

CHAPTER-1: THE MIZORAM STATE ROADS PROJECT

This chapter describes the Mizoram State Roads Project 2 (MSRP 2) background and the need for the project. After describing in brief the various studies that have led to the identification, prioritisation and selection of the project corridors, this chapter presents the various improvement options proposed. The setting in terms of the preparation of EA for the project and the EA process adopted has been discussed. The last section presents the outline of the various chapters of this report.

1.1 MIZORAM STATE ROADS PROJECT 2

The Government of India has requested World Bank financing for the improvement and rehabilitation of State Highways and Major District Roads in the State of Mizoram that enhance connectivity to Bangladesh and Myanmar. The proposed roads project includes a 336 km north-south alignment starting at the NH44A junction between Aizawl and Tripura State passing through Thenhlum, Phairuangkai, Chawngte, and connecting to the Multi-modal Kaladan Road at the southern end. Other road links in the project include the 112 km east-west Lunglei-Lungsen-Tlabung-Kawrpuchhuah road which links to nearby Chittagong Port (through Rangamati) in Bangladesh and the east-west 28km Champhai-Zokhawthar road and 42 km Chhumkhum- chongte road.

The improvement works will consist mainly of widening and some new construction to two-lane Asian Highway standard, pavement construction, strengthening, improving, and constructing of bridges, cross drainage structures and longitudinal drainage and provision of adequate slope protection works. Road stretches crossing semi-urban areas and villages may also require provision for covered drains, sidewalks and parking where required. In some cases, new alignments (by-passes) and/or realignments for the existing villages and towns may also be required.

The Project Implementation Unit (PIU) within the Public Works Department (PWD) of the Government of Mizoram will be the implementing agency for the project. The PIU is located in the capital of Mizoram State, Aizwal.

1.2 Project Objective

All the project roads are single lane roads with formation width approximately 5.2 m without conforming any standard / specification. As a result, the heavily loaded trucks and large sized vehicles find it difficult to pass through these stretches safely. Project roads are the main route which provides connectivity between district towns, interstate and international borders (Bangladesh and Myanmar). Development of project roads will connect the neighboring state and country economically and culturally. This will also improve quality of life of the people living along the road in the region.

1.3 Project components

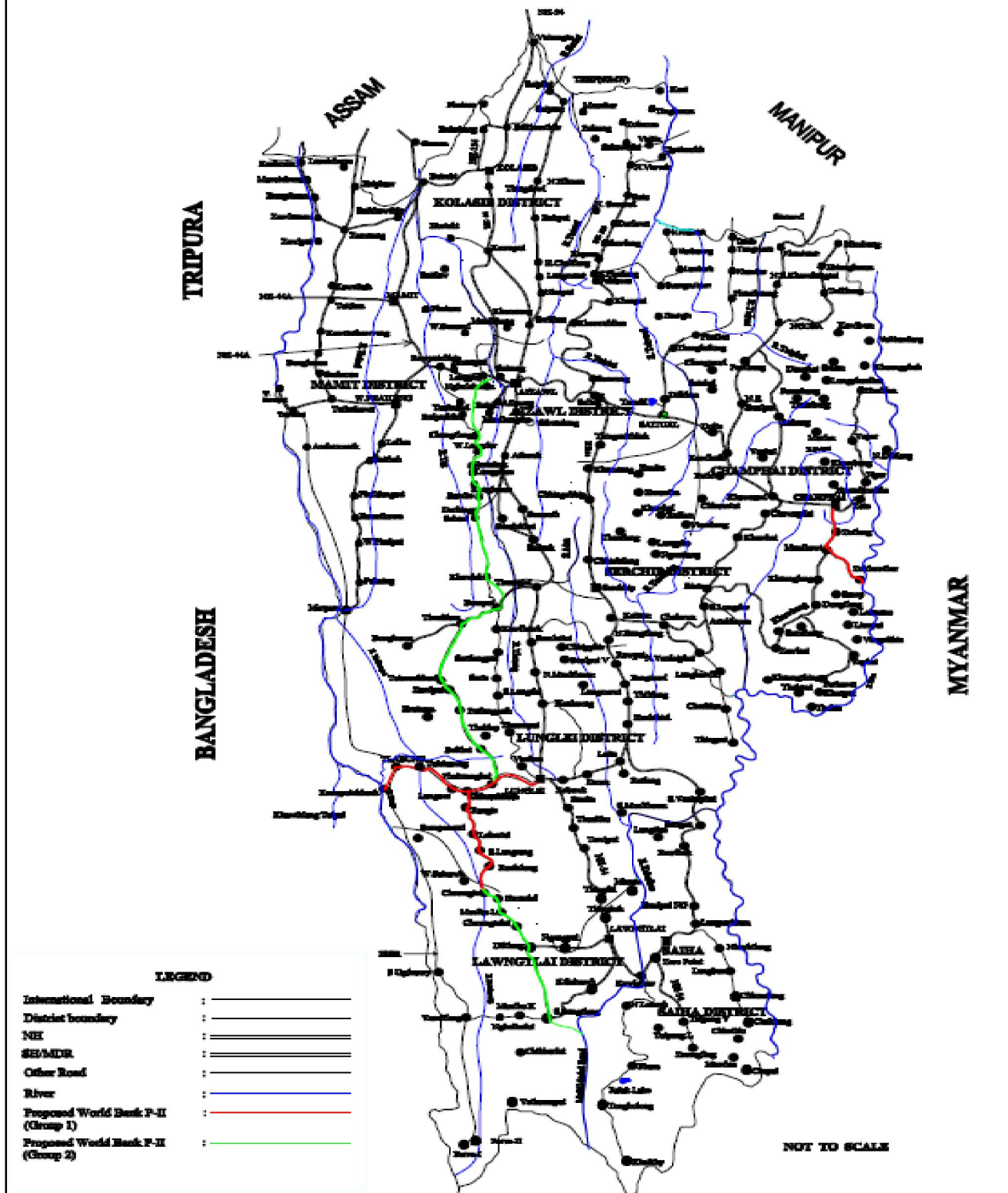
The proposed project will assist the Public Works Department, Govt. of Mizoram to develop roads with a total length of 450 km in a phased manner. These roads traverse across four districts namely, Lunglei, Champhai, Mamit and Lawngtlai in the state. Project road sections are Grouped as under:

