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MINISTRY OF ROAD TRANSPORTATION AND HIGHWAYS

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION

GOVERNMENT OF INDIA

PREPARATORY STUDY FOR NORTH EAST CONNECTIVITY IMPROVEMENT PROJECT IN INDIA

WIDENING AND IMPROVEMENT OF NH51 (TURA-DALU)

DRAFT RESETTLEMENT ACTION PLAN

AUGUST 2015

**JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)**

**NIPPON KOEI CO.,LTD.
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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	iv
ABBREVIATIONS.....	v
Chapter 1 INTRODUCTION	1
1.1 Background	1
1.2 Project Location	1
1.3 Requirement and Objective of RAP Report	2
1.4 Issues Related to Indigenous People	3
Chapter 2 DESCRIPTION OF PROJECT.....	4
2.1 Preparatory Study For North East Connectivity Improvement Project in India	4
2.2 Widening and Improvement of NH51 (Tura-Dalu).....	4
Chapter 3 POLICY AND LEGAL FRAMEWORK	12
3.1 Summary of Applicable Acts and Policies	12
3.2 Key Policies and Legislations	13
3.3 Key gaps between LARR 2013 and JICA Guidelines	20
3.4 Applicability of LARR 2013 in the Context of Meghalaya.....	24
Chapter 4 SOCIO-ECONOMIC PROFILE.....	25
4.1 Socio-Economic Profile of Meghalaya and West Garo Hills District.....	25
4.2 Socio-Economic Profile of Project Affected Household (PAH)	28
Chapter 5 SOCIAL IMPACT OF THE PROJECT	33
5.1 Introduction.....	33
5.2 Impact on Affected Households and Structures.....	33
5.3 Impact on Land.....	34
5.4 Impact on Trees and Crops.....	35
5.5 Social Impacts	35
Chapter 6 STAKEHOLDER CONSULTATION	38
6.1 Overview	38
6.2 1 st Round Consultations with Communities	39
6.3 2 nd Round Consultations with Communities.....	41
6.4 Information Disclosure	41
Chapter 7 RESETTLEMENT POLICY	42
7.1 Objective of Resettlement Policy Framework	42
7.2 Entitlement Matrix	43

7.3	Methods for Assessing Replacement Cost.....	48
7.4	Grievance Redress Mechanism (GMS).....	49
Chapter 8	INSTITUTIONAL ARRANGEMENT	51
8.1	Institutional Arrangement	51
8.2	Monitoring and Evaluation	52
Chapter 9	REHABILITATION PLAN	57
Chapter 10	GENDER	59
10.1	Potential Project Impacts on Women.....	59
10.2	Women Involvement in Project Preparation and Implementation	60
10.3	Involvement of Women in Construction Activities.....	60
10.4	Measures for Controlling STD and HIV/AIDS	60
Chapter 11	RESETTLEMENT BUDGET	62
Chapter 12	RESETTLEMENT SCHEDULE.....	63

List of Tables

Table 2.1	Present Conditions and Provisional Improvement Cost of NH51	4
Table 2.2	Projected Traffic Volume in NH51 till 2035.....	5
Table 2.3	Recommendation of NH51 Widening Side	6
Table 2.4	Design Criteria of Cut Slope and Slope Protection Work	7
Table 2.5	Traffic Safety Facilities Proposed for NH51	8
Table 2.6	Road Appurtenances to be Applied for NH51	9
Table 2.7	Spoil Bank Volume Requirement.....	10
Table 2.8	List of Spoil Bank Candidate Sites.....	11
Table 3.1	Applicable Acts and Policies	12
Table 3.2	Process of Amending LARR 2013	14
Table 3.3	Key Gaps between JICA and Indian Regulations	20
Table 4.1	Block-wise Population of West Garo Hills District per Gender.....	26
Table 4.2	Block-wise Population of West Garo Hills District per Caste	26
Table 4.3	Distribution of Workers per Different Category of Work.....	27
Table 4.4	Block-wise Social Category of Affected Households	30
Table 4.5	Block-wise Religious Affiliation of Affected Households	30
Table 4.6	Educational Attainment of Household Heads	30
Table 4.6	Vulnerability Status of Affected Households.....	31
Table 4.8	Land Ownership Status of Affected Household	31
Table 4.7	Primary Occupation of Household Heads.....	32

Table 4.9	Monthly Household Income.....	32
Table 5.1	Type of Affected Structures per Block.....	33
Table 6.1	Summary of 1 st Round of Consultation Meetings.....	39
Table 6.2	Participation Details of 1st Round of Consultation.....	39
Table 7.1	Entitlement Matrix.....	44
Table 8.1	Summary of Monitoring Activity.....	56
Table 11.1	Resettlement Budget.....	62
Table 12.1	Resettlement Schedule.....	64

List of Figures

Figure 1.1	Road Alignment and Present Condition of NH51.....	2
Figure 1.2	NH51 Existing Road Profile.....	2
Figure 2.1	Daily (L) and Hourly (R) Variation of Traffic Volume of NH51.....	5
Figure 2.2	Typical Cross Section of Countermeasure for Sinking.....	7
Figure 2.3	Traffic Safety Facilities to be installed at Hair-Pin Bends.....	9
Figure 2.4	Traffic Safety Facilities to be installed at Built-up Area.....	9
Figure 5.1	Breakdown of Affected Land to by Type.....	34
Figure 7.1	Flow of Grievance Redress.....	50
Figure 8.1	Institutional Arrangement for RAP Implementation.....	52

List of Appendix

APPENDIX A:	DETAILED COMPARISON OF JICA GUIDELINES AND INDIAN REGULATION
APPENDIX B:	QUESTIONNAIRE FORM USED IN THE BASELINE SURVEY
APPENDIX C:	SURVEY MAP OF THE PROJECT AREA
APPENDIX D:	ATTENDEES' LIST OF CONSULTATION MEETINGS
APPENDIX E:	PROPOSED MONITORING FORM FOR RAP IMPLEMENTATION
APPENDIX F:	PROPOSED TOR FOR RAP AND R&R IMPLEMENTING AGENCY (NGO)

ABBREVIATIONS

ADB	Asian Development Bank
BPL	Below Poverty Line
BSR	Basic Schedule of Rates
CA	Competent Authority
DDP	Desert Development Program
DPR	Detailed Project Report
FPIC	Free Prior Informed Consultations
GOI	Government of India
GRM	Grievance Redress Mechanism
GRC	Grievance Redress Committee
IPP	Indigenous Peoples Plan
IRC	Indian Road Congress
LARR	Land Acquisition, Rehabilitation and Resettlement Act
LSC	Land Settlement Certificates
MAW	Minimum Agricultural Wage
MFP	Minor Forest Produce
MLCU	Martin Luther Christian University
NH	National Highway
NHIDCL	National Highway & Infrastructure Development Corporation Limited
NRRP	National Rehabilitation and Resettlement Policy
PAF	Project Affected Family
PAH	Project Affected Households
PAP	Project Affected Person
PIU	Project Implementation Unit
PPP	Public Private Partnership
PWD	Public Works Department
RAP	Resettlement Action Plan
R&R	Resettlement and Rehabilitation
ROW	Right of Way
SC	Scheduled Caste
SIA	Social Impact assessment
ST	Scheduled Tribe

EXECUTIVE SUMMARY

The Government of India has requested the Government of Japan to provide financing for about 1,200 km of roads that enhance connectivity in North-East States. Out of 10 candidate roads and bridges, Tura-Dalu section of NH51 in West Garo Hills District in Meghalaya has been selected as one of the two priority projects (the other is Aizawl-Tuipang section of NH54 in Mizoram).

