell)	<ul style="list-style-type: none">• Finalize the EIA and EMP for individual sub-project with inputs from PMC• Confirm integration of EMP provision related to works in the contract documents• Provide guidance on environmental issues to PIUs Environmental and Social officers as requested• Coordinate with regulatory agencies like Forest Departments, and at request of PMC and/or Contractor, UPPCB• Prepare regular reports on progress on EMP implementation across the project with inputs from the PMC's environmental specialist• Document experiences of developing and implementing environmental mitigation measures and convert it into training material for internal and external capacity building• Facilitate interaction between environmental teams of different sub-projects to allow cross-fertilization of ideas, successes and learnings
Environmental and Social Nodal Officer at PIU (Division Office)	<ul style="list-style-type: none">• Coordinate with PMC's environmental specialist to monitor and report on progress on EMP implementation as part of works contracts• Participate in and facilitate consultations with stakeholders• Participate in project meetings and report on the issues related to environmental management to provide for any mid-course corrections that may be required based on situation on the ground• Assist PAPs to resolve their grievances• Coordinate on the training and capacity building initiatives
Environmental Specialist, PMC	<ul style="list-style-type: none">• Lead the development of the sub-project specific EIA and EMP for the entire project• Review contract documents to ensure that EMP provisions related to works are included in the contract documents• Assist the Environmental Specialist in the PMU to follow-up with state government departments• Oversee and report to the PMU on implementation of EMP provisions included in the works contract for each sub-project• Act as a resource person in trainings based on experience on implementing this project and previous relevant work
Contractors' Environmental and Safety Officer	<ul style="list-style-type: none">• Lead the implementation of EMP measures included in the Contract• Report on progress and shortcomings of the measures implemented to Environmental Specialist of PMC

Budget

Each sub-project will have its own budget to cover the EMP costs relating to mitigation measures, enhancements, wherever included in the plan, and monitoring costs. In addition, training and capacity building costs need to be added for specific issues that EIA and EMPs may bring out. For instance, there may be a need to have short courses on specific topics, experience exchanges on common issues, and so on.

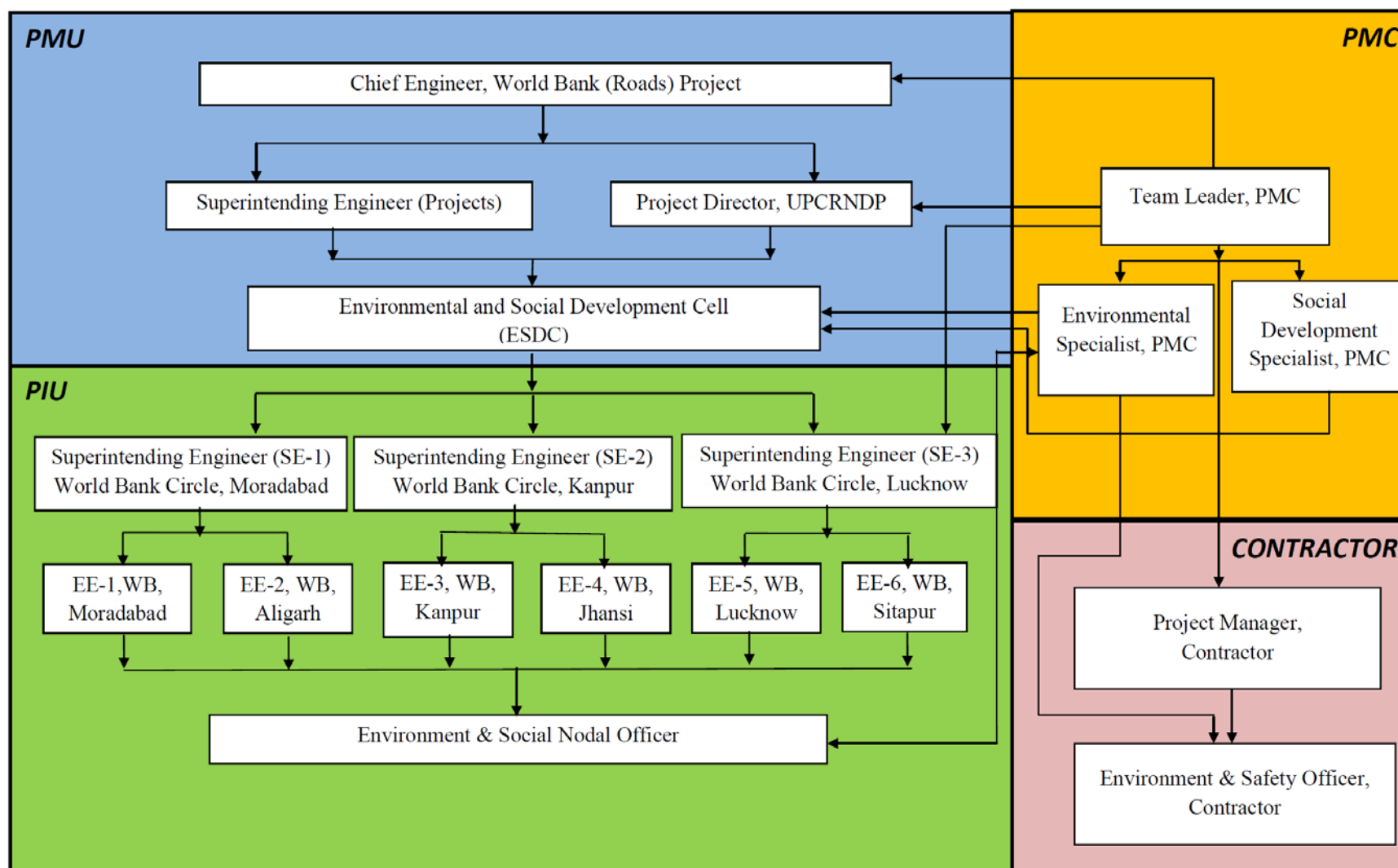


Figure 4-1: Proposed Institutional Setup in UPPWD for Implementation of Environment and Social Safeguards in UPCRNDP



5 SOCIAL MANAGEMENT FRAMEWORK

5.1 Objective

Social Management Framework (SMF) will help to identify and address the potential social concerns or impacts of a project throughout the project cycle. The objective of SMF is to help project in taking informed decisions and mainstream social concerns in the project design.

5.2 Need for Social Management Framework

The general thrust and broad project interventions are well understood as outlined above. Since specific project roads identification is in progress, the exact nature and scale of their impacts will be known only later. Therefore, a safeguard framework document is needed to 'guide' the planning and design elements of the project activities. Such a guidance document or a framework would help in integrating and harmonizing the social management principles at the various stages of project preparation and execution. In this context, this Social Management Framework (SMF) has been prepared for the project.

This SMF forms part of the comprehensive social management approach that has been adopted for addressing the potential social impacts of UPCRNDP. As said above, specific impacts will only be identified in the course of project implementation. A mechanism for screening and assessing possible adverse social impacts during the project preparation is required.

This ESMF defines (a) the approach for identifying the social issues associated with the project, (b) the requirements for conducting social screening and social assessment studies, and (c) measures to prevent, mitigate and manage adverse impacts and enhance positive ones. This SMF includes a simplified screening checklist, which will be used to determine the degree of social assessment. Based on screening results, Social Impact Assessment (SIA) will be carried out and Resettlement Action Plan (RAP) and Indigenous Peoples Development Plan (IPD)) for specific initiatives will be prepared if required. This SMF includes a resettlement policy framework describing mechanisms for addressing the possible temporary disruption of services and income (e.g., temporary displacement of informal vendors), and temporary restrictions on access to facilities while the construction work is ongoing in the project area. The SMF includes guidance on preparing of indigenous peoples development plan, gender action plan; consultation mechanism; capacity building measures and a monitoring mechanism.

5.3 Objectives of Social Management Framework

The SMF seeks to:

1. Establish clear procedures and methodologies for screening, reviewing and managing social issues.
2. Consolidate and facilitate understanding of all essential policies and regulations of the GOI; GOUP as well as the World Bank's social safeguards regime that are applicable to the Project
3. Provide guidance on preparing mitigation plans for adverse impacts and implementation of the environmental and social management measures.



4. Specify institutional arrangements, including appropriate roles and responsibilities for managing, reporting and monitoring social concerns.
5. Provide a framework for consultation and information disclosure.
6. Determine the other institutional requirements, including those related to training and capacity building, needed to successfully implement the provisions of the SMF.
- 7.

The application and implementation of the SMF therefore, will:

1. Support the integration of social aspects into the decision making process at all stages related to planning and design by identifying, avoiding and/or minimizing adverse social impacts early-on in the project cycle.
2. Enhance the positive/sustainable social outcomes through improved/appropriate planning, design and implementation.
3. Build the capacity of UP PWD to take-up and coordinate responsibilities related to the application and implementation of the SMF, including preparation of Social Assessment and Management Plans (if required).
4. Provide guidelines and procedures for further consultations during project implementation.
5. Provide a systematic guidance to address potential risks and to enhance quality, targeting, and benefits to the neighbouring communities.
6. Ensure that stakeholders, irrespective of whether they benefit from or are adversely affected by the project interventions, are well informed and are able participate in the decision-making process.
7. Support compliance with applicable legal/regulatory requirements of GOI; GoUP as well as with the requirements set forth in the relevant Bank policies.
8. Minimize adverse impacts on cultural property and other common property resources.

This social management framework includes (i) Resettlement Policy and Land Acquisition Framework; (ii) Indigenous Peoples Management Framework (IPMF); (iii) Gender Assessment and Development Framework (GAD); and (iv) Consultation framework.

5.4 Social Issues

Initial impact assessment was conducted for 4 sample candidate roads by the consultants. Right of Way (RoW) details were collected from the concerned authorities (State PWD) and were verified with revenue records. The initial impact assessment for the four (4) candidate roads indicate that the potential land acquisition will be mainly involved in project sections for the purpose of providing new bypasses, accommodate road safety measures, realignments, junction improvements, and approach to bridges and RoBs if designed. However, it has been identified that RoW is not fully free from encroachment and other encumbrances and at many places it is encroached and squatted upon by the people for various purposes mainly, near habitations and in market places.

The social screening and initial impact assessment of the four (4) candidate roads identified following social impacts:

- Loss of agricultural land in case of private land acquisition;
- Loss of structures used for residential, commercial and other purposes and associated loss of livelihood i.e., loss of livelihood due to impacts on sources of earning;



- Loss of other properties and assets such as boundary walls, hand pumps, bore wells, dug wells, ponds etc.;
- Disruption of livelihood due to clearing of RoW particularly, petty shop owners, squatters and encroachers;
- Loss of common property resources such as religious places, Samadhi, graveyard, cremation places, water resources, village gates, passenger shelters, etc;
- Likelihood of increased accidents due to road widening;
- Traffic blocks disrupting lives of people due to the landslides after heavy monsoon. Cutting of slopes may trigger landslides causing loss of assets and access in hilly sections;
- Likelihood of spread of HIV/AIDS among construction workers and road side community.

5.5 Social Screening Process

5.5.1 Identification of Impacts

Screening is the first step in the SMF process. The purpose of screening is to get an overview of the nature, scale and magnitude of the issues in order to determine the need for conducting Social Impact Assessment (SIA) and preparing Resettlement Action Plan (RAP). After identifying issues, the applicability of the Bank's environment and social safeguard policies is established along with Government of India's and state government's regulatory requirements. Based on this, boundaries and focus areas for the SIA along with the use of specific instruments will be determined.

The possibility of any adverse impact in the sub-project site will be identified during the screening process. The screening format has been designed to identify sub-project/s with potential social issues that may need to be addressed at the project planning stage.