Table 1.1 – Proposed Project Roads under MSRP II – Regional Transport Connectivity Project			
Group/Project 1		District(s)	Length
i.	Lunglei - Tlabung - Kawrpuchhuah	Lunglei	87.9 km, (E-W road to Bangladesh border)
ii.	Champhai – Zokhawthar	Champhai	27.5 km, (E-W road to Myanmar border)
iii.	Chhumkhum-Chawngte	Lunglei	41.7 km, (part of original N-S road alignment)
Group/Project 2			
i.	Junction NH44A (Origination) –	Mamit &	83 km

	Chungtlang – Darlung – Buarpui	Lunglei	
ii.	Buarpui – Thenlum – Zawlpui	Lunglei	95 km
iii.	Chawngte including bridge to BungtlangSouth up to Multimodal Road junction	Lawngtlai	76 km
iv.	Zawlpui – Phairuangkai	Lunglei	30 km

All roads are expansion of existing road .For group-1 road alignment has been finalised but for group-2 roads alignments are tentative and not finalised . It is proposed to develop these roads to 2-lane National Highways standard (roadway width of 12m – comprising 2-lane carriageway width (7m) and shoulders of 2.5m on either side of the carriageway). Upgrading of project roads will be undertaken mostly on hill side (approximately 15 mtrs. from the centreline on the hill side and 9 m on valley side). Bypasses and realignments has been proposed to avoid adverse impacts in view of linear settlements along the road and also to address safety concerns in group-1 roads. Same approach will be followed for group-2 roads also for which diversions and realignments have not yet finalised.

MAP OF MIZORAM



1.4 ENVIRONMENTAL IMPACT ASSESSMENT

The Scope of Environmental Assessment as envisaged in the Terms of Reference (ToR) for

<p>Box 1-1: Scope of Work of Environmental Analysis, Design and Management Action Plan</p> <p>“...The main objective of Environmental Analysis and Design is to improve decision making and to ensure that the highway improvement options under consideration are environmentally sound, sustainable and contribute to the development of environmental assets.</p> <p>“...The scope of work comprises the following three main tasks:</p> <p>“...Environmental Analysis</p> <p>Carry out a preliminary environmental screening of the highway to determine the magnitude of actual and potential impact and ensure that environmental considerations are given adequate weight in the selection and design of the proposed highway improvements:</p> <ul style="list-style-type: none"> • Collect information on existing environmental baseline conditions and undertake a preliminary evaluation of the highway selected for improvement in order to define the focus of the environmental assessment, design and management studies; • Identify positive and negative impacts of upgrading the highway and propose cost-effective measures to enhance positive impacts and to avoid and/or mitigate negative impacts; • Complete the relevant Environmental Assessment documentation for the respective State-level, GoI and World Bank environmental reviews and clearances; and • Carry out public consultation with affected groups and NGOs.” <p>“...Environmental Design</p> <ul style="list-style-type: none"> • From EA, identify adverse impacts which can be prevented through judicious design changes, identify adverse impacts such as soil erosion, flooding, loss of tree cover, etc., which could be mitigated through appropriate mitigation measures such as ground cover planting, installation of proper drainage, etc. • Prepare cost-effective proposals to implement appropriate mitigation and remedial measures to upgrade and enhance the environmental quality along with the highway in a sustainable manner; and • Select stretches along with the highway, which provide opportunities for environmental enhancement and the development of cost-effective sustainable environmental assets.” <p>“...Environmental Management Action Plan</p> <ul style="list-style-type: none"> • Produce an implementation schedule and supervision program with associated costs and contracting procedures for the execution of environmental mitigation and design works; • Develop a program for monitoring environmental impacts during construction and operation; • Specify requirements for institutional strengthening and training; and • Recommend any further studies of environmental issues which should be undertaken during project implementation.” <p>Source: MPWD.</p>
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the project are detailed in the Box 1.1 below.