The project objective is to improve intra-state connectivity for North East States and regional road connectivity for Meghalaya and North East India to Bangladesh. The residents of the North East Region, Bangladesh and Myanmar and countries beyond should benefit from the increased regional connectivity which is expected to result in increased trade and economic development over the longer term.

The existing road is about 54 km in length, and consists of two separate sections between KP85-95 and KP101-145 of NH51. This is to avoid large scale disturbance to Tura town for which a separate bypass is being considered. The project road lies within the administrative boundary of West Garo Hills District of Meghalaya. From Tura, the road provides connectivity to international boarder with Bangladesh. The current condition of road, however, is poor and the road is prone to road subsidence and slope failures. The riding quality is poor, making travelling arduous and difficult, particularly in monsoon season.

Socio-economic profile of the Project Affected Households (PAHs) has been worked out on the basis of the baseline survey conducted as part of the preparatory study. The project shall affect 367 PAHs, including 173 households whose houses will be affected and 194 households whose businesses will be affected comprising. The total number of affected persons is 1,820. In terms of distribution of PAHs by Religion and Social Category, most of the PAHs are Christians and are Scheduled Tribes (Garo) except for Bengali community near Dalu town who follow Hindu.

The existing land width is about 4.75 meters. The width of road will be enhanced up to 12 meters including road shoulder. The project shall require land acquisition of 67 ha across the entire stretch and additional 11.6 ha for spoil bank. Efforts have been made to minimize the adverse impacts on the structures along the existing road by drawing ROW alignment to avoid structures as much as possible.

Free Prior Informed Consultations (FPIC) were held in all three development blocks in conjunction with the baseline survey stages. During consultations brief description about the project, likely adverse impacts and positive impacts, employment generation, entitlements applicable for different types of lose, among others, were discussed and opinion of people was solicited. Major concerns expressed by the communities include: a) non-payment of compensation in past road improvement

project; b) eligibility of persons without proper land holding document; c) potential impact on the Sima (pillar) of the Nokmas that require rituals and expenses to be shifted. Communities perceived the positive impacts to be more business and work opportunities during construction and better and more stable access. Negative impacts envisaged by the communities included: loss of land, structures and other common properties and potential soil erosion due to improper management of slope. Overall they were appreciative of the proposed project and conveyed their support. They also indicated their willingness to participate during implementation of the project.

The RAP policy and entitlement matrix proposed in this RAP should form the basis for preparation of the final RAP and Rehabilitation Plan to be prepared by the State Government upon the completion of final ROW drawing. Meanwhile, no separate Indigenous Peoples Plan (IPP) is being prepared given that significant proportion of the population of the state as well as affected persons are designated as Scheduled Tribes and that their concerns can be incorporated into RAP.

The Grievance Redress Mechanism will be established. The RAP implementation agency will provide all necessary help to PAPs in presenting his/her case using the mechanism. The decision of the Grievance Redress Committee will not be binding on the PAPs. In other words, the decision shall not debar PAPs taking recourse to court of law.

The internal monitoring will be carried out by the PIU, PWD with assistance from RAP Implementation Agency. In addition, PIU and PWD will engage an External agency (third party) to undertake monitoring biannually and evaluations at the mid- and end-term for the project through field visits and all other necessary activities including consultations.

The project will provide income restoration opportunities by way of skill development training and linkage with the on-going government schemes. Implementing Agency with support from PIU will assist PAPs in making a choice for feasible income generation activities. Market feasibility study and training need assessment shall be undertaken by the Implementing Agency to devise feasible and practical Rehabilitation Plan that matches to PAPs needs and local context.

Considering the long rainy season prevalent in the project area and whole state, approximately a period of 5-6 months (May - October) is not available for construction works. The RAP implementation period is proposed to be 24 months, but this needs to be scheduled in a manner so that initial activities such as verification, measurement etc. can be completed during the dry period. The other activities such as preparation of micro plan, approval, disbursement and other necessary documentation can be completed during the rainy season.

CHAPTER 1 INTRODUCTION

1.1 Background

India has achieved remarkable economic growth in the past decades. Rapid development of transport infrastructures strengthened the linkage between major cities and thus contributed to the economic growth. In particular, road is one of most important modes of transportation given that road transportation constitutes 85% of passenger and 60% of freight transport in India. However, development of transport infrastructure is lagging in mountainous regions of India due to financial and technical reasons, leading to greater economic disparity between mountainous regions and plain areas of the country which have been fully benefited from improved transport network.

Only 28.5% (63.4% is average in whole country) of the road in North-East states is paved and only 53% of national highway has more than 2-lane road. This is because the North-East states are located far from mainland of India and access road to neighboring countries are underdeveloped due to security concern. Severe natural conditions such as steep mountainous geography (most of the state is located in hilly area) and heavy rainfall (Mawsynram in East Khasi Hills district of Meghalaya is known to be the wettest place on Earth with an average annual rainfall of 11,872 mm) also complicates the challenge. To accelerate economic growth in this part of the country, therefore, improvement in the road network is of great importance. To this end, Government of India (GOI) launched “Special Accelerated Road Development Program for North-East” committed in “Twelfth Five Years Plan (from April, 2012 to March, 2017)” to cope with above mentioned problems by improvement of national highways that connect major cities within the North-East states, and requested Government of Japan to provide loan assistance in carrying out the improvement. Tura-Dalu section of NH51 located in West Garo Hills District of Meghalaya States has been selected among a total of 10 candidate roads and bridges during the screening process as part of the preparatory study.

1.2 Project Location

The study road of NH51 starts from Tura to Dalu in Meghalaya state with the total length of approximately 54km. The study road passes mostly on rolling terrain, and alignment of the study road consists of combination of medium horizontal and vertical curves as shown in Figure 1.1 and 1.2 below. The number of existing lane is one for the entire section. Pavement condition is rather deteriorated in the whole section due to inadequate road maintenance. The project aims to improve the road network by widening and improvement of the targeted section of NH51 and thereby contributing to the accelerated economic growth and poverty reduction in the region.