The outcome of the screening process will help prioritize the sub project and where required, start the social mitigation process in a timely manner, in particular roads requiring land acquisition and /or relocation. This will also assist in sequencing /phasing road stretches in overall project implementation. This shall help ensure that no sub-projects are dropped merely due to delay in the clearance procedures / land requirement. The social screening checklist is given below:

S. No.	Screening Criteria	Assessment of Category (High/ low)	Remarks /Explanatory note for categorization
1	Is the project in an eco-sensitive area or adjoining an eco-sensitive area? (Yes/No) If Yes, which is the area? Elaborate impact accordingly.		
2	Will the project create significant/ limited/ no social impacts?		
a	Land acquisition resulting in loss of income from agricultural land, plantation or other existing land-use.		
b	Land acquisition resulting in relocation of households.		
c	Any reduction of access to traditional and river dependent communities (to river and areas where they earn for their primary or substantial livelihood).		



S. No.	Screening Criteria	Assessment of Category (High/ low)	Remarks /Explanatory note for categorization
d	Any displacement or adverse impact on tribal settlement(s).		
e	Any specific gender issues.		
3	Will the project create significant / limited / no Social impacts during the construction stage?		
a	Flooding of adjacent areas	Low Impact	
b	Improper storage and handling of substances leading to contamination of soil and water		
c	Elevated noise and dust emission.		
d	Disruption to traffic movements		
e	Damage to existing infrastructure, public utilities, amenities etc.		
f	Failure to restore temporary construction sites		
g	Possible conflicts with and/or disruption to local community		

5.5.2 Establishing Impacts

Having identified the potential impacts of the relevant sub-projects, the next step is to develop action plans to mitigate the impacts. This will require detailed social impact assessment (refer to Volume II **Annexure 5.1**). The Consultant along with Project authority will undertake a survey for identification of the persons and their families likely to be affected by the project. Every survey shall contain the following municipality or ward / village-wise information of, the project affected families:

- Members of families who are residing, practicing any trade, occupation or vocation in the project affected area;
- Project Affected Families who are likely to lose their house, commercial establishment, agricultural land, employment or are alienated wholly or substantially from the main source of their trade occupation or vocation or losing any other immovable property.
- Agricultural labourers and non-agriculture labourers.
- Losing access to private property or common property resources
- Loss of common property resources

The consultant on completion of the survey will disseminate the survey results among the affected community. Based on the social impact assessment survey, will prepare an action plan to mitigate or minimize the adverse impacts as identified during the survey. The draft mitigation plan in form of resettlement action plan (RAP) will be again disseminated among the affected individuals / community. The feedback received from the affected groups will be incorporated to the extent possible before finalization of the RAP.

5.5.3 Sub-Project Approval

In the event that a subproject involves land acquisition against compensation or loss of livelihood or shelter, UP PWD shall:



- not approve the subproject until a satisfactory RAP has been prepared and shared with the affected person and the local community; and
- not allow works to start until the compensation and assistance has been made available in accordance with the framework.

5.6 Resettlement Action Plan (RAP)

RAP provides a link between the impacts identified and proposed mitigation measures to realize the objectives of involuntary resettlement. The RAPs will take into account magnitude of impacts and accordingly prepare a resettlement plan that is consistent with this framework for Bank approval before the sub-project is accepted for Bank financing.

- Sub-projects that will affect more than 200 people due to land acquisition and/or physical relocation and where a full Resettlement Action Plan (RAP) must be produced.
- Sub-projects that will affect less than 200 people will require an abbreviated RP (Resettlement Plan).
- The above plans will be prepared as soon as subproject is finalized, prior to Bank's approval of corresponding civil works bid document.
- Projects that are not expected to have any land acquisition or any other significant adverse social impacts; on the contrary, significant positive social impact and improved livelihoods are exempted from such interventions.

Every-draft Resettlement Action Plan (RAP) prepared shall contain the following particulars namely.

- the extent of area to be acquired for the project, the name(s) of the corresponding village(s) / municipality area and the method employed for acquiring land with the relevant documentation.
- village wise or municipality wise list of project affected families and likely number of displaced persons by impact category
- family-wise and the extent and nature of land and immovable property in their possession indicating the survey numbers thereof held by such persons in the affected zone;
- socio-economic survey of affected people including income/asset survey of PAPs.
- a list of agricultural labourers in such area and the names of such persons whose livelihood depend on agricultural activities;
- a list of persons who have lost or are likely to lose their employment or livelihood or who have been alienated wholly and substantially from their main sources of occupation or vocation consequent to the acquisition of land and / or structure for the project;
- information on vulnerable groups or persons for whom special provisions may have to be made;
- a list of occupiers; if any
- a list of public utilities and Government buildings which are likely to be affected;
- a comprehensive list of benefits and packages which are to be provided to project affected families by impact category;



- details of the extent of land available which may be acquired in settlement area for resettling and allotting of land to the project affected families;
- details of the basic amenities and infrastructure facilities which are to be provided for resettlement;
- the entitlement matrix;
- the time schedule for shifting and resettling the displaced families in resettlement zones;
- grievance redressal mechanism;
- institutional mechanism for RAP implementation;
- consultation strategy; a disclosure plan and a capacity building plan
- monitoring and evaluation indicators and mechanism;
- budget; and
- any other particulars as the Administrator for Resettlement and Rehabilitation may think fit to include for the information of the displaced persons.

5.7 Resettlement Policy and Land Acquisition Framework

The guidelines are prepared for addressing the issues limited to this project for resettlement and rehabilitation of the PAPs. This policy has been developed based on the Right to Fair Compensation and transparency in land Acquisition, Rehabilitation and Resettlement Act, 2013 subject to subsequent supplements by GoUP orders and World Bank Operational Policy 4.12 on involuntary resettlement.

5.7.1 Broad Principles

The Policy aims to resettle and rehabilitate the affected persons on account of its sub projects in a manner that they do not suffer from adverse impacts and shall improve or at the minimum retain their previous standard of living, earning capacity and production levels. It is also the endeavor of the UP PWD that the resettlement shall minimize dependency and be sustainable socially, economically and institutionally. Special attention will be paid for the improvement of living standards of marginalized and vulnerable groups.

This policy recognizes that involuntary resettlement dismantles a previous production System and a way of life, all such rehabilitation programs will adopt a developmental approach rather than the welfare approach. These guidelines details out the assistance in re-establishing the homes and livelihoods of the Project Affected People (PAP) during the course of projects.

All information related to resettlement preparation and implementation will be disclosed to all concerned, and community participation will be ensured in planning and implementation.

Private negotiations will also be used for land acquisition as required.

The persons affected by the project who does not own land or other properties but who have economic interest or lose their livelihoods will be assisted as per the broad principles brought out in this policy.

Before taking possession of the acquired lands and properties, compensation and R&R assistance will be made to those who are available and willing to receive the entitlements in accordance with



this policy.

There would be no/or minimum adverse social, economic and environmental effects of displacement on the host communities but if needed specific measures would be provided.

Broad entitlement framework of different categories of project-affected people has been assessed and is given in the entitlement matrix. Provision will be kept in the budget. However, anyone moving into the project area after the cut-off date will not be entitled to assistance.

Three tier appropriate grievance redress mechanism has been established at project level to ensure speedy resolution of disputes.

All activities related to resettlement planning, implementation, and monitoring would ensure involvement of women. Efforts will also be made to ensure that vulnerable groups are included.

All consultations with PAPs shall be documented. Consultations will continue during the implementation of resettlement and rehabilitation works.

As required, a Resettlement Action Plan will be prepared including a fully itemized budget and an implementation schedule.

The broad principles of the Resettlement and Rehabilitation (R&R) policy are as given below;

- All negative impacts including displacement should be avoided or minimized wherever feasible by exploring all viable alternative project designs.
- Where negative impacts are unavoidable, efforts should be made either to improve the standard of living of the affected persons or at least assist them in restoring their previous standard of living at no cost to them.
- Ensure people's participation during the course of the project cycle.
- Effort should be made towards the enhancement of the positive impact of the projects.

The project will broadly have three impacts that require mitigation measures. These are:

- Loss of immovable assets viz., land, house, commercial establishments wells, ponds etc.
- Loss of livelihood or income opportunities viz, for agriculture labours, helping hands in commercial establishments etc.
- Impact on the community in terms of loss of common property resources.

The first two categories represent direct impacts on an identified population. The people likely to be affected will be surveyed and registered, and project monitoring and evaluation will compare long term impacts against baseline socio economy data.

The third category represents a group impact, where gains and losses of a group oriented nature are not quantifiable in terms of impact on the individual. Mitigation and support mechanism will be collectively oriented, and the monitoring will focus on impact on such groups.

All acquisition of private land would be by direct purchase as per G.O. No. 271/83-3T^"0-13-39(3TcR*nW)/13 Avasthapna Vikash Anubhag - 13 dt 02.09.2013 and subsequent amendments thereof (refer to Volume II **Annexure 5.2**). However the provisions of rights to Fair compensations and transparency in land acquisition, rehabilitation and resettlement act, 2013 and



subsequent supplements by GoUP shall prevail in case direct purchase fails.

- Support will be extended under the broad principles of this policy to meet the replacement value of the assets and loss of livelihood.
- The policy further recognizes extension of support to non-titleholders for the loss of livelihood and replacement value for assets other than land.
- The common property resources will be replaced as far as feasible and if not then assistance will be provided at replacement value to the group.

Major widening and strengthening work planned will take place within the Right of Way (ROW) based on land availability, gradient, traffic and congestion of population along the road length. Efforts will be made during implementation to minimize any disturbance in the daily activities of the local people.

Before taking possession of the acquired lands and properties, all compensation, resettlement and rehabilitation would be made in accordance with this policy.

In case of displacement, resettlement sites will be developed as part of the project. In such circumstances care should be taken so that there is no/or minimum adverse social, economic and environmental effects of displacement on the host communities and specific measures would be provided in the Resettlement and Rehabilitations Action Plan (RAP) to mitigate any such impacts.

Before taking possession of acquired property sufficient time would be provided to harvest the crop.

The implementation of the R&R Action Plan will be synchronized with the civil works.

The project will ensure that no civil works are initiated before compensation and assistance to affected population has been provided in accordance with this policy.

5.7.2 Definitions

The following definitions are used in the documents:

Cut-off Date: In the cases of land acquisition affecting legal titleholders, the cut-off date would be the date of issuing the publication of preliminary notification u/s 11(I) of RFCTLARAct,2013 & for the Non-Titleholders cutoff date would be the date of Census Survey.

Project Affected Person: Person who is affected in respect of his/her land including homestead land and structure thereon, trade and occupation due to construction of the project

Project Displaced Person: A displaced person is a person who is compelled to change his/her place of residence and/or work place or place of business, due to the project.

Projected Affected Family: Family includes a person, his or her spouse, minor children, minor brothers and minor sisters dependent on him. Provided that widows, divorcees and women deserted by families shall be considered separate families;

Explanation - An adult of either gender with or without spouse or children or dependents shall be considered as a separate family for the purpose of this Act.



Land Owner: Land owner" includes any person -

- Whose name is recorded as the owner of the land or building or part thereof, in the records of the authority concerned; or
- Any person who is granted forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 or under any other law for the time being in force; or
- Who is entitled to be granted Patta rights on the land under any law of the State including assigned lands; or Any person who has been declared as such by an order of the court or Authority

Marginal Farmers: Marginal farmer means a cultivator with an un-irrigated land holding UP to one hectare or irrigated land holding up to one half hectare.

Small Farmer: Small farmer means a cultivator with an un-irrigated land holding up to two hectares or irrigated land holding up to one hectare, but more than the holding of a marginal farmer

Encroacher: A person who has trespassed Government/ private/community Land, adjacent to his or her land or asset to which he/she is not entitled and who derives his/her livelihood and housing there from prior to the cutoff date.

Squatter: A squatter is a person who has settled on publicly owned land for housing ^{or} livelihood without permission or who has been occupying publicly owned building without authority prior to the cutoff date.