1.4.1 ENVIRONMENTAL SCREENING

Environment sensitive activities identified for environmental screening in the project road are-

- Realignment / Diversion of the roads
- Realignment of sharp Zigs and hair pin bends
- Land slide along the roads
- Loss of biodiversity

- Disposal of Excess earth from hill cutting
- Protection of hill side and valley side slopes
- Protection and management of disposal sites
- Hill side Water collection points - Impact on community water resources and water storage arrangements
- Availability of water for road constructions
- Material for construction of roads
- Impact on natural drainage pattern of the area.
- Material for high embankments
- Impact on settlements along the road due to widening of the roads
- Construction related environment problems – air, water, noise, soil
- Management of Worker’s construction camps
- Safety during construction of the roads
- Road safety during operation of the roads
- Highway related diseases – HIV and AIDS

1.4.2 ENVIRONMENTAL IMPACT ASSESSMENT AND MANAGEMENT PLANS

. Therefore a detailed Environmental Impact Assessment has been carried out and the environmental Management Plan (EMP) and Rehabilitation and Indigenous Peoples Development Plan (R&IPDP), prepared for the Lunglei-Lungsen-Tlabung-Kawrpuchhuah Project Road to be implemented under Phase II. The detailed designs of roads have been closely co-ordinated with the preparation of the Environmental Impact Assessment (EIA). The EIA preparation led to the identification of potential environmental hotspots and their feasible remedial measures (including avoidance, mitigation and enhancement) and have been made a part of the Environmental Management Plan (EMP).

1.5 BASIS OF EIA PREPARATION

The EIA report has been prepared as per the World Bank Operational Policies and Guidelines OP 4.01 dated January, 1999 and in accordance with the MOEF, Government of India’s legal and procedural requirements.

The broad objectives of the EIA study are:

- Study in depth the conditions (physical, social and environmental) along the identified project corridors and the 5 km area of influence.
- Carry out environmental analysis with respect to project components vis-à-vis existing condition
- Assess Environmental Impacts of the proposed project components on natural, physical and socio economic environments
- Develop cost-effective and implementable measures for mitigation of adverse environmental impacts
- Develop a practical and implementable Environmental Management Plan (EMP) for mitigation of impacts and monitoring of implementation of mitigation measures during construction and operation stages.

1.6 STRUCTURE OF THE COMPLETED EIA REPORT

The report is organised into 10 chapters as follows:

Chapter 2 entitled **Project Description** describes the MSRP. The project corridors are described from an environmental perspective along with the salient features such as Cross sections, realignments, pavement details and proposed design features, etc. An overview of impacts of the entire project, mainly benefits, is given in the last section.

Chapter 3 discusses the **Policy, Legal and Administrative Framework** within which the project is set. The major stakeholder departments of the State and Central Governments with their specific roles are described and the applicable Acts and legislation described. The chapter presents the clearance requirements at various levels and their current status.

Chapter 4 details out the **Methodology** adopted for the Environmental Impact Assessment.

Chapter 5 describes the **Existing Environmental Scenario** in detail. The sections on Meteorological baseline, components of the biophysical and natural environments, cultural properties along the corridor and quality of life add up to give a comprehensive picture of the existing environment along the project corridor and its area of influence.

Chapter 6 gives an overview of the **Community Consultation** carried out during the project preparation stage. It also provides an insight into the processes involved, its importance to project design and methods adopted to document the entire exercise.

Chapter 7 analyses the **Alternatives** considered during the project design. The minimisation of environmental impacts by considering design alternatives determines the extent of mainstreaming of the environmental component.

Chapter 8 on the **Assessment of Impacts** determines the extent of the impacts of the project activity on the existing environment. The impacts have been detailed in the same sequence as described in Chapter 5.

Chapter 9 entitled **Mitigation, Avoidance and Enhancement Measures** forms the basis for the preparation of Environmental Management Plans for the project corridor. In addition to the avoidance and mitigation measures, this chapter discusses the environmental enhancements suggested by the project.

Chapter 10 reviews the existing **Implementation Arrangements** and suggests further institutional strengthening for implementation of the environmental component of the project. It goes on to describe the set-up required, a reporting system and training needs for the implementation of EA provisions.