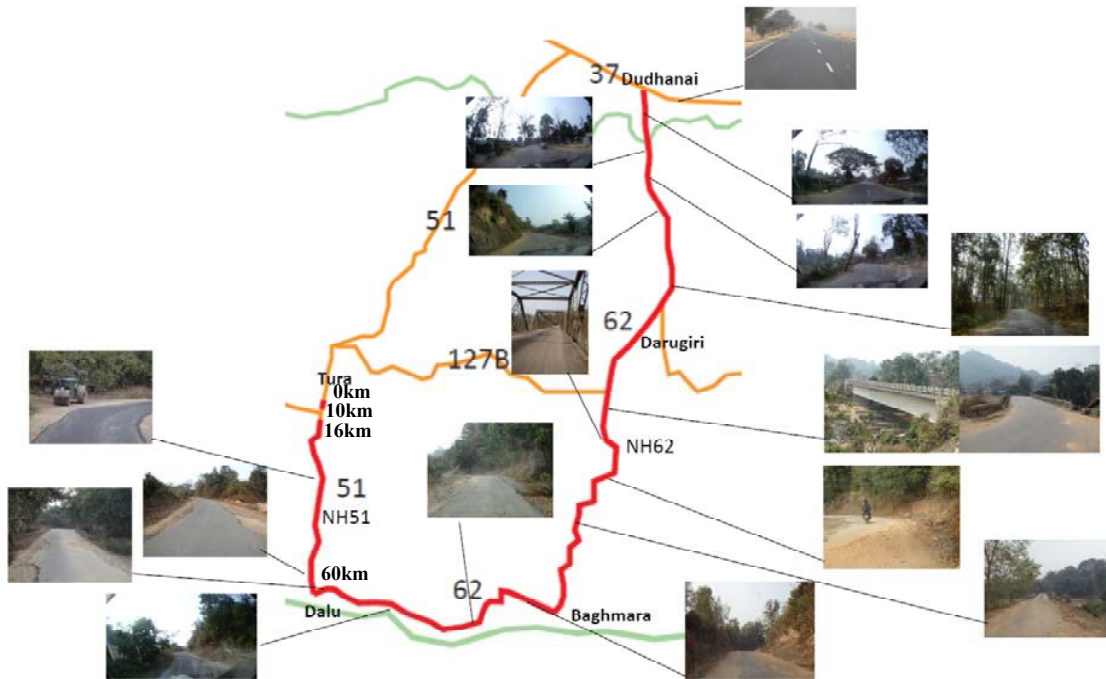


Figure 1.1 Road Alignment and Present Condition of NH51

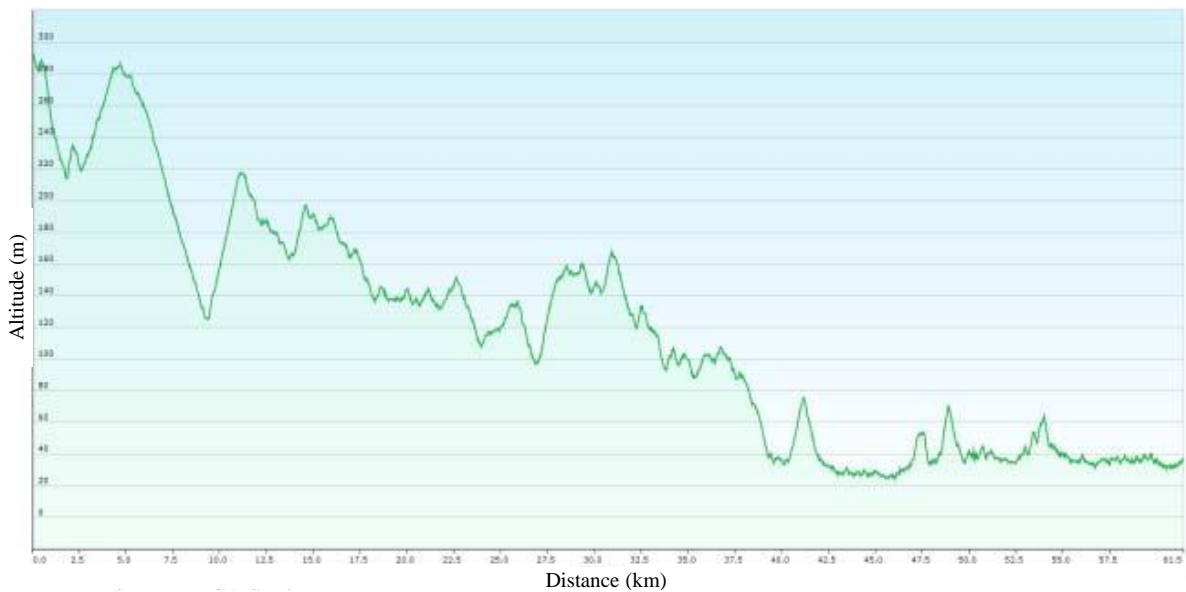


Figure 1.2 NH51 Existing Road Profile

1.3 Requirement and Objective of RAP Report

The project requires land acquisition for proposed widening and other work including slope protection and stabilization. For a project involving involuntary displacement of 400 or more families en masse in plain areas, or 200 or more families en masse in tribal or hilly areas, the National Rehabilitation

and Resettlement Policy 2007 (NRRP, 2007) requires the administrator for Rehabilitation and Resettlement (R&R) to undertake a Baseline Survey and Census for identification of the persons and families likely to be affected (Sec.6.2). This will be carried out by the State Government, who is responsible for rehabilitation once the final ROW is determined based on the additional topographic survey. Meanwhile, this RAP report has been prepared based on the preliminary design with the aim of informing the R&R related discussion between State Government and NHIDCL to ensure that land acquisition and involuntary resettlement for this project be carried out in a manner that is consistent with the JICA Guidelines for Environmental and Social Considerations.

1.4 Issues Related to Indigenous People

In the state of Meghalaya, the tribal (Scheduled Tribe: ST) population constitutes some 86% of the total population. In West Garo Hills District where the targeted section of NH51 is located, the share of ST population is 73.7%. While tribal groups in project area holds traditional culture centered on the Nokma, or traditional village leader, and social system of inheritance, they freely interact and share their sources of water, folklore, food, infrastructure and other belongings with the non-ST and other tribal population within and outside community. This is particularly evident in the section near Bangladesh border where ST population and Bengali group co-exist peacefully without ethnicity-related tensions. Moreover, ST population in project area is not isolated from outside and they are open to new ideas such as family planning and formal education. Given that the mainstream population of the area is tribal, elements of an Indigenous People Plan (IPP) as described in the World Bank OP4.10 have been incorporated into this report. No separate IPP has been prepared for this project.

CHAPTER 2 DESCRIPTION OF PROJECT

2.1 Preparatory Study For North East Connectivity Improvement Project in India

Only 28.5% (63.4% is average in whole country) of the road in North-East states is paved and only 53% of national highway has more than 2-lane road. Poor infrastructure has been the bottleneck of the economic development of North East States. To address this challenge, the Government of India requested Government of Japan to provide loan assistance in carrying out the improvement of existing roads in eight sections, repairing of two existing bridges and construction of one new bridge within six states of North East state in India. The Preparatory Study has been carried out in response to this request with two key objectives, which are: i) to screen project and identify priority project(s) and ii) to review existing feasibility study (Detailed Project Report) prepared by Indian consultant and propose preliminary design of priority projects. Tura-Dalu section, stretching for about 54km, has been selected as one of the priority section and thus the preliminary design is proposed for its widening and improvement.

2.2 Widening and Improvement of NH51 (Tura-Dalu)

Existing condition of the targeted section of NH51 is shown in Table 2.1. The project involves the widening of existing one-lane road to two-lane roads with installment of proper slope protection and land slide prevention measures, drainage and traffic safety facilities. The total width of the road including carriageway and road shoulder will be 12m.