Landless/Agriculture Labour: A person who does not hold any agriculture land and has been deriving his main income by working on the lands of others as sub-tenant or as an agriculture labour prior to the cut-off date.

Below Poverty Line: A household, whose annual income from all sources is less than the designed sum as fixed by the planning commission of India, will be considered to be below poverty line (BPL).

Vulnerable Person: The Vulnerable group may include but not be limited to the following:

- Those people falling under Below Poverty line category as defined by GoUP.
- Member of Scheduled caste/tribe community/other backward community.
- Women Headed households.
- Senior citizen-person above the age of 60 years.
- Landless
- Village artisan

5.7.3 R & R Benefits for Project Affected Families

The resettlement and rehabilitation (R&R) benefits shall be extended to all the Project Affected Families (PAF) whether belonging to below poverty line (BPL) or non-BPL. The details are



provided in the entitlement matrix (Table 5.1 below). Contractor will ensure that access to residences or business is not blocked during construction. The NGO responsible for RAP implementation and M&E consultants will bring it to the notice of project authorities if contractor fails to do so. In such case, PAPs will be assisted by the project as per clause H9 of the policy.

For tribal the following provisions will be adhered.

- Each Project Affected Family of ST category shall be given preference in allotment of land.
- Tribal PAFs will be re-settled close to their natural habitat in a compact block so that they can retain their ethnic/linguistic and cultural identity
- The Tribal Land Alienated in violation of the laws and regulations in force on the subject would be treated as null and void and-the R&R benefits would be available only to the original tribal land owner.

Table 5-1: Entitlement Matrix

S. No.	Application	Definition of Entitled Unit	Entitlement	Details
A. Loss of Private Agricultural, Home-Stead & Commercial Land				
1	Land within the Corridor of Impact (COI)	Titleholder family. and families with traditional land Right	Compensation at Market value, Resettlement and Rehabilitation	a) Land for land, if available. Or, Cash compensation for the land at Market value, which will be determined as provided under section 26 of RFCTLARR Act 2013. b) The land if allotted will be in the name of both husband and wife. c) If post acquisition, residual land is economically unviable, the land owner will have the choice of either retaining or sell off rest of the land. d) Refund of stamp duty and registration charges incurred for replacement land to be paid by the project; replacement land must be bought within a year from the date of payment of compensation to project affected persons. e) Subsistence allowance of Rs. 36000 as one time grant f) One time grant of Rs. 500,000 or annuity g) Compensation at market value for loss of crops if any
B. Loss of Private Structures (Residential/Commercial)				
2	Structure within the Corridor of Impact (Col)	Title Holder/ Owner	Compensation at Market value, Resettlement & Rehabilitation Assistance	a) Cash compensation for the structure at Market value which would be determined as per as per section 29 of the RFCTLARR Act 2013. House under Indira Awas Yojna in rural area or Rs 50000 in lieu off and house under RAY in urban area or Rs 100,000 in lieu off. The house if allotted will be in the name of both husband and wife. b) Right to salvage material from the demolished structures. c) Three months' notice to vacate structures. d) Refund of stamp duty and registration charges for purchase of new alternative houses/shops at prevailing rates on the market value as determined in (a) above. Alternative houses/shops must be bought within a year from the date of payment of compensation.



S. No.	Application	Definition of Entitled Unit	Entitlement	Details
				e) In case of partially affected structures and the remaining structure remains viable, additional 10% to restore the structure. In case of partially affected structures and the remaining structure becomes unviable additional 25% of compensation amount as severance allowance. f) Subsistence allowance equivalent to Rs. 36000 as one time grant. G) Each affected family getting displaced shall get a one-time financial assistance of Rs 50,000 as shifting allowance. h) Each affected family that is displaced and has cattle, shall get financial assistance of Rs 25,000/- for construction of cattle shed. i) One time grant of Rs. 50,000 as resettlement assistance j) Each affected person who is a rural artisan, small trader or self-employed person and who has been displaced (in this project owner of any residential-cum commercial structure) shall get a one-time financial assistance of Rs 25,000/-for construction of working shed or shop. j) One time grant of Rs. 500,000
3	Structure within the Corridor of Impact (Col)	Tenants/ Lease Holders	Resettlement & Rehabilitation Assistance	a) Registered lessees will be entitled to an apportionment of the compensation payable to structure owner as per applicable local laws. b) In case of tenants, three months written notice will be provided along with Rs 50,000 towards shifting allowance.
C. Loss of Trees and Crops				
4	Standing Trees, Crops . within the Corridor of Impact (Col)	Owners and beneficiaries (Registered/ Un-registered tenants, contract cultivators, leaseholders & sharecroppers	Compensation at market value	a) Three months advance notice to project affected persons to harvest fruits, standing crops and removal of trees. b) Compensation to be paid at the rate estimated by: i) The Forest Department for timber trees ii) The State Agriculture Extension Department for crops iii) The Horticulture Department for fruit/flower bearing trees. c) Registered tenants, contract cultivators & leaseholders & sharecroppers will be eligible for compensation for trees and crops as per the agreement document between the owner and the beneficiaries. d) Un-registered tenants, contract cultivators, leaseholders & sharecroppers will be eligible for compensation for trees and crops as per mutual understanding between the owner and the beneficiaries.
D. Loss of Residential/ Commercial Structures to Non-Titled Holders				
5	Structures within the Corridor of Impact (Col) or Govt, land	Owners of Structures or Occupants of structures identified as per Project Census Survey	Resettlement & Rehabilitation Assistance	a) Non vulnerable encroachers shall be given three months' notice to vacate occupied land b) Vulnerable encroachers will be provided cash assistance at replacement cost for loss of structures as described in section 29 of the RFCTLARR Act 2013. . c) Any encroacher identified as non-vulnerable but losing more than 25% of structure used will be paid cash assistance at replacement cost for loss of structures. The amount will be determined as per section 29 of the RFCTLARR Act 2013. d) All squatters to be paid cash assistance for their structures



S. No.	Application	Definition of Entitled Unit	Entitlement	Details
				<p>at replacement costs which will be determined as mentioned in section 29 of the RFCTLARR Act 2013.</p> <p>e) All squatters (other than kiosks) will be eligible for one time grant of Rs 36000 as subsistence allowance.</p> <p>f) All squatters other than Kiosks will be given shifting allowance of Rs 50,000 per family as one time grant for a permanent structure and Rs. 30,000 for a semi-permanent structure and Rs. 10,000 for a temporary structure.</p> <p>g) Each affected person who is a rural artisan, small trader or self-employed person assistance' of Rs 25,000/- for construction of working shed or shop.</p> <p>h) In case of Kiosks, only Rs. 5000 will be paid as one time grant.</p>
E. Loss of Livelihood				
6	Families living within the Corridor of Impact (Col)	Title Holders/ Non-Title holders/ sharecroppers, agricultural labourers and employees	Resettlement & Rehabilitation Assistance	<p>a) Subsistence allowance of Rs. 36,000 as one time grant. (PAPs covered under 1(f), 2 (f) and 5 (e) above would not be eligible for this assistance).</p> <p>b) Training Assistance of Rs 10,000/- for income generation per family.</p> <p>c) Temporary employment in the project construction work to project affected persons with particular attention to vulnerable groups by the project contractor during construction, to the extent possible.</p>
F. Additional Support to Vulnerable Families				
7	Families within the Corridor of Impact (Col)	SC, ST, BPL, WHH families	Resettlement & Rehabilitation Assistance	One time additional financial assistance of Rs. 50,000. Squatters and encroachers already covered under clause 5 are not eligible for this assistance.
G. Loss of Community Infrastructure/Common Property Resources				
8	Structures & other resources (e.g. land, water, access to structures etc.) within the Corridor of Impact (Col)	Affected communities and groups	Reconstruction of community structure and common property resources	Reconstruction of community structure and Common property resources in consultation with the community.
H Temporary Impact During Construction				
9	Land & assets temporarily impacted during construction	Owners of land & Assets	Compensation for temporary impact during construction e.g. diversion of normal traffic, damage to adjacent parcel of land / assets due to movement of heavy machinery and plant site.	Compensation to be paid by the contractor for loss of assets, crops and any other damage as per prior agreement between the 'Contractor' and the 'Affected Party'.



S. No.	Application	Definition of Entitled Unit	Entitlement	Details
I.	Resettlement Site			
10	Loss of residential structures	Displaced titleholders and non-titleholders	Provision of resettlement site/ vendor market	Resettlement sites will be developed as part of the project, if a minimum of 25 project displaced families opt for assisted resettlement. Vulnerable PAPs will be given preference in allotment of plots/flats at the resettlement site. Plot size will be equivalent to size lost subject to a maximum of provision given in RFCTLARR Act 2013. Basic facilities shall be provided by the project at resettlement site as per the provisions given in the Third Schedule of RFCTLARR Act 2013. Similarly, if at least 25 displaced commercial establishments (small business enterprises) opt for shopping units, the Project Authority will develop the vendor market at suitable location in the nearby area in consultation with displaced persons. Basic facilities such as approach road, electricity connection, water and sanitation facility, will be provided in the vendor market by the project. Vulnerable PAPs will be given preference in allotment, of shops in vendor market. One displaced family will be eligible for only one land plot at resettlement site or shop in the vendor market.

5.8 Indigenous Peoples Development Framework (IPMF)

5.8.1 Introduction

The guiding principles enshrined in the constitution of independent India as also various plans and policies for safeguarding the interests of scheduled tribes notwithstanding, the benefits of development of free and shining India have by and large by-passed the scheduled tribes. This issue is source of anxiety and worry for the administrators, implementers and researchers of the country. This anxiety and worry has to be understood in the context of all kinds of development projects that have been/are being carried out across the Uttar Pradesh State Road Project.

The Indigenous People (IPs) in India are categorized as tribal who often become vulnerable in development projects because of their cultural autonomy which is usually undermined and also because this group endure specific disadvantages in terms of social indicators of quality of life, economic status and usually as subject of social exclusion. In Uttar Pradesh tribes are less than 1% of the total population. The peripheral regions of Uttar Pradesh, are home to a number of tribal communities such as Agaria, Baiga, Bhar, Bhoksa, Bind, Chero, Gond, Kol and Korwa. Five of these tribal communities have been recognized by the Government of India as disadvantaged scheduled tribes, viz. Tharus, Boksas, Bhotias, Jaunswaris and Rajis. Districts with substantial tribal population includes Sonbhadra; Kheri; Agra; Lucknow; Allahabad; Kanpur; Deoria; and Jaunpur.

5.8.2 Objective

The objective is to design and implement projects in a way that fosters full respect for Indigenous Peoples' dignity, human rights, and cultural uniqueness and so that they: (a) receive culturally compatible, gender and inter-generationally inclusive social and economic benefits; and (b) avoid adverse effects during the development process, or if not feasible ensure that these are minimized, mitigated or compensated.



The term “Indigenous Peoples¹” is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:

- (a) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- (b) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories⁷
- (c) customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- (d) an indigenous language, often different from the official language of the country or region.

The Constitution of India, Fifth Schedule (Article 244) provides for the administration and control of Scheduled Areas² and Scheduled Tribes (areas and tribes needing special protection due to disadvantageous conditions).

The provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996 lays down process to be followed for acquisition of land in Scheduled V Areas. The Act under sub-section (1) of Section 4 provides for mandatory consultation with the Gram Sabha before any land acquisition proceedings can be undertaken. It further states that all Gram Sabhas in which even if one person is affected by the proposed project would have to be consulted before acquisition proceedings are initiated, by the procedure prescribed. Every Gram Sabha shall be competent to safeguard and preserve the traditions and customs of the people, their cultural identity, community resources and the customary mode of dispute resolution. The World Bank OP 4.10 emphasizes “a process of free, prior, and informed consultation with the affected Indigenous People’s communities at each stage of the project, and particularly during project preparation, to fully identify their views and ascertain their broad community support for the project.