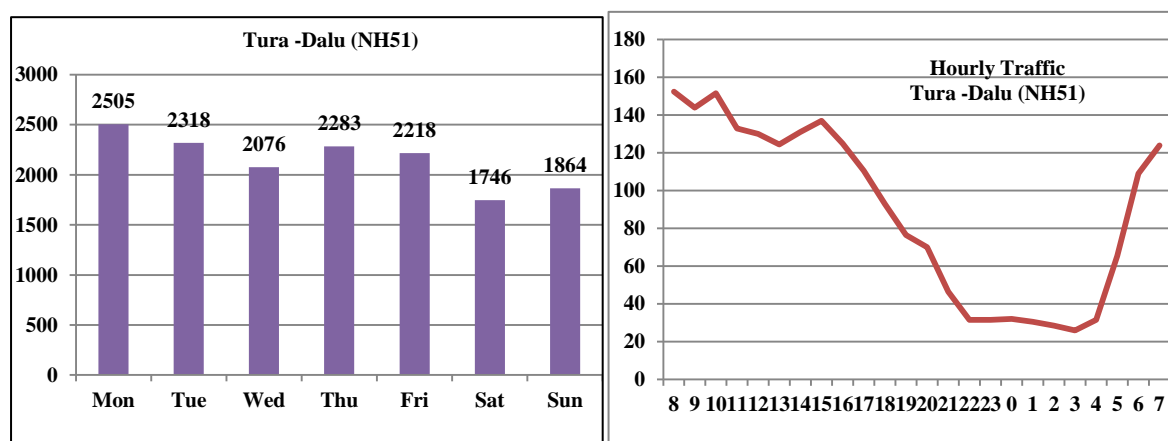
Table 2.1 Present Conditions and Provisional Improvement Cost of NH51

No	Data Items	Type / Unit	Road	
			NH51 (Upper: KM distance from Tura, Lower: KP)	
			0-10	16-60
			85-95	101-145
1	Number of Lanes	Four (4): Carriageway Width (7m+7m), Double (2): Carriageway Width (7m/10m), Intermediate (1.5): Carriageway Width (5m/5.5m), Single (1): Carriageway Width (3.5m/3.75m) New (0)	1	1
2	Carriageway Width	m	3.75	3.75
3	Shoulder Width	Average in section / m	1	1
4	Shoulder Type	Paved or Unpaved	Unpaved	Unpaved
5	Average Altitude	m	258	110
6	Average Roughness	IRI	5.2	6.5
7	Total Area of Crack	%	25	32
8	Ravelled Area	%	1.5	2
9	No. of Pot Holes	per km	30	24

No	Data Items	Type / Unit	Road		
			NH51 (Upper: KM distance from Tura, Lower: KP)		
			0-10	16-60	
			85-95	101-145	
10	Edge Break Area	m ² /km	162	162	
11	Road Side Friction	%	40	27	
12	Average Travel Speed	km/h	21	36	
13	Road Capacity	PCU – IRC73-1980	1,000	1,000	
14	Improvement Project Cost (W=12m: Carriageway 3.5mx2+ Shoulder 2.5mx2)	Mountainous (INR crore/km)	9	0	0
		Rolling (INR crore/km)	5.5	55	242
		Level (INR crore/km)	4	0	0
		Long Bridge (INR crore/km)	12	0	0
		Total (INR crore)	0	55	242

Source: JICA Study Team

The current traffic volume of NH51 is shown below.



Source: JICA Study Team

Figure 2.1 Daily (L) and Hourly (R) Variation of Traffic Volume of NH51

Traffic projections for the project road has been made based on the estimated growth rates derived from the trend of the number of vehicle registration and economic indicators in the area. As shown in Table 2.2 below, 2-laning of NH51 is necessary to cater for future increase in the traffic volume.

Table 2.2 Projected Traffic Volume in NH51 till 2035

Road ID	Road/Section & Terrain	Unit	2020	2025	2030	2035
RD-3.1	Km 0 -Km 10, Rolling	Veh.	2524	4435	7653	11123
		PCU	2498	3999	6328	8996
		No. of Lanes	2	2	2	2

Road ID	Road/Section & Terrain	Unit	2020	2025	2030	2035
RD-3.2	Km16 -Km 60 , Rolling	Veh.	5001	8420	14135	20251
		PCU	5482	8489	12997	18176
		No. of Lanes	2	2	2	2

Source: JICA Study Team

Key components of widening and improvement are summarized below.

2.2.1 Earth work, slope protection and land slide prevention

Locations of land slide and road deformation as identified during the inventory survey is shown below.

Table 2.3 Recommendation of NH51 Widening Side

Sec	LS No.	Landslide Location				Disaster Type	Road Deformation				Recommended Widening Side		
		Slope No.	Start	~	End		Collapse	Sinking	Crack	Bulge	R/L	H/V	Landslide Countermeasure
NH-51	01	221	93 + 400	~	93 + 420	SF	x				L	V	Soil retaining wall
	02	014	4 + 480	~	4 + 540	SF	x				R	V	Soil retaining wall
	03	015	4 + 540	~	4 + 580	SF					R	V	Soil retaining wall
	04	030	10 + 181	~	10 + 219	SF	x		x	x	L	H	Earth removal
	05	046	15 + 440	~	15 + 480	SF	x	x			-	-	Subsurface drainage
	06	055	18 + 520	~	18 + 560	SB		x			-	-	Subsurface drainage
	07	057	19 + 430	~	19 + 470	SB		x			-	-	Subsurface drainage
	08	058	19 + 700	~	19 + 720	SB		x			-	-	Subsurface drainage
	09	059	20 + 000	~	20 + 020	SB		x			-	-	Subsurface drainage
	10	060	20 + 240	~	20 + 280	SB		x			-	-	Subsurface drainage
	11	060	20 + 480	~	20 + 520	SB		x			-	-	Subsurface drainage
	12	061	20 + 640	~	20 + 660	SB		x			-	-	Subsurface drainage
	13	061	20 + 850	~	20 + 870	MM		x	x		R	V	Road realignment
	14	062	21 + 020	~	21 + 060	SB		x			-	-	Subsurface drainage
	15	062	21 + 200	~	21 + 250	SB		x			-	-	Subsurface drainage
	16	063	21 + 360	~	21 + 600	SB		x			-	-	Subsurface drainage
	17	064	21 + 660	~	21 + 720	SB		x			-	-	Subsurface drainage
	18	069	23 + 700	~	23 + 780	SB		x			-	-	Subsurface drainage
	19	070	23 + 940	~	24 + 010	MM-p		x			R	H	- No need
	20	070	24 + 120	~	24 + 220	SB		x			-	-	Subsurface drainage
	21	071	24 + 420	~	24 + 480	SB		x			-	-	Subsurface drainage
	22	074	25 + 680	~	25 + 700	MM		x			L	V	Soil retaining wall
	23	091	32 + 020	~	32 + 040	MM		x			L	V	Retaining wall

Source: JICA Study Team

MM: Mass Movement, MM-p: Inactive mass movement, SF: Slope Failure, SB: Subsidence

R: Right side, L: Left side, H: Hill side, V: Valley side

Slope along NH51 is covered by very loose quaternary alluvium. As such, slope failure and erosion have frequently occurred on cut slope along NH51. In order to reduce the cult soil volume it is proposed that the widening should be done on both hill and valley sides in case by case basis and apply land slide prevention measures at sites prone to disaster and road subsidence.

To reduce the risk of slope failure, such loose soil slope shall be cut with 1:1.2 gentler than IRC standard for landslide prevention as shown below. The cut slope shall be greened by seeding and

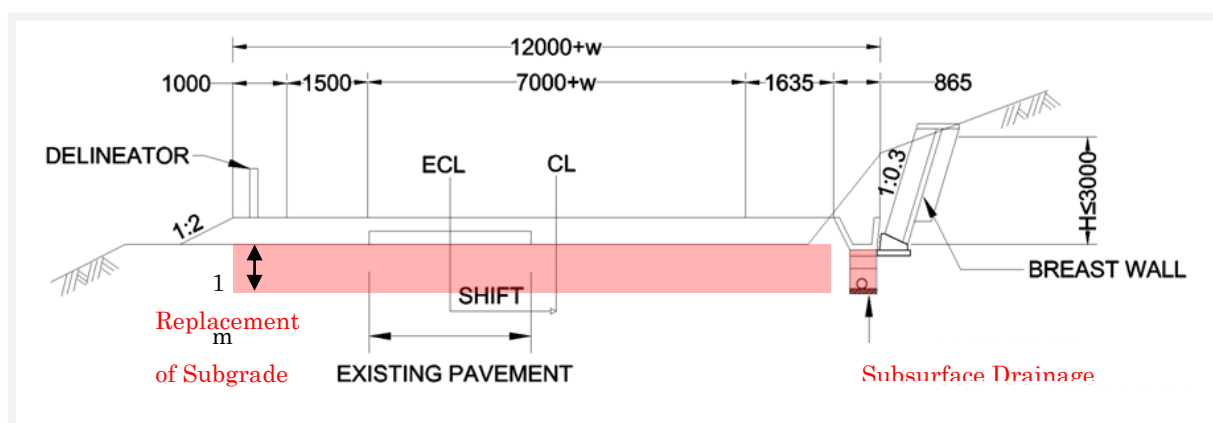
mulching consisting of jute netting including seeds which cover all over the slope and prevent erosion by rain water.

Table 2.4 Design Criteria of Cut Slope and Slope Protection Work

IRC Standard*		JICA Study Team Rock/Soil Classification	Cut Grade	Slope Protection Work
Classification	Cut Grade			
Ordinary Soil/ Heavy Soil	1:1.0 ~	Soil	1:1.0	Seeding and Mulching
	1:0.5			

*IRC: SP:48:1948 Clause 7.4
Source: JICA Study Team

A number of road subsidence sites have been identified in the slope inventory survey, which occur due to consolidation of loosen subsurface soil and high groundwater level except for embankment sliding. Therefore, replacement of subgrade with 1.0m thick and subsurface drainage are proposed as countermeasures of sinking as shown below.



Source: JICA Study Team

Figure 2.2 Typical Cross Section of Countermeasure for Sinking

2.2.2 Drainage design

It is required to facilitate culvert or side ditch on road for drain water surrounding or upstream of road to downstream properly. Specially, hill road is always suffered from large volume of water from mountain slope towards the road. It is quite important to protect the road by arranging cross drainage appropriately to satisfy the discharge from crossing water. According to the inventory survey conducted as part of the preparatory study, hume pipe culvert consists of approximately 70% of existing culverts in the targeted section of NH-51. However, diameter of some pipes are not enough to handle expected volume of water flows and aging and soil accumulation also undermine the function of existing culverts. It is therefore proposed that all existing culverts to be replaced with new one based on the IRC standard.



Photo 2.1 Existing Pipe Culvert (L) and Slab Culvert (R) Along NH51

2.2.3 Bridge

It is necessary for bridges to provide function adapted to current National Highway standard. If the existing bridge is adequate for requirement of current National Highway, it can be retained with or without some repairing works. If the existing bridge is deemed to be inadequate, it should be replaced to new bridge. The design is based on the IRC standard in principal. A review during the preparatory study found that out of fourteen existing bridges in project area of NH51, one 6m-long bridge requires re-construction and seven others require replacement of super-structure. Six bridges are found to be in good condition and can be used as they are.

2.2.4 Traffic safety

Traffic safety facilities will provided on roads or roadside to secure safety of all road users as well as nearby residents. Considering the function of existing road as rural community roads as well as usage trend, three types of safety-related facilities has been proposed in the preliminary design.

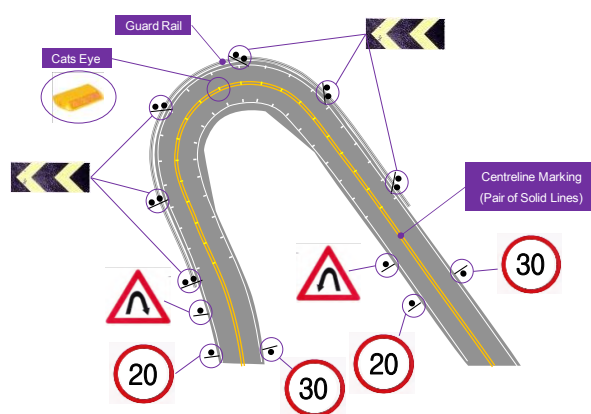
Table 2.5 Traffic Safety Facilities Proposed for NH51

No.	Item	Remarks / Related Code
1	Traffic Sign	IRC67-2001, IRC7-1971, IRC-SP-31-1992
2	Road Marking	IRC35-1997, IRC-SP-31-1992, IRC2-1968
3	Road Delineator	IRC79-1981
4	Guard Rail	
5	Street Furniture (Blinker, Road Stud/Cats Eye)	MoRTH's Research Project R-63

Source: JICA Study Team

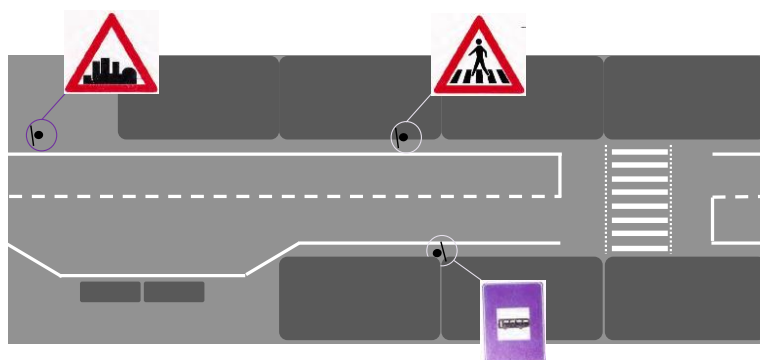
Example of proposed traffic safety facilities at hair-pin curves and in built-up area is shown in Figures

below.



Source: JICA Study Team

Figure 2.3 Traffic Safety Facilities to be installed at Hair-Pin Bends



Source: JICA Study Team

Figure 2.4 Traffic Safety Facilities to be installed at Built-up Area

2.2.5 Road Appurtenances

Road appurtenances are miscellaneous facilities for road users to take a rest and obtain road-related information. For road administrators, they are useful facilities for maintaining their roads efficiently. During the preparatory study, facilities listed in Table below are proposed for consideration during the detail design stage.