Project shall avoid adverse impact on such areas to the extent possible. Where unavoidable, it will consult the concerned Gram Sabha / Panchayat for obtaining their broad support and resolution for initiating land acquisition as per the provisions of the Act and OP 4.10.

As mentioned earlier, the social screening survey will identify presence of IPs and any adverse impacts on tribal people (Indigenous Peoples). In case such cases are found provisions of World Bank OP 4.10, and government regulations will be applicable. A Tribal Development Plan (TDP) will be prepared, to provide specific benefits to the tribal people, as applicable.

5.8.3 Generic Issues / Concerns of Tribal Communities

Though no tribal settlement was identified during rapid assessment, tribal issues were identified through review of secondary information. In order to have a more focused tribal development strategy, these issues have been grouped into (i) issues that are directly related to the project development for which measures will have to be taken up under the project to address them and (ii) issues which are outside the scope of the project but institutional collaboration could help the tribal in their development. These have been listed below:

¹As per Operational Policy 4.10 on Indigenous Peoples, World Bank.

²Article 244 (1) and 244 (2) of the constitution of India enables the government to enact separate laws for the governance and administration of the tribal areas. In pursuance of these articles, the President of India had asked each of the states in the country to identify tribal dominated areas. Areas thus identified by the states were declared as Fifth Schedule areas.



Issues related directly to the development of the project

- Loss of agriculture income
- Loss of employment of daily wagers in shops and eating places along the road
- Loss of shelter
- Lack of effective consultation
- Loss of community facilities
- Poor access to project information and benefits
- Seek employment opportunities through project
- Physical displacement

Other Issues:

- Low level of agriculture productivity
- Lack of employment opportunities
- Low income levels
- Poor health
- Low level of education
- High levels of debt

5.8.4 Procedure for Preparing an Indigenous Peoples Development Plan (IPDP)

In order to prepare an IPDP the following steps will be taken:

- Social screening to establish the presence of tribes in the project area or have collective attachment to the project area
- based on a detailed social assessments establish baseline data on the tribal people (subsistence, employment, community networks) in the project area;
- review Acts / policy guidelines applicable in the respective states regarding tribal groups and also the central Acts / Policies;
- identify the impacts (both positive and negative) and prepare an IPDP;
- disclose the draft IPDP

Screening

During the planning and design phase of the sub project, screening survey will be carried out based on group discussion with the communities in the sub project area in order to identify presence of any tribal group or any such group that have collective attachment to the project area. Apart from the consultation with the community members, consultations / in depth interviews will also be carried out with the NGOs working in the area and representative of local self government. The screening will look into the details of tribal households, assessing the number of such households along the zone of influence of the proposed sub project. If the result shows that there are tribal households, the issues related to the community will be included in the social impact assessment (SIA) survey.

Social Impact Assessment

The PWD will be responsible for conducting SIA and the development of an action plan with the help of indigenous community and organizations working for them. The SIA will gather relevant information on demographic, social, cultural; economic and networking aspects of each household and needs of the community as a whole. The information on individual household will be collected through household survey whereas community based needs will be assessed through



group discussions with the community as a whole as well as in discussion with the community leaders and government and non-governmental officials working in the area on tribal issues. The discussion will focus on both positive and negative impacts of the sub project. The suggestion and feedback of the community on the design and planning of the sub project will also be documented.

Entitlement: Based on the Operational Policy 4.10 of the World Bank and as one of its significant R&R requirements; special provisions for the Scheduled Tribes (ST) has been made in the project R&R Policy (apart from the general compensation and assistance to be received as Project Affected Persons (PAPs)/Project Affected Households (PAHs)) of this project for loss of assets. Apart from compensation at replacement value and R&R assistance for any adverse impact, each IP family will be entitled for additional INR 50,000 as one time grant. PIU and NGO will counsel every family to ensure that compensation and R&R assistances are used for productive assets.

5.9 Indigenous Peoples Development Framework (IPMF)

5.9.1 Consultation, Disclosure and Institutional Framework

The PWD will prepare the IPDP and finance, implement and monitor it. The IPDP will be implemented along with the Resettlement Action Plan (RAP). A local NGO with the relevant experience will be hired to assist the PWD in planning and implementing the IPDP. The NGO will be fully briefed on World Bank's policy on indigenous people. IPDP committees will be formed at State and District level to implement and monitor the plan.

The tribal groups will be consulted in preparing the IPDP. They will be informed of the mitigation measures proposed and their views will be taken into account in finalizing the plan. The plan will be translated in the local language and made available to the affected people before implementation.

The tribal institutions and organizations in the affected area will also be involved in implementing the IPDP and in resolving any disputes that may arise. PWD will ensure that adequate funds are made available for the plan.

5.9.2 Monitoring and Evaluation

PWD will set up an internal monitoring system comprising its own staff, NGOs, tribal people and their institutions to monitor plan implementation. Monitoring indicators will be established. In addition, an external independent monitoring agency will be employed by PWD. Reporting formats will be prepared for both internal and external monitoring.

Monitoring indicators:

Monitoring will cover both physical and financial progress of the project. This will include acquisition of land, provision of infrastructure, disbursement of compensation and assistances and other necessities. The physical and financial performances will be assessed by third party monitors. The indicators for physical and financial progress of the project have been presented in Table 5-2.

Table 5-2: Monitoring indicators for IPDP implementation

Sl. No.	Monitoring Indicators	Methods to asses and measure
A.	Indicators for Physical Progress	



Sl. No.	Monitoring Indicators	Methods to asses and measure
1	No. of PAPs issued ID cards	Through concurrent monitoring and independent evaluation. Evaluation and monitoring will specifically look into: Number of grievance received from ST PAPs. Number of grievances addressed by DLC. Number of grievances passed on to SLC. Number of consultation held with PAPs regarding the disbursement of compensation and assistance. No. of ST PAPs attended the meetings
2	No. of PAP selected for Training	
3	No. of PAPs Joined for the programmes	
4	No. of PAPs benefited	
5	No. of PAH benefited	
6	No. of PAPs in the benefited	
7	No. of ST Villages benefited	
8	No. of PAPs used training programme for their livelihood after completion of the training programme	
9	No. of villages benefited through community centers	
10	The population covered by each community centers	
11	No. of PAPS Received compensation	Concurrent monitoring
12	No. of PAPs received Rehabilitation assistance	Concurrent monitoring
13	No. of PAPs informed about Entitlements	Concurrent monitoring
14	No. of PAPs informed about the valuation process and agreed for the compensation fixed for land and buildings	Concurrent monitoring
15	No. of community facilities constructed in villages with ST PAPs	Concurrent monitoring
B. Indicators for Financial Progress		
1	Total amount spent	Review of PWD documents and concurrent monitoring
2	Amount spent on training prgrammes	Review of PWD documents and concurrent monitoring
3	Amount spent on construction of community centers	Review of PWD documents and concurrent monitoring
4	Amount spent for payment of compensation to PAPS	Review of PWD documents and concurrent monitoring
5	Amount spent for payment of assistance to PAPS	Review of PWD documents and concurrent monitoring
6	Amount spent for rehabilitation of PAPS	Review of PWD documents and concurrent monitoring
7	Amount spent under each eligible entitlement for PAPs	Review of PWD documents and concurrent monitoring
8	Amount spent by PAPs on productive assets	Concurrent monitoring and independent evaluation

5.9.3 Suggested Format for IPDP

The suggested format for the IPDP is as follows

- Description of sub projects and implications for the indigenous community
- Gender disaggregated data on number of tribal households by impact category
- Social, cultural and economic profile of affected households
- Land tenure information
- Documentation of consultations with the community to ascertain their views about the project design and mitigation measures
- Findings of need assessment of the community
- Community development plan based on the results of need assessment
- Modalities to ensure regular and meaningful consultation with the community
- Institutional arrangement and linkage with other national or state level programmes
- Institutional mechanism for monitoring and evaluation of IPDP implementation and grievance redress
- Implementation Schedule and cost estimate for implementation



5.9.4 Key Elements of IPDP and Participatory Approach

The key elements in an IPDP include:

- All development plans for indigenous people should be based on full consideration of the options and approaches that best meet the interests of the communities.
- Scope and impact be assessed and appropriate mitigation measures are identified
- Project should take into account the social and cultural context of affected peoples, and their skills and knowledge relating to local resource management
- During project preparation, formation and strengthening of indigenous peoples organization; communication to facilitate their participation in project identification, planning, execution and evaluation should be promoted.
- In case PWD is not capable of preparing and implementing IPDP, experienced community organizations / NGOs can be involved as intermediaries.

5.9.5 Participatory Approach for Preparation of IPDP

The main thrust of IPDP is to address the developmental issues of the project taking into consideration the marginality status of tribal community. The IPDP will offer developmental options addressing community based needs of indigenous people while respecting their socio-cultural distinctiveness. The IPDP aims at strengthening the existing capacity of the affected tribal community. The strategy of IPDP therefore would be to promote participation of the tribal people, initiating and identifying people's need, priorities and preferences through participatory approaches. Therefore, the action plan for a particular village will be prepared by the community themselves. These plans would be prepared on yearly basis.

Participatory Rural Appraisal (PRA) initiates the process of people's participation, facilitating decision-making through mutual discussion and direct consultation. Participatory approach is intended to promote participation of all stakeholders creating development opportunities for the affected community. It is therefore, mandatory that appropriate PRA tools along with Focus Group Discussion (FGD) is employed to initiate participation in IPDP for collection of qualitative data. The areas of enquiry would mainly include:

- Identification of tribal groups
- Access to natural resources, likely impact on land ownership and land distribution, share cropping and lease holder
- Participation in the livelihood security component of the project
- Employment and income generating opportunities in agriculture, trade and business and services
- Poverty
- Women and Gender relation
- Felt needs and community organization

With a view to assess the life patterns of the affected indigenous population and to prepare IPDP in consistent with community and region specific background, pertinent baseline information shall be collected, compiled and analyzed. The baseline information on socio-economic characteristics including land tenure, land holding categories, occupational pattern, usual activity status, income – expenditure pattern, access to natural resources, health status, literacy level, age structure,



gender, marital status, etc shall be collected in order to facilitate the planning process. The baseline data shall be collected through pre-tested structured schedules.

The most important component of IPDP is to assess the type and magnitude of impacts, both positive and negative on the tribal communities. The assessment of impacts on tribal population in the projects shall focus on the probable consequences of the project according to specific criteria / indicators.

The indicators may include:

- Access to natural resources (such as forest, grazing land, weekly markets, etc.)
- Job opportunities through wage labour within or outside agriculture
- Employment and income generating opportunities in agriculture, trades, services and business
- Tribal community rights, institutions, values and way of life
- Social infrastructure and public services such as sources of water, health facilities, schools, etc
- Reduction in political power, marginalisation and social disarticulation
- Changes in farming methods, cropping pattern, crop yield, income, expenditure pattern, etc.

One major activity during the course of the survey would be to identify, various community specific developmental needs linked to their socio-economic and cultural life. The needs shall be identified for infrastructure development and community service facilities such as weekly markets, drinking water facility, sanitation, health facility, schools, community halls, post office, watershed structure, drainage, etc;

5.9.6 Implementation Issues and Strategy

It is envisaged that proper implementation of IPDP is possible only through community participation. The participatory approach will ensure:

- Promotion of community concern and involvement
- Proper organization and management of resources
- Setting up of criteria and fixing criteria and procedures for project execution are done at the grass root level
- Identification, selection and strengthening of implementing agency at the grass roots level

Steps will be taken to ensure that (i) tribal community participates in the project, (ii) is fully aware of their rights and responsibilities; and (iii) are able to voice their needs during IPDP preparation. The community would be encouraged to prepare their own plan that caters to the needs of the community.