Table 2.6 Road Appurtenances to be Applied for NH51

No.	Item	Remarks / Related Code
1	Kilometer Stone	IRC8-1980, IRC26-1967
2	Boundary Stone	IRC25
3	Bus Bay	w/Bus Shed, IRC80-1981
4	Road Amenity	Public Toilet, Bazar Shed

Source: JICA Study Team

2.2.6 Surplus Soil Management

Based on the result of preliminary design of NH51 widening and improvement, the necessary volume of spoil bank for disposal of surplus soil has been estimated as shown below. Overall, the project will need spoil bank with the total capacity to handle about 268 thousand m³ of surplus soil.

Table 2.7 Spoil Bank Volume Requirement

Highway No.	Sec.	Item	Unit	Volume of Generated Soil	Coefficient of Compaction	Volume of Compacted Soil	Required Volume of Spoil Bank
				Cu.m		Cu.m	
NH51	1	Cut Soil	cu.m	41,840	0.9	37,656	37,656
		Fill Soil	cu.m			0	
	2	Cut Soil	cu.m	77,562	0.9	69,806	29,177
		Fill Soil	cu.m			40,629	
	3	Removed Soil for Replacement	cu.m			201,600	201,600
	Total						

Source: JICA Study Team

The preparatory study has identified 9 candidate locations which altogether will have sufficient capacity and satisfy conditions described below.

- ❖ To find out suitable place at every 5km length along NH-51 with following condition;
 - Ground shape with concavity topography
 - Less ground gradient than 22 degree which is assumed as average angle of spoil bank slope with necessary steps
 - No built-up area
 - Not close to National Park, Wildlife Sanctuary or other ecologically sensitive areas
- ❖ To be able to construct the spoil bank in less than 30m height

The locations of 9 candidate sites in 51 km are shown below. The final location of the spoil bank will need to be agreed upon in consultation with local community during the detailed design.

Table 2.8 List of Spoil Bank Candidate Sites

No.	Section	Sta.	Capacity of Spoil Bank
			Cu.m
1	Sta. 85-94	88+000	47,120
2	STA.101-143	105+805	4,620
3		110+000	86,190
4		110+550	58,260
5		119+340	16,856
6		124+800	77,440
7		130+800	15,526
8		135+420	22,806
9		139+100	12,883
Total in NH-51			341,701

Source: JICA Study Team

CHAPTER 3 POLICY AND LEGAL FRAMEWORK

3.1 Summary of Applicable Acts and Policies

Applicable acts, notifications, and policies relevant in the context of the project are discussed below. The Project Authority will ensure that project activities implemented are consistent with the national, state, local regulatory/legal framework as well as JICA Guidelines for Environmental and Social Considerations.

Table 3.1 Applicable Acts and Policies

No.	Acts, Notifications, Policies	Relevance and Applicability to the Project
1	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR 2013)	Provides for enhanced compensation and assistances measures and adopts a more consultative and participatory approach in dealing with the Project Affected Persons (PAPs). The Act took effect in January 2014, however, State of Meghalaya opposes to the provisions on the ground that being under the Sixth Schedule of the Constitution, land in the State belongs to the individuals and not the Government.
2	National Rehabilitation & Resettlement Policy, 2007 ((NRRP 2007)	Provides limited benefits to affected family (an ex-gratia payment of not less than Rs. 20,000/- and in case land-holder becoming landless or small or marginal farmer in such cases other rehabilitation benefits as applicable.
3	The National Tribal Policy, 2006	Provides an environment conducive to the preservation of traditional and customary systems and regime of rights and concessions enjoyed by different ST communities.
4	The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	Provides for recognition of forest rights to Scheduled Tribes in occupation of the forest land prior to 13.12.2005 and to other traditional forest dwellers who are in occupation of the forest land for at least 3 generations i.e. 75 years, up to maximum of 4 hectares. These rights are heritable but not alienable or transferable.
5	The Right to Information Act, 2005	Provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission and State Information Commissions and for matters connected therewith or incidental thereto.

6	World Bank OP 4.12 – Involuntary Resettlement	The project requires additional land area for widening and strengthening, junction improvements, realignments, safety provisions, etc. It will also affect structures mainly used for residences, business units, cattle sheds and livelihood of people. Some of them are without any valid pass/permit. All affected under the project, irrespective of a valid pass/permit shall be supported under the project to improve their quality of life or at least restore to pre-project standards.
7	OP 4.10 – Indigenous Peoples	Over 90% of the population in the State belongs to Tribal community, and almost all affected households belong to ST. While a separate IPP report is not prepared, the issues discussed in RAP takes into account this fact and address issues related to indigenous peoples in the RAP. The project shall ensure broad community support for the project based on free prior and informed consultation.
8	JICA Guidelines for Environmental and Social Considerations	See Box 3.1 below

Source: JICA Study Team

3.2 Key Policies and Legislations

3.2.1 Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (LARR), 2013

The Act provides for enhanced compensation and assistances measures and adopts a more consultative and participatory approach in dealing with the Project Affected Persons. Enhanced compensation provision for land acquisition provides for 1-2 times the prevailing market rate (as determined by stipulated mechanism, primarily relying on officially recorded/registered rates) in urban areas (as determined by the state) and 2-4 times the prevailing market rate in rural areas. The original law also made provision for need for ‘consent’, while exempting 13 existing laws (having sections governing land acquisition processes for projects coming under its ambit). Subsequently, in 2015 an amendment bill was brought in the bill and enforced through ordinance by the current central government. Key changes made by this bill vis-à-vis the original law are:

The LARR 2013 exempted 13 laws, including the National Highways Act from its purview. However, the LARR 2013 required that the compensation, rehabilitation, and resettlement provisions of these 13 laws be brought in consonance with the LARR 2013 within a year of its enactment (that is, by January 1, 2015), through a notification. The Bill brings the compensation, rehabilitation, and resettlement provisions of these 13 laws in consonance with the LARR Act, 2013. The Bill creates five special categories of land use: (i) defence, (ii) rural infrastructure, (iii) affordable housing, (iv) industrial corridors, and (v) infrastructure projects including Public Private Partnership (PPP) projects where the

central government owns the land. The LARR 2013 requires that the consent of 80% of landowners is obtained for private projects and that the consent of 70% of landowners be obtained for PPP projects. The proposed amendment to the Bill, currently under the parliamentary discussion, exempts the five categories mentioned above from this provision of the Act. Being a rural infrastructure project, the above requirement does not technically apply to this project. As per the proposed amendment, projects that belong to five categories do not require social impact assessment. The amendment has not yet passed, but regardless the passage of the amendment, the project has sought to obtain support from the affected community as shown in the chapter on consultation in keeping with JICA Guidelines for Environmental and Social Guidelines. Timeline for LARR 2013 amendment process is as follows.