Appropriate people's organization and forum need to be built up and strengthened to ensure effective peoples representation and empowerment in the process of selection of specific community development activities and their execution. The conventional top down approach to project implementation through prevailing bureaucratic framework, need to be reoriented for the framework of participative administrative structure to respond to bottom up initiatives based on participatory process for informed community participation and empowerment.



IPDP as a means of sustainable development is based on the strategy of using culturally appropriate, socially acceptable and economically viable opportunities for livelihood of the tribal community including farmers, agriculture and non-agriculture labour, women and wage earners.

The strategy includes:

- Participation of tribal community in plan preparation, formulation and implementation by strengthening their existing tribal social, political and community organizations through required legislative measures, positive administrative responses and people's mobilization.
- Strengthening women's traditional role in subsistence economy through organization, capacity building for leadership and skills improvement, access to non timber forest produce (NTFP), while bringing about greater sharing of household responsibilities between men and women.
- Keeping in view the strong bondage of the tribal community with land and forest, subsistence practices, traditional culture and ways of life, the strategy may create space for innovative policy measures through appropriate legislation / executive actions. Such innovative policy responses may cover any aspect of their needs from food security, income generating activities, right over forest produce, community health measures or any such issue as generated by the community in course of their participation in the plan process.
- Involvement of non-governmental organization (NGO) as an interface between the government and the tribal community to "bind" and strengthen their organizations, develop a mechanism for redress of grievances and facilitate their being a "stakeholder" in the institutional arrangements for IPDP.
- To ensure the right institutional mechanism for this strategy, IPDP will be integrated with the existing structures of ITDP/DRDA wherever necessary.

Non- governmental organizations (NGO) are "secondary stakeholders" who can facilitate the participation of "primary stakeholders"-the tribal community. The NGOs must have a clear understanding of the socio-economic, cultural and environmental context of the project.

The social and community organizations of tribal population will be identified to strengthen and involve them in participatory process of IPDP. The IPDP will develop a linkage with the structure and the process of tribal development administration so that the tribal communities can enjoy more benefits. The NGOs will also provide the important interface between tribal administration and the community.

Grievance Redress Mechanism: Apart from project GRM, a specific grievance mechanism will be established for indigenous people. A district level grievance redressal cell will be constituted to address the grievances of the PAPs related to disbursement of compensation and resettlement. The space for the functioning of the cell will be provided in the concerned PIU office.

Members of GRC: The cell will be constituted by the PMU in the concerned project districts. The GRC will be represented by the representatives of tribal PAPs and also non-tribal, the village head, NGOs contracted for the implementation of RAP and any other opinion leader from the concerned village. It will be chaired by a retired officer, who served as principal/judges/ Deputy commissioner/Additional DC, etc. Apart from the nominated persons, the concerned executive engineer of PWD will attend the meetings.



Functions of the Cell: The district grievance cell will conduct a meeting in the first week of every month to hear the grievances from the PAPs. All the complaints will be forwarded to the concerned department/officials within 15 days from the date of receiving the complaints. The issues resolved/addressed by concerned officials within 45 days from the receipt of the complaints. All the grievances received shall be discussed by the Chairman of the cell with executive engineer of the concerned PIU for the necessary action.

The committee shall submit a monthly report to the PIU for the reference regarding the issues received and the cases disposed and forwarded to PMU. In case PAP is not satisfied by the verdict given by GRC, he or she is entitled for approaching the judiciary. The NGO responsible for implementing the RAP, will assist such PAP to approach the judiciary.

5.9.7 Gender Issues among Tribes

The tribal women play an important role in the community and family. Women normally constitute half of the total population in any project area and for survival tied themselves to land and forest. These women work as farm servants and attached labourers. Even in agricultural household, women share with men the burden of agricultural operations like transplanting, weeding, harvesting, threshing, winnowing, etc. The concentration of women in agricultural and allied activities is due to the decline of rural industries leading to large-scale reduction of labour force within non-agricultural sector.

In IPDP, therefore, efforts will be made to (i) create an institutional framework to make gender sensitive decisions. PWD in consultation with SRCA and Women and Child Welfare Department shall constitute Women Interest Groups (WIGs) within a village and Gender Advisor Committee at district and state level, (ii) women members would be trained for upgradation of skills to initiate viable irrigation related income generation activities for their economic empowerment. In addition women members will be trained in fisheries, animal husbandry, value addition to NTFP, development of kitchen garden, home orchards; production of mushroom, rice-cum-fish culture, etc to generate additional income, (iii) through training, women members will be provided information to make them an active participant in various activities of WUAs. The activities include (a) provide information on developing a WIG sub plan, (b) linking with other women's development programmes of line department, and (iv) NGO will focus on women's need for social development.

5.9.8 Gender Assessment and Development Framework

Mainstreaming gender equity and empowerment is already a focus area in the project. In the sub projects, activities related to livelihood restoration will address women's needs. A Gender Development Framework is being designed under the project as part of ESMF which will help analyze gender issues during the preparation stage of sub project and design interventions. At the sub project level, gender analysis will be part of the social assessment and the analysis will be based on findings from gender specific queries during primary data collection process and available secondary data. The quantitative and qualitative analysis will bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential for gender based inequitable risks, benefits and opportunities. Based on the specific interventions will be designed and if required gender action plan will be prepared. The overall monitoring framework of the project will include sex



disaggregated indicator and gender relevant indicator.

The participation of beneficiaries and focus on poverty reduction are two other key determinants of the effectiveness and sustainability of any project. Any project must address the constraints on women's participation in project design, construction, and monitoring and evaluation (M & E). The project must also focus on the linkage between gender and poverty, by identifying, for example, households headed by females and those households' special needs. An adaptive, learning, and process-oriented approach works better than a blue print approach; continuous dialogue between the PWD and the beneficiaries / PAPs is therefore important. Project beneficiaries are likely to have a stronger sense of ownership when the project gives them enough time, design flexibility, and authority to take corrective action. In this way, they find it easier to incorporate their earlier learning and negotiate with project staff and service providers. Therefore, a mechanism must be built into the project to allow such two-way interactions between the beneficiaries and the service providers.

Three major tools are used to identify and deal with gender issues in the project cycle: gender analysis, project design, and policy dialogue.

Gender analysis should be an integral part of the initial social assessment at the screening stage itself. The issues identified can be scaled up during the feasibility and detailed analysis can be carried out during the DPR stage.

The project designs should be gender responsive based on the gender analysis, and should be included in the DPR. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action. Listed below are the key action points:

5.9.8.1 General Check list

- Identify key gender and women's participation issues.
- Identify the role of gender in the project objectives.
- Prepare terms of reference (TOR) for the gender specialist or social development specialist of the client
- Conduct gender analysis as part of overall Social Assessment.
- Draw up a socioeconomic profile of key stakeholder groups in the target population and disaggregate data by gender.
- Examine gender differences in knowledge, attitudes, practices, roles, status, wellbeing, constraints, needs, and priorities, and the factors that affect those differences.
- Assess men's and women's capacity to participate and the factors affecting that capacity.
- Assess the potential gender-differentiated impact of the project and options to maximize benefits and minimize adverse effects.
- Identify government agencies and nongovernmental organizations (NGOs), community-based organizations (CBOs), and women's groups that can be used during project implementation. Assess their capacity.
- Review the gender related policies and laws, as necessary.
- Identify information gaps related to the above issues.
- Involve men and women in project design.



- Incorporate gender findings in the project design.
- Ensure that gender concerns are addressed in the relevant sections (including project objectives, scope, poverty and social measures, cost estimates, institutional arrangements, social appendix, and consultant's TOR for implementation and M & E support).
- List out major gender actions.
- Develop gender-disaggregated indicators and monitoring plan.

5.9.8.2 Core Requirement for Mainstreaming Gender

- All data should be disaggregated by gender, caste, ethnicity, location and age
- Issues of division of labour, access to resources and decision making power (who is doing what, who has access to what, who makes the ultimate decision) have to be assessed for their gender differential impact on women and men of different social identity group.
- Assessment of policies, programs, institutional arrangements, human resources issues and M&E system has to be done from a gender perspective of project, project authorities and community groups.

5.9.8.3 Steps of Gender Mainstreaming

Three major tools will be used to identify and deal with gender issues in the project cycle: initial gender assessment, gender action plan, and policy note. The initial gender assessment should be an integral part of the initial social assessment at the screening stage. The issues identified can be scaled up during the feasibility study and detailed analysis can be carried out during the detailed project report stage. The project design should be gender responsive based on the gender analysis, and should be included in the detailed project report in the form of a gender action plan. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action.

Focus of intervention	Inputs and process indicators	Data source
Policy checklist	<p>What are the requirements of the national gender equality policy, if any, and the executive support provided to it?</p> <p>Which ministry focal point or unit is responsible for advocacy and gender inclusion at the policy and project level?</p> <p>Does the road and transport sector strategy address gender issues (labor issues, e.g. promotion of gender in labor-based work, participation of women in prioritization and design of works, measures to eliminate discriminatory labor or contracting practices, HIV/AIDS prevention and treatment) in its works and contracts?</p> <p>Do transport policy and planning procedures explicitly take gender into account: identification of gender gaps and gender-specific needs, capacities, constraints, and opportunities</p> <p>inclusion of socioeconomic empowerment as an integral element?</p> <p>Are women and men civil society stakeholders consulted on policies and programs; included in teams analyzing policy and strategy; included in decision making?</p> <p>Is there a system for monitoring the implementation of gender and other components of sector policies and strategies?</p> <p>Does the transport sector budget include resources for:</p>	Contract documents; ministry of Road, Transport and Highways; ministry of women and child development; Public Works Department; Department of Transport



Focus of intervention	Inputs and process indicators	Data source
	<p>sex disaggregation of beneficiary data and key gender indicators</p> <p>outreach and capacity building on gender and other social dimensions grants for addressing gender issues?</p> <p>Do the transport department / PWD have female as well as male representation?</p> <p>Are there training sessions on gender including gender-sensitive planning?</p> <p>Is stakeholder consultation facilitated?</p> <p>Is there participation of implementing agencies or community organizations?</p> <p>Are gender sensitization workshops held for men and women of tourism ministry / department staff and implementing agencies, and do they consider knowledge gaps in gender elements in the sector?</p> <p>How many women are represented on tender boards and in works prioritization and decision-making forums related to the planning, implementation, monitoring, and evaluation of projects?</p>	
Project cycle: Project identification, preparation, and design	<p>Conduct a rapid assessment to identify and quantify potential gender-related issues and impacts affecting access, mobility, risks, benefits, and participation</p> <p>Identify disadvantaged or vulnerable groups, including who they are, where they live, and their socioeconomic characteristics (scheduled castes, women-headed households, widows, disabled)</p> <p>Examine the impacts of project on these groups</p> <p>Identify the gender-specific implications of land acquisition and resettlement</p> <p>Identify gender-specific implications of employment opportunities to be created under the project</p> <p>Identify gender-specific constraints in receiving information and providing feedback and complaints on the project</p> <p>Discuss identified gender and other social issues in the project</p> <p>Include both females and males affected by the project in stakeholder consultations</p> <p>Use separate focus groups to enable women to voice their views separately from men</p> <p>Analyze the data collected to highlight gender differences in uses and the underlying causes of women's and men's project related problems</p> <p>Examine relevant inter-sectoral linkages, such as access to health services, HIV/AIDS prevention, and access to markets and schools</p> <p>Ensure that analysis of gender differences in needs, use, constraints, and access are included in the terms of reference for the social assessment and road user satisfaction survey</p> <p>Identify the gender-related issues that need to be addressed to ensure the effectiveness and sustainability of the project</p> <p>Develop approaches for addressing the gender-related issues identified and creating opportunities for equal access to project benefits for men and women, including training, organizational capacity building, grants programs, targets for women's participation</p> <p>Develop indicators for measuring progress on gender-related issues within the relevant project components (e.g. construction works, institutional arrangements, land acquisition and resettlement benefits, privatization, livelihood restoration,</p>	Stakeholder and beneficiary assessments: user satisfaction survey, project concept note, social assessments (household surveys and focus group discussions in project influence area), mid-term and end term evaluation surveys