Table 3.2 Process of Amending LARR 2013

Date	Action
1 January 2014	LARR 2013 comes into existence, repealing the Land Acquisition Act, 1984
31 December 2014	LARR (Amendment) Ordinance, 2014 promulgated
24 February 2015	LARR (Amendment) Bill, 2015 introduced in Lok Sabha
10 March 2015	LARR (Amendment) Bill, 2015 passed in Lok Sabha with amendments but could not be passed by the Rajya Sabha and remains pending
3 April 2015	LARR (Amendment) Ordinance, 2015 incorporating the amendments made by the Lok Sabha promulgated
10 April 2015	Public interest litigation (PIL) filed in Supreme Court to declare LARR (Amendment) Ordinance, 2015 as “unconstitutional” and ultra vires of the Constitution and as a “colorful exercise of power”
13 April 2015	Supreme Court issues notice in the PIL but refuses to stay the LARR (Amendment) Ordinance, 2015.
11 May 2015	LARR (Amendment) Second Bill, 2015 introduced in the Lok Sabha
13 May 2015	LARR (Amendment) Second Bill, 2015 referred to the Joint Committee of Parliament
30 May 2015	LARR (Amendment) Second Ordinance, 2015 promulgated. The ordinance will lapse if it is not passed by Congress within six months.

Source: JICA Study Team based on PRS Legislative Research, India

Other requirements in the LARR 2013 that may be applicable to this project are the following:

- The LARR 2013 required that if the acquired land remains unused for five years, it must be returned to the original owners or the land bank. The Bill states that the period after which unused land will need to be returned will be: (i) five years, or (ii) any period specified at the time of setting up the project, whichever is later.
- The LARR Act, 2013 states that the Land Acquisition Act, 1894 will continue to apply in certain cases, where an award has been made under the 1894 Act. However, if such an award was made five years or more before the enactment of the LARR 2013, and the physical possession of land has not been taken or compensation has not been paid, the LARR 2013 will apply.
- The LARR 2013 stated that if an offence is committed by the government, the head of the department would be deemed guilty unless he could show that the offence was committed

without his knowledge, or that he had exercised due diligence to prevent the commission of the offence. The Bill replaces this provision and states that if an offence is committed by a government official, he cannot be prosecuted without the prior sanction of the government.

3.2.2 National Rehabilitation & Resettlement Policy, 2007

The policy, prepared by the Department of Land Resources, Ministry of Rural Development, and Government of India, stipulates the minimum benefits to be ensured for persons displaced due to acquisition of land for public purposes. The objectives of the Policy are:

- (a) to minimize displacement and to identify the non-displacing or least-displacing alternatives;
- (b) to plan the Resettlement and Rehabilitation of project affected families (PAFs), or project affected households (PAHs), including tribal and vulnerable households;
- (c) to provide improved standard of living to PAFs or PAHs; and
- (d) to facilitate a harmonious relationship between Requiring Body/Competent Authority (CA) and PAFs.

The Policy is applicable to projects displacing 400 or more families en masse in plain areas, or 200 or more families en masse in tribal or hilly areas, Desert Development Program (DDP) blocks, areas mentioned in Schedule V and Schedule VI of the Constitution of India. Some of the highlights of this policy may be noted as follows:

- (i) Recognizes apparent need for additional R&R benefits which must be beyond compensation of loss of land or structure;
- (ii) SIA as mandatory component where project is likely to impact 400 or more families en masse (in plain areas), or 200 or more families en masse in tribal or hilly areas;
- (iii) Detailed R&R planning in case anticipated displacement is more than 400 families in plains (200 families in hilly/tribal areas). The plan to have details such as extent of land to be acquired with names and identification of affected families, village wise list of affected persons, their profile, agricultural laborers as affected persons, people with livelihood affected, list of occupiers, public utilities, comprehensive list of benefits and packages to be provided to affected persons. Other information include- Resettlement site related details such as location and area, amenities to be provided, schedule for displacement and resettlement;
- (iv) Special care to protect rights of weaker sections specifically SC and ST community and affirmative action by way of state obligation for their treatment with concern and

sensitivity;

- (v) R&R cost (arising out of benefits and packages beyond compensation) will be included as part of project cost;
- (vi) Compensation and resettlement activities to be done well in advance of ouster of affected families;
- (vii) R&R benefits to be extended to all affected families. Benefits includes possible allotment of house site, one time assistance for house construction to BPL families (quantum aligned with existing house construction schemes by state), Replacement cost basis or land for land approach for PAFs who have become landless or marginal account of project impacts. Stamp duty and other fees to be borne by requiring body. Provisions of assistance for land development, cattle shed, shifting allowance (on actual cost basis), assistance to rural artisans, self-employed for construction of working shed/shop. Conditional provision for employment of those rendered jobless or rehabilitation grant, subsistence allowance for displaced PAFs; and
- (viii) Requirement of developing of tribal development plan and recommended consultation with tribal advisory council where project entails displacement of 200 or more ST families. Consultation with Gram Sabha or Panchayats for land acquisition in scheduled areas.

3.2.3 National Tribal Policy 2006

The Scheduled Tribes (STs) have traditionally lived as isolated entities in about 15% of the country's geographical areas, mainly forests, hills, undulating inaccessible terrain in plateau areas, rich in natural resources. The problems and difficulties being faced by the scheduled tribes and tribal areas in the country are to be addressed by the National Tribal Policy, 2006. A periodic review of implementation of various initiatives/measures outlined in the policy is essential to ensure accountability of the different public agencies responsible for implementation and to reveal the practical difficulties in implementation. The objectives of the policy are to:

- Provide an environment conducive to the preservation of traditional and customary systems and regime of rights and concessions enjoyed by different ST communities, and reconciliation of modes of socio-economic development with these.
- Prevent alienation of land owned by STs and restoring possession of wrongfully alienated lands.
- Protect and vesting of rights of STs on forestlands and other forest rights including ownership over minor forest produce (MFP), minerals and water bodies through appropriate legislations and conversion of all forest villages into revenue villages.
- Provide a legislative frame for rehabilitation and resettlement in order to minimize displacement,

ensure that affected persons are partners in the growth in the zone of influence, provide for compensation of social and opportunity cost in addition to market value of the land and rights over common property (NPV).

- Empower tribal communities to promote self-governance and self-rule as per the provisions and spirit of the Panchayats (Extension to the Scheduled Areas) Act, 1996.
- Protect political rights to ensure greater and active participation of tribal peoples in political bodies at all levels.

3.2.4 JICA Guidelines for Environmental and Social Considerations

JICA updated its guidelines governing its safeguard policies. Key principles concerning land acquisition and resettlement are summarized in Box below.

Box 3.1 Principle of JICA Policies on Involuntary Resettlement Right

The key principle of JICA policies on involuntary resettlement is summarized below.

- I. Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.
- II. When, population displacement is unavoidable, effective measures to minimize the impact and to compensate for losses should be taken.
- III. People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels.
- IV. Compensation must be based on the full replacement cost as much as possible.
- V. Compensation and other kinds of assistance must be provided prior to displacement.
- VI. For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy,
- VII. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people.
- VIII. Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans.
- IX. Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

Above principles are complemented by World Bank OP 4.12, since it is stated in JICA Guideline that “JICA confirms that projects do not deviate significantly from the World Bank’s Safeguard Policies”. Additional key principle based on World Bank OP 4.12 is as follows.