Focus of intervention	Inputs and process indicators	Data source
	awareness building, consultations, complaint handling)	
Project cycle: Methodology	<p>Desk review (secondary literature) Review available information (e.g. statistics, gender analysis, documents of previous transport projects) in the project area and the socioeconomic profile of the target population Review the relevant legal framework (e.g. inheritance law), policy framework (e.g. resettlement and rehabilitation), and institutional framework (e.g. current administrative system for land acquisition, compensation disbursement, grievance handling, awareness creation) and their gender implications Review government programs for encouraging equal opportunities and participation of women in the project influence area Household surveys (primary survey) Draw up gender-disaggregated socioeconomic and cultural profiles and identify the problems faced by and needs of the target population Conduct group discussions, random interviews, and walking tours Collect quantitative information Participatory methodologies (e.g. participatory rapid appraisal) Collect qualitative information that cannot be collected through surveys (socio cultural norms, behavioral questions) Define ways in which men and women beneficiaries and other stakeholders, especially poor women, can equally participate in the project Map out the target areas and assess which are the most disadvantaged areas and sections of society (widows, female-headed households, disabled men and women) in terms of access to services and poverty level Identify major stakeholder groups and their positions Staffing Ensure adequate gender balance in field teams Select field team members with gender awareness, local knowledge, cultural understanding, and willingness to listen</p>	Other projects in the country/state and gender policy documents, household surveys, national sample survey, latest census data, participatory rapid appraisal of target area, focus group discussions, consultations with beneficiaries
Project cycle: Data collection	<p>Socioeconomic profile: Gender-disaggregated data Demographic: Gender, sex ratio, caste, marriageable age, female-headed households, migration trend, household size Economic: Income level and source, expenditure pattern and decision making, access to land and resources Health: Population growth rate, infant and adult mortality rate, availability of medical facility, reproduction-related decision making, HIV/AIDS awareness Education: Literacy, school enrollment and dropout ratio, child labor Status of women: Political representation and awareness, socio cultural perceptions and practices of men and women, domestic violence, trafficking, gender-discriminatory policies and laws, gender roles, responsibilities and gender division of labor in productive areas (e.g. agriculture, income-generating activities) and reproductive areas (e.g. household chores, child care), and time allocation for each responsibility Fuel, fodder, water and sanitation Availability, quantity, and quality of fuel and fodder, who collects fuel, fodder, and water for the family, sources of drinking and agricultural water, how men and women store and use water collected, dry season management, how far away these</p>	District, block, and village census data, national sample survey data, health survey data, household surveys, focus group discussions, behavioral surveys, observation



Focus of intervention	Inputs and process indicators	Data source
	<p>resources are located, time spent on collection of the resources, mode of transport used to collect the resources, availability of sanitation service (chargeable or not, who runs it)</p> <p>Access, control, constraints</p> <p>How men and women differ in their access to and control of land, agricultural inputs, extension, markets, employment opportunities, and credit</p> <p>Whether external assistance is provided to improve access and control, and by whom</p> <p>Participation</p> <p>Factors affecting the level of participation of men vs. women, incentives and constraints, means of information dissemination about the project preferred by men vs. women, labor demand for men vs. women, which modes of participation men and women favor (e.g. decision making in planning, cash contribution, labor contribution for construction, training, financial management, organizational management)</p> <p>Perception of benefits and impacts</p> <p>Men's and women's perceptions of positive and negative impacts of the project, how negative effects can be mitigated</p>	
Project implementation: Gender action plan	<p>Prepare quality gender action plan. Under this:</p> <p>Undertake quality social and gender analyses. Identify constraints to participating and benefiting men and women; develop strategies for each loan component to ensure that men and women participate and benefit equally</p> <p>Revisit gender design strategies at inception to develop a detailed gender action plan. The plan needs to be tested and reviewed early in implementation; identify detailed activities, targets, resources, and responsibilities for implementation</p> <p>Gender action plan must be fully owned and understood by the executing agency. Use a participatory and flexible approach to developing the plan; a strong rationale that is directly linked to overall project objectives is needed for targeting and working with women</p> <p>Identify realistic targets linked to loan objectives. Targets and strategies should enable step-by-step progress, bringing incremental changes and challenging culture without threatening it; linking targets to loan objectives helps all stakeholders to understand the rationale for focusing on women and helps monitoring of participation and benefits.</p> <p>Include gender capacity building in the gender action plan. Both formal training and ongoing support and mentoring are needed for developing skills, ownership, and commitment.</p> <p>Provide adequate skills and resources for implementation of gender action plan. Long-term gender specialists in the executing agency or project team and adequate resources for implementation of actions; nongovernmental organizations and other agencies contracted to implement project activities should have a demonstrated gender capacity.</p> <p>Monitor and follow up gender-related targets and activities. Systematic follow-up to ensure that policy reforms and gender actions are implemented; routine monitoring and reporting; gender-sensitive indicators and gender-related risks must be included in project logical frameworks.</p>	Gender expertise, Discussion and participation with beneficiaries, separate focus group discussions with men and women, government departments, labor and employment laws, provisions in project and budget, learning approaches from good practice cases
Project implementation: Participation	<p>Develop a participation strategy for men and women during project implementation and monitoring and evaluation:</p> <p>Avoid overly high expectation of women's participation and</p>	Gender expertise, Discussion and participation with beneficiaries, separate



Focus of intervention	Inputs and process indicators	Data source
strategy	<p>develop a practical schedule for participation Planning. Conduct women-specific consultation to take their views and suggestions on the design. Any mechanism established during the project design, such as grievance mechanisms, should have adequate representation of women</p> <p>Construction. Ensure work conditions that are conducive to women's participation (e.g. gender-equal wage rates, construction season, toilet and child care facilities)</p> <p>Training options. Identify ways to link up with income generation, literacy, and other activities to support an integrated approach to poverty reduction and women's empowerment</p> <p>Staffing, scheduling, procurement, and budgeting. Hire female project staff</p> <p>Consider seasonal labor demand in scheduling civil works</p> <p>If appropriate, set a minimum percentage of female laborers and prohibit the use of child laborers in the civil works contract</p> <p>Ensure adequate and flexible budgeting to allow a learning approach (e.g. training budget, consulting service budget for women's organizations)</p>	<p>focus group discussions with men and women, government departments, labor and employment laws, provisions in project and budget, learning approaches from good practice cases</p>
Project cycle: Impact	<p>Establish whether men and women perceive positive and negative impacts of the project differently, and assess how the negative effects can be mitigated</p> <p>Consider whether the benefits are likely to be distributed equitably</p> <p>For disadvantaged or vulnerable groups, find out who they are, where they live, what are their socioeconomic characteristics (scheduled castes, women-headed households, widows, disabled), and how the project will affect them</p> <p>Assess the gender-specific implications of the following:</p> <p>land acquisition and resettlement: extent of land being acquired</p> <p>utility relocation: what and where</p> <p>tree cutting: how many and local dependence</p> <p>diversion of forest land: how much and local dependence</p>	<p>Project monitoring reports, audits, group discussions, household survey, land tenure details</p>
Monitoring and evaluation: Feedback mechanism	<p>Develop a feedback mechanism in which both males and females have a voice</p> <p>Disaggregate all relevant indicators by gender, such as number of women gaining access to credit, increase in women's income, and career prospects for project-trained women</p> <p>Integrate sex-disaggregated beneficiary data and relevant measures of gender equality into the baselines and other routine monitoring and evaluation processes</p> <p>Measure the impacts of the project components on women and men</p> <p>Assess the value added by women's participation in the project</p>	<p>Focus group discussions, project monitoring reports</p>
Monitoring and evaluation: Gender-informed indicators	<p>Develop gender-informed results indicators for monitoring. These include:</p> <p>Increased income, employment, and entrepreneurship. Number of women and men employed in sector, number of women and men operating transport-related services; increased women's and men's income from produce marketed using project services.</p> <p>Time saving and increased productivity. Reduced women's and men's time for domestic work (collection of water, fuel wood, food crop collection, fodder, etc.); increased productive time used for economic activities.</p> <p>Improved affordability. Percentage increase of income among</p>	<p>Review of gender-informed results indicators</p>



Focus of intervention	Inputs and process indicators	Data source
	women and men; increased participation in decision making; number of women and men participating in community decision meetings; reduced incidence of harassment, crime, and human trafficking; increased awareness of HIV/AIDS transmission and prevention; number of women and men leading committees; number of women and men managers in agencies; women control their income and establish bank accounts in their names; increased recognition of women's contributions to the household and community	

5.10 Consultation Framework and Information Disclosure

5.10.1 Consultation Framework

The Consultation Framework envisages involvement of all the stakeholders' at each stage of project planning and implementation. The UP PWD through DPR consultants and partner NGO during implementation will be responsible for ensuring participation of the community at sub-project level. Involvement of the community is not limited to interactions with the community but also disclosing relevant information pertaining to the project tasks. Community participation shall be undertaken at the following stages:

Sub Project identification stage

To sensitize the community about the project and their role

Planning Stage

For disseminating information pertaining to the project, work schedule and the procedures involved; finalization of project components with identification of impacts, entitled persons, mitigation measures; and Grievance Redressal; and

Implementation Stage - for addressing temporary impacts during construction and monitoring for transparency in the project implementation

Identification Stage

Dissemination of project information to the community and relevant stakeholders is to be carried out by the UP PWD at this stage of the project initiative. The community at large shall be made aware of the project alternatives and necessary feedback is to be obtained. This should include the process being followed for prioritization of the identified sub-projects. Community and other stakeholders should be involved in the decision making to the extent possible. Information generated at this stage should be documented for addressal of queries arising out of the Right to Information Act, 2005.

Project Planning Stage

Sub-project information is to be distributed amongst the community towards increasing their awareness and their roles and responsibilities. Planning stage is intended to be an interactive process with the community at least in two stages. Initially while finalizing the best fit alternative to a sub-project and second at the finalization of the detailed designs. This would be joint



responsibility of the consultants undertaking the design if not carried out by the UP PWD in house.

Consultations with Project Affected Persons and their profiling are mandatory as per the requirements of SIA and preparation of RAP. This needs to be done as socio-economic and census surveys as part of the detailed designs. Consultations with respect to and cultural aspects are to be carried out as part of the Social Impact Assessments for all alternatives and the selected alternative sub-project option.

Implementation Stage

Consultations as part of the implementation stage would be direct interactions of the implementation agency with the Project Affected Persons. These would comprise of consultations towards relocation of the PAPs, relocation of cultural properties, and towards addressal of impacts on common property resources (CPRs) such as water bodies, places of religious importance, community buildings, trees etc.

With the implementation of the R&R provisions in progress, consultations and information dissemination is to be undertaken to let the affected persons informed of the progress. Implementation stage also involves redressal of grievances in case of R&R aspects as well as relocation of common property resources through the grievance redressal mechanisms. These would usually be one to one meeting of PAP or community representatives with the grievance redressal committees established for the project.

5.10.2 Information Disclosure

The mechanism of information dissemination should be simple and be accessible to all. Two of the important means that have been followed until now include briefing material and organization of community consultation sessions. The briefing material (all to be prepared in local language) can be in the form of (a) brochures (including project information, land requirements and details of entitlements including compensation and assistance to be given to the PAPs) that can be kept in the offices of local self-government (municipal office in case of urban area and gram panchayat office in case of rural area) and PWD; (b) posters to be displayed at prominent locations and (c) leaflets that can be distributed in the impacted zone of the sub project. Consultation meetings should also be organized at regular intervals by the PWD to acquaint the PAPs of the following:

- Timeline and progress of the project;
- Information on compensation and entitlements;
- Information on land acquisition and market valuations of property;
- Time line for acquisition.

Also, opinion and consensus of the community needs to be sought for common and cultural property relocation. Information disclosure procedures are mandated to provide citizen centric information as well as all documentation necessary for addressing any queries under Right to Information Act that came into effect from October 2005. A computer based information management systems shall be employed to disseminate information pertaining to the project. Disclosure of information will enhance governance and accountability specifically with respect to strengthening of monitoring indicators to help the World Bank monitor compliance with the agreements and assess impact on outcomes.



This Information Disclosure Policy is intended to ensure that information concerning the NGRBP activities will be made available to the public in the absence of a compelling reason for confidentiality. Information shall be provided in a timely and regular manner to all stakeholders, affected parties, and the general public. Access by the public to information and documentation held or generated by PWD will facilitate the transparency, accountability, and legitimacy as well as operations overseen by it. As a part of its disclosure policy, all documents shall be made available to the public in accordance with relevant provisions of the RTI Act, except when otherwise warranted by legal requirements. A designated Information Officer shall be responsible for ensuring timely and complete dissemination in accordance with this policy.

Information to be disclosed

Table 5.2 below specifies the type of additional information and frequency of dissemination for projects which are financed either from domestic or donors' funds. In addition to the information specified in the table, the following information shall also be displayed / disseminated, wherever applicable.

Project specific information need to be made available at each contract site through public information kiosk

Project Information brochures shall be made available at all the construction sites as well as the office of implementation agency and the office of Engineer in charge.

Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., English versions of the SIA and RAP and Executive Summary of SIA and RAP in local language.

Wherever civil work will be carried out a board will be put up for public information which will disclose all desired information to the public, for greater social accountability.

All information will be translated into local language and will be disclosed to the public through the Panchayat, District Magistrate's office, concerned EE offices, websites of UP PWD.



Table 5-2: Information to be Disclosed

Topic	Documents to be Disclosed	Frequency	Where
Resettlement, Rehabilitation and Land Acquisition	Resettlement Action Plan (RAP).	Once in the entire project cycle. But to remain on the website and other disclosure locations throughout the project period.	World Bank's Infoshop On the website of PWD, The client would make the RAP available at a place accessible to displaced persons and local NGOs, in a form, manner, and language that are understandable to the PAPs in the following offices: DM's Office State and District Libraries Local municipal and <i>gram panchayat</i> office Office of the contractor
	Resettlement & Rehabilitation Policy translated in local language	Once in the entire project cycle.	Distributed among Project Affected Persons (PAP)
	Information regarding impacts and their entitlements in local language	Once at the start of the project and as and when demanded by the PAP.	Through one-to-one contact with PAPs. Community consultation List of PAPs with impacts and entitlements to be pasted in the PWD office and website of PWD,
	R&R and LA monthly progress report.	10th day of every month	Website of, PWD. Hard copy in the office of contractor in local language
	RAP Impact Assessment Report	At midterm and end of the RAP implementation	PWD website in local language.
	Land Acquisition notifications	As required under the RFCTLARR Act 2013	UP PWD's, website. Hard copy in the office of contractor in local language
	Grievance redressal process.	Continuous process throughout the project cycle.	World Bank's Info shop. On the web sites of PWD Hard copies in local language in the following offices: DM's Office Local municipal and <i>gram panchayat</i> office Office of the contractor PAPs to be informed on one to one contact by PWD through NGO
Public Consultation	Minutes of Formal Public Consultation Meetings	Within two weeks of meeting	On the web sites of PWD Hard copies in local language in the following offices: DM's Office Local municipal and <i>gram panchayat</i> office Office of the contractor

5.11 Stakeholder Mapping

Through the formal and informal consultation, following stakeholder mapping has been done, identifying their interests concerned with the project activities.



Table 5-3: Stakeholder Mapping

Stakeholder Category	Interests	Potential/Probable impacts
Primary stakeholders		
Project affected people	Access to the facility, Project entitlement, Time-bound delivery of benefits, enhanced quality of life	(+/-)
Beneficiaries	Access to the facility, Project entitlement, Time-bound delivery of benefits, enhanced quality of life	(+/-)
Secondary stakeholders		
UP PWD & PAPs	Project implementation, Contracting; Project management, Monitoring and evaluation	(+/-)
NGOs, CSOs, Local Administration	Development, Community participation, and Community welfare	(+/-)

This is a tentative mapping and is likely to change during the project implementation. Each of these stakeholders will be part of the consultation process and their views will be incorporated in to the project design. The key stakeholders can be grouped into two categories viz., primary and secondary. Their respective roles are presented below:

Primary Stakeholders

Project Affected Persons (PAPs) have the following roles:

- Participate in public meetings and identify alternatives to avoid or minimise displacement
- Assist DPR consultants and NGOs in developing and choosing alternative options for relocation and income generation
- Participate in census survey and meetings with host population
- Provide inputs to entitlement provisions, thus assisting in preparation of the resettlement action plan
- Participate in grievance redress as members of grievance redress cells (GRC)
- Decide on relocation and management of common properties
- Labour and other inputs in the project
- Members of implementation committee

Beneficiaries and Host Population have the following roles:

- Assist DPR consultants and NGOs in data collection and design
- Provide inputs to site selection
- Identify possible conflict areas with PAPs
- Identify social and cultural facilities needed at resettlement sites
- Assist in identification and design inputs for IG schemes
- Help develop consultation process between hosts and PAPs.
- Manage common property
- Participate in local committees.
- Assist PAPs in integration with hosts.

Secondary Stakeholders

UP PWD have the following roles:

- Establish separate cell for social development



- Notification at various stages for land acquisition and joint measurement of land to be acquired along with the revenue department
- Design and approval of resettlement policy
- Coordinate with line departments such as telephone, state electricity board, public health engineering department and forest department for shifting of utilities and cutting of trees
- Participate with NGOs in verification survey of PAPs and categorisation of PAPs
- Participate in consultations with PAPs and beneficiaries
- Designing and distribution of ID cards along with NGO
- Coordinate and facilitate relocation of displaced persons including designing and construction of resettlement colony / vendor market; provision of basic amenities; distribution of plots / houses / to residential and/or commercially displaced persons
- Coordinate with NGO in identifying land for relocation of common property resources
- Coordinate with civil construction contractor to relocate common property resources
- Permission and liaison with line departments for provision of basic amenities in resettlement colonies, land acquisition and income restoration schemes;
- Coordinate with revenue department and NGO for facilitating disbursement of compensation and resettlement and rehabilitation assistances
- Monitoring of physical and financial progress
- Approval of micro plans
- Participate in training programmes for income restoration organized by NGOs
- Consult with panchayat and block office to facilitate inclusion of PAPs' name for poverty alleviation schemes of government of India.

NGOs have following roles:

- Develop rapport with PAPs and between PAPs and PWDs
- Verification of PAPs
- Consultations with the community
- Assess the level of skills and efficiency in pursuing economic activities, identify needs for training and organise programmes either to improve the efficiency and/or to impart new skills.
- Assist PAP in receiving rehabilitation entitlements due to them
- Motivate and guide AP for proper utilisation of benefits under R&R policy provisions;
- Facilitate purchase of agriculture land in negotiating price and settling at a reasonable price or expedite through Land Purchase Committee.
- Assist PAPs in obtaining benefits from the appropriate development programmes.
- Help PAPs in increasing their farm income through provision of irrigation facility or improving farm practices, and
- Ensure marketing of produce particularly those under self-employment activities.
- Complete the consultation at the community level and provide support by describing the entitlements to the entitled persons (EPs) and assisting them in their choices
- Accompany and represent the EPs at the Grievance Redress Committee meeting.
- Assist EPs to take advantage of the existing government housing schemes and employment and training schemes that are selected for use during the project, and
- Promote location specific Community Based Organisations (CBOs) of PAPs to handle resettlement planning, implementation and monitoring.



- Create awareness among PAPs of HIV/AIDS, trafficking of women and child, child labour and health and hygiene

5.12 Institutional Arrangement

Project Management will finance a dedicated team to be based in Lucknow and in the core project areas responsible for implementing the activities to be financed by the project. Based on global experience, a Project Management Unit (PMU) will be supported by competitively selected decentralized teams (Project Implementation Units – PIUs) based in each of the project core areas to ensure the necessary coordination with the Local Authorities, as well as community and thus a smooth implementation of the project investments. The PMU and the decentralized dedicated teams (PIUs) will be supported by also competitively recruited experts, as needed. A social specialist and an environment specialist will be hired by PMU and one official in PIU will be designated as Environmental and Social Officer. The project will take help of partner NGOs in implementation of RAP if required (refer to Volume II **Annexure 5.3** for terms of reference for hiring of NGO). The responsibilities of social specialists and NGO are given below.

The project will also finance monitoring and impact evaluation activities as well as project-specific communication activities at sites, state, country and regional levels.

Table 5-4: Responsibilities of Social Specialists and NGO

Levels	Roles and Responsibilities
PMU Social Specialist	<ul style="list-style-type: none">• Finalize safeguard documents;• Provide policy guidance to the project level counterparts• Ensure dissemination of R&R Policy at state level• Monitoring R&R and Land acquisition activities. Make budgetary provisions for R&R activities• Liaison with state administration for land acquisition and implementation of RAP;• Participate in state level meetings• Finalize TOR of contracting NGO for implementation and external agency for monitoring and evaluation• Prepare training schedule for state and project level social development officials for capacity building to implement the RAP;• Prepare TOR for any studies required and qualitative dimensions to the implementation of RAP;• Facilitate appointment of consultants to carry out the studies and co-ordinate them.• Monitor physical and financial progress on implementation of RAP;
PIU Social Officer	<ul style="list-style-type: none">• Co-ordinate with district administration and NGO responsible for implementation of ESMF/ RAP and other safeguard documents;• Translation of R&R policy in local language and ensure dissemination at state; district and community level - prepare pamphlets on policy for information dissemination• Coordinate with the state and district level officials for acquisition of private land and implementation of ESMF/ RAP; Liaison with district administration for dovetailing of government schemes for Income Restoration Schemes• Monitor physical and financial progress of implementation of RAP,• Participate in the project level meetings• Report progress, highlighting social issues not addressed, to provide for mid-course correction,• Help PAPs address their grievances• Coordinate training of project level staff with agencies involved.• Organise by-monthly meetings with NGO to review the progress of R&R, and gender actions



Levels	Roles and Responsibilities
NGO	<ul style="list-style-type: none">• Conduct the verification for the affected families and update the census and socio-economic data• Develop rapport with PAFs and between PAFs and project• Design and carry out information campaign and consultations with the local community during the implementation of the RAP,• Provide information to PAFs and local community and conduct awareness on R&R Policy and distribute the policy to the affected families• Prepare and submit the micro plans for the PAFs• Assist the PAFs in receiving the compensation and rehabilitation assistance• Motivate and guide PAP for productive utilization of the compensation and assistance amount• Assess the level of skills and efficiency in pursuing economic activities, identify needs for training and organize training program• Assist PAFs in approaching the grievance redressal mechanism• Assist the PAFs in getting benefits from the appropriate local development schemes• Prepare monthly progress reports and participate in monthly review meetings• Participate in the training program for capacity building• Carry out other responsibilities as required from time to time

5.13 Grievance Redressal Mechanism (GRM)

An integrated system will be established with Grievance Redressal Cells (GRCs), with necessary officers, officials and systems, at the state as well as sub project levels. Grievances if any, may be submitted through various mediums, including in person, in written form to a noted address, through a toll free phone line or through direct calls to concerned officials, and online. PWD will appoint a person to receive such calls and online messages. The person incharge based on nature of complaint, will forward the same to the concerned official. A ticket or a unique number will be generated for all such call and messages. The complainant will follow up based that unique number. All calls and messages will be responded within two weeks. In response is not received within 15 days, the complaint will be escalated to next level.

All local contact information and options for complaint submission will be available on site on local information boards. Moreover, they will be in addition to the PIO officers to be appointed under the RTI Act. A half yearly report on Grievance Redressal by the project will be prepared. The project will abide by the RTI Act of 2005; it will commit itself for proactive disclosure and sharing of information with the key stakeholders, including the communities/beneficiaries. The project will have a communication strategy focusing on efficient and effective usage of print and electronic media, bill boards, posters, wall writing, and adoption of any other method suiting local context, logistics, human and financial resources.

As part of IGRM (Integrated GRM), a Grievance Redressal Cell (GRC) will be set up at the district level. The staffing of GRC will include Environmental and Social Nodal officer of PMU; Environmental and Social Nodal officers of PIU; and two representatives from community / beneficiary / affected persons. The head of the cell will be a person of repute but not continuing in the government service. The GRC will have its own bye laws. The functions of the GRC will include: (i) to redress grievances of community / beneficiaries / project affected persons (PAPs) in all respects; (ii) rehabilitation and resettlement assistance and related activities; (iii) GRC will only deal/hear the issues related to Environment, R&R and individual grievances; (iv) GRC will give its decision/verdict within 15 days after hearing the aggrieved person; (v) final verdict of the GRC will be given by the Chairman/Head of GRC in consultation with other members of the GRC and will be binding to all other members.



All PAPs however will have the option to approach court / judiciary in case he or she is not satisfied with the verdict given by GRC.

5.14 Monitoring and Reporting

The PMU through the respective PMUs will monitor all the sub projects to ensure conformity to the requirements of the ESMF. The monitoring will cover all stages of planning and implementation. The monitoring will be carried out through the environmental and social safeguard compliance reports that will form a part of Quarterly Progress Reports (QPR) for all sub projects and regular visits by the environmental and social specialists of the PMU and PIU.

The PMU will review these evaluation reports and identify technical, managerial, policy or regulatory issues with regards to the compliance of the RAP reports. The identified technical issues will be duly incorporated. Policy and regulatory issues will be debated internally by PMU and the need for appropriate interventions will be determined. These interventions could include appropriate revision of ESMF document / R&R Policy in consultation with the Bank or suitable analytical studies to influence policy or programs of the state, if found necessary / warranted.

An external evaluation of the RAP implementation prepared for sub projects will also be undertaken twice during the implementation of the project – midterm and at the end of the implementation as per the terms of reference (refer to Volume II **Annexure 5.4 and Annexure 5.5**). During implementation, meetings will be organized by PMU inviting all PIUs for providing information on the progress of the project work.

Table 5-5: Mitigation, Monitoring, Responsibility and Timeline for Social Impacts

S. No	Impact	Monitoring Measures	Responsible Agency
1	Land acquisition	Regular internal monitoring by the PMU and periodic evaluation	PMU
2	Acquisition of house/ structure	Regular internal monitoring by the PIU and periodic evaluation	PIU
3	Loss of livelihood or source of livelihood	Regular internal monitoring by PIU; midterm and end term evaluation	PMU to hire evaluation consultants
4	Loss of access to private and / or common property	Regular internal monitoring by PIU ; midterm and end term evaluation	PMU to hire evaluation consultants.
5	Displacement of Non-Titleholders	Regular internal monitoring by the PIU a midterm and end term evaluation	PMU to hire evaluation consultants
6	Gender Action Plan	Regular internal monitoring by the social development professional of PIU and PMU along with NGO; midterm and end term evaluation	PMU to hire evaluation consultants.

Table 5-6: Mitigation, Monitoring, Responsibility and Timeline for Environmental Impacts

Milestones	Objectives	Process	Responsibility	Decision/Target/Deliverable
1. Sub- Project Screening	To approve categorization of proposed sub-projects	a. Discussions with implementing agencies to - assess eligibility of project based on project's priorities - identify scope of project report b. Consultants to submit report along with	PMU and PIU	<ul style="list-style-type: none"> Decision to proceed or not Identification of impact category



Milestones	Objectives	Process	Responsibility	Decision/Target/Deliverable
		proposed impact categorization		
2. Sub- Project Appraisal	To ensure satisfactory compliance with ESMF	Detailed appraisal (including EIA & EMP, RAP, GAP and IPDP where relevant), including site visits/ investigations if necessary assess suitability of site, adequacy of safeguard measures, risk analysis and regulatory clearances). DPR to be submitted for approval	PMU	<ul style="list-style-type: none"> Review report and decide to <ul style="list-style-type: none"> - accept - accept with modifications - reject and instruct to resubmit
3. Approval	Approvals from PMU	a. PIU to recommend to PMU b. PMU to review and approve	PIU and PMU	<ul style="list-style-type: none"> Approval of RAP, GAP and IPDP if required
4. Implementation of EMP, RAP, GAP and IPDP Monitoring and Review	Ensure Implementation of agreed RAP, GAP and IPDP where applicable)	a. Prepare quarterly progress reports b. Schedule field visits as required c. Midterm and end term evaluation	PIU, PMU, NGO	<ul style="list-style-type: none"> Quarterly Progress Report

Project monitoring will be the responsibility of the PMU who will submit Quarterly Progress Reports. The reports will compare the progress of the project to targets set up at the commencement of the project. The list of impact performance indicators will be used to monitor project objectives. The socio-economic survey conducted will provide the benchmarks for comparison.

Table 5-7: Monitoring Project Implementation Process, Input and Output

Progress	Assessment Methodology	Expected Output
Implementation Process		
Notices under land acquisition process	Structured Schedule, informal and formal discussion	Timely notices to the affected families
Dissemination of information on project and social issues	Check the registers with the PIC for queries	Adequate knowledge on project and its various components
Consultations conducted under the project with PAPs and others	Check the minutes of meetings registers with the PAPs. Verify copies on agreements made on issues raised and discussed.	Awareness and information on the project and participation in the project.
Consultations on R&R Policy and Distribution of R&R Policy of the project	Check the registers with the PAPs. Verify copies on agreements made on issues raised and discussed.	Awareness on R&R Benefits
Information on modes of valuation of assets, payment schedules and disbursement modes	Check the registers with the PAPs. Structured Schedule, informal and formal discussion	Awareness on methods of valuation, satisfaction with the payment schedules, disbursement modes
Needs assessment and training programs for income generation	Structured Schedule, informal and formal discussion	Awareness and satisfaction with the training programs for income restoration
Services of the NGO	Structured Schedule, informal and	Proper knowledge, guidance and



Progress	Assessment Methodology	Expected Output
	formal discussion	assistance in rehabilitation and resettlement
Functioning of the Grievance redressal mechanism	Check the records of the NGO and PMU for the complaints registered	Appropriate and timely action on the grievances of the affected people
Consultations for the identification of the Community Development Works	Check the minutes of meetings registers with the PAPs. Verify copies on agreements made on issues raised and discussed.	Participation in decision making process and satisfaction with the identified areas of development
Financial progress		
Amount disbursed for acquisition of land, structure, trees, etc.	Structured Schedule, informal and formal discussion	PAPs purchased land equivalent or more than land loss of same quality
Amount disbursed R&R assistance.	Structured Schedule, informal and formal discussion	New house constructed, new land purchased, new productive assets purchased, created some income source to offset the loss of income
Amount disbursed for extension of development programmes, training and capacity building.	Structured Schedule, informal and formal discussion	Alternative income restoration programs initiated and lost income restored.
Fees paid to NGO for implementation of RAP and consultants for M&E activities	Structured Schedule, informal and formal discussion	Timely implementation
Amount disbursed for training of implementation staff of PMU and PIU	Formal Discussion with concerned officials	Better implementation and coordination
Physical progress		
Total land Acquired	Structured Schedule	Progress of land acquisition
Number of PAFs relocated	Structured Schedule	Progress of resettlement
Number of PAFs R&R Assistance	Structured Schedule	Progress on Economic Rehabilitation
Social well being		
Area and type of house and facility in case of relocation	Core Rapid Appraisal	Resettlement
Health conditions, morbidity and mortality rates, if relocated or pollution due to construction	Structured Schedule	Social well being
Communal harmony if relocated in another revenue village	Cost Rapid Appraisal	Resettlement
Women time disposition and decision making power for women groups trained for alternative livelihood	Participatory Appraisal	Women Empowerment
Increase in literacy level due to project intervention; drinking water, schools, health facilities, and other community infrastructures if relocated and enhanced by the project	Structured Schedule	Social well and improved social status.
Increased annual Household income and expenditure due to project intervention	Structured Schedule	Improved income Economic Status

5.15 Budget

Each sub-project will have its own budget for implementation of RAP and IPDP if required. The budget heads will include cost towards (i) compensation for immovable properties; (ii) R&R assistances; (iii) cost towards relocation facilities if required; (iv) training and capacity building for livelihood restoration; (v)



implementation arrangement; (vi) monitoring and evaluation and (vii) cost incurred by PIU for day to day expenses on R&R issues.



6 CONSULTATION AND PUBLIC DISCLOSURE

6.1 ESMF Workshop

The state-level ESMF workshop was carried out on November 7, 2014. The objective of consultation was to receive feedback from various stakeholders and wider dissemination on draft ESMF document. The consultation was carried out in local language (Hindi) and was attended by nearly 50 stakeholders representing academics, civil society, administration, project affected persons and technocrats. The executive summary of draft ESMF and project specific R&R policy in Hindi was circulated prior to the consultation. The development of the ESMF is based on a consultative process that engaged key stakeholders at the state and local levels and sought their feedback. Key government agencies have been consulted at the various levels to obtain their consent on the ESMF in general and specially on the land acquisition process and resettlement framework.

The issues discussed during the consultation included:

- Objective & approach of the Projects under UPCRNDP & ESMF
- Minimizing adverse environmental and social impacts such as minimize tree cuttings; provide safety measures near schools and health centres
- Procedure of Environmental and Social Safeguards in different sub-projects
- Safety of women and children during construction
- Safety measures for road users and public
- Bus stops and bus shelters at major habitations
- Drains in urban areas
- Land prices and prices of the properties affected to be finalized in consultation with the community
- Replacement of community properties
- Facilities for solid waste management in urban areas

Project assured stakeholders that all measures suggested will be incorporated in design to the extent possible.

Following the State level consultations, public consultations have been carried out in sample sub project areas to get feedback and suggestions from the community on the ESMF. The translated version of executive summary of draft ESMF was disclosed on the websites and placed with the offices of the nodal agencies prior to the consultation meetings. The minutes of the meeting was prepared highlighting the key discussions and issues raised by the stakeholders. The issues raised during the consultations were similar to those raised in state level consultation.

6.2 Plan for Continued Participation

The following set of activities is required for effective implementation of RAP. This will also help in timely execution of RAP.



6.2.1 Information Disclosure

For the benefit of the community in general and PAPs in particular, RAP and R&R policy will be translated in Hindi and kept at

- Public Libraries of the districts
- Office of Chief Development Officer, and
- Libraries of various colleges in the district.
- PWD offices in project districts
- Schools of the villages affected, and
- Any other public place along the highway

A copy of RAP and R&R policy will also be placed at the office of Chief Engineer, UP PWD, Lucknow and respective PWD circles and divisions.

6.2.2 Public Information Dissemination

PWD offices located along the Project Corridors will provide actual information and policies and other rehabilitation actionplan to the people in continuous manner. For this, following are proposed

- The NGOs involved in the implementation of RAP will organise Public meetings, and will appraise the communities about the progress in the implementation of limited works.
- The NGO will organise public meetings to inform the community about the payment and assistance paid to the community. Regular update of the program of resettlement component of the project will be placed for public display at the PWD office.