- X. Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits.
- XI. Eligibility of Benefits include, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying.
- XII. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.
- XIII. Provide support for the transition period (between displacement and livelihood restoration.
- XIV. Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.
- XV. For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.
- XVI. In addition to the above core principles on the JICA policy, it also laid emphasis on a detailed resettlement policy inclusive of all the above points; project specific resettlement plan; institutional framework for implementation; monitoring and evaluation mechanism; time schedule for implementation; and, detailed Financial Plan etc.

Source: JICA Guidelines for Environmental and Social Considerations, 2010

3.2.5 World Bank OP4.12 for and OP4.10

JICA recommends the World Bank policy OP 4.12 for RAP preparation and its implementation. The said policy operates with objectives that recommend avoidance of involuntary resettlement or minimizing it by exploring all options. In cases of involuntary resettlements, resettlement activities are to be conceived and executed as sustainable development program, with displaced persons also sharing from project benefits. Further, the displaced persons require to be assisted in their efforts to improve their livelihoods or at least restore to their pre displacement status. The policy recognizes impacts in terms of relocation or loss of shelter, loss of or loss of access to assets, loss of livelihood or income, and loss of access to protected forest parts- as source of livelihoods, on account of project related land acquisitions. Some of the highlights of the recommended policy measures may be noted as:

- Where the negative impacts are unavoidable, the project-affected persons will be assisted in improving or regaining their standard of living. Vulnerable groups should be identified and assisted to improve their standard of living.
- All information related to resettlement preparation and implementation should be disclosed to all concerned, and people's participation should be ensured in planning and implementation of the project.
- Before taking possession of the acquired lands and properties, compensation and R&R assistance should be made in accordance with recommended policy (i.e. OP 4.12).
- The project affected persons who do not own land or other assets but who have economic interest or claim to such land/assets or lose their livelihoods should be assisted as per the broad principles brought out in this policy.
- Prompt and effective compensation at full replacement cost i.e. amount sufficient to replace lost asset and transaction cost where valuation does not factor in any depreciation in value of structures or assets.
- Provision of assistance and allowances. Support to be provided during transition period i.e. between displacement and livelihood restoration. Similarly land related development assistance should also be provided such as credit facilities/access, training and skill upgradation, job opportunities etc.).
- Land based resettlement strategies would be preferred for displaced families who depend on land based livelihood occupations. Equivalent productive assets to be provided against loss of land, residential houses etc.
- 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

and particular attention will be paid to the needs of groups such as those below poverty line (BPL), destitutes, landless, elderly, women, women headed households, widows, disabled, children and orphans and ethnic minorities.

- Appropriate grievance redressal mechanism will be established at the district level to ensure speedy resolution of disputes.
- All consultations with PAPs shall be documented and continue during the implementation of resettlement and rehabilitation works.
- A detailed Resettlement Plan that covers all of the above including detailed implementation time plan, institutional framework for implementation, M&E framework, a fully itemized budget and an implementation schedule linked to the civil works contract is required to be prepared.

OP 4.10 of World Bank Policies pertain to project affected Indigenous people and considerations to be made in project design and related R&R strategies to minimize and support these groups in situations where such project impacts cannot be avoided. It also requires for a separate IP development plan to address to the needs of such affected groups. In case of Mizoram and its demography, more than 95 percent of the state population belongs to scheduled tribe group and therefore the R&R plan prepared will invariably have such components and recommendations that will meet the requirements characteristics of typical IPP. This RAP can thus be treated as treated as combined RAP and IPP document for the project.

3.3 Key gaps between LARR 2013 and JICA Guidelines

The following table summarizes key deviations between the two sets of legal and policy frameworks i.e. JICA policies and the existing Indian policies relevant to this project. The table also makes recommendations for measures to plug these gaps. A more comprehensive review of the gap is included in Appendix A.

Table 3.3 Key Gaps between JICA and Indian Regulations

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
1	Involuntary resettlement should be avoided wherever possible.	Stated aim to minimize large scale displacement. Encourages projects to be set up on waste land, degraded land, Un-irrigated land. (NRRP 2007, #1.4, Chap 1)	No	-
2	When population	If unavoidable, Govt. to	No	-

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
	displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken.	consider different alternatives to minimize displacement, total land acquired and total agricultural land acquired for non agricultural use (NRRP 2007, #1.4, Chap 1), LARR has provision for compensation for losses incurred.		
3	People who must be settled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre0project levels.	Provisions made for R&R benefits to all; but subject to condition that non titleholders must be residing or drawing livelihood in the affected area for a period not less than 3 years preceding date of declaration of the affected area. (NRRP, #3.1.b.iii)	Yes, Non titleholders need to be residing continuously or drawing livelihood from the affected area for a period not less than 3 years preceding the date of declaration. LARR silent on compensation rights of Non Titleholders for loss of land (illegally occupied), structures. R&R benefits such as housing improvement, development benefits, loss of crops, trees, transitional support etc to be provided only if residing/ drawing livelihood for a continuous 3 year period in the area, preceding declaration of 'affected area'	Recognize claims of Non Title holders (as identified by census survey and irrespective of their residing period status) and in respect of – - Compensation for structures, trees - Structure transfer assistance - Structure reconstruction assistance - Shifting assistance for residential house owner - Tenant shifting allowance Assistance to be provided at par with similar R&R support extended to titleholder familiar
4	Compensation must be based on the full replacement cost as much as possible	Compensation made on market rate as determined or recognized by state	Yes, Market rate as calculated by government is usually far below the actual prevailing market rates.	Compensation to be provided at full replacement cost based on prevailing market rates and additional allowances
5	Compensation and other kinds of assistance must be provided prior to displacement	Provisions exist in NRRP		-
6	For projects that entails large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public.	Requirement for RAP is mentioned subject to number of displaced exceeding 400 families in plains or 200 in hilly/tribal areas or Desert Development Programme (DDP) blocks.	Yes, numerical condition (400 in plain area, 200 in tribal, hilly or DDP blocks) attached. JICA requires this to be implemented if PAH number is higher than 50.	RAP to be prepared for this project.

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
7	In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance.	Specific mention provided in NRRP	No	-
8	When consultation held, explanation must be given in a form, manner, and language that are understandable to the affected people	Provision made	No	-
9	Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans	Specified	No	-
10	Appropriate and accessible grievance mechanisms must be established for the affected people and their communities	Specified	Yes, R&R Committee to be set up only if in the project area more 400 families (in plains) or 200 in tibal/hilly areas are to be displaced	<ul style="list-style-type: none"> - GRM to be set up. Should be accessible to PAHs- to be constituted at district level for issues around land acquisition R&R benefits. Similar body to exist at state level for monitoring and supervision - R&R implementing NGO/Consultant to have presence in each project affected district and facilitate and inform PAHs about GRM and its processes.
11	Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socio-economic	Specified under NRRP for identification of all affected persons	No	-

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
	survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advantage of such benefit.			
12	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under la), the PAPs who do not have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying	Specified- R&R benefits to non titleholders provisioned by subject to them residing/ drawing livelihood for period not less than 3 years in the project affected area (from the date formal declaration)	Yes, Non titleholders if residing or drawing livelihood for a period less than 3 years are not eligible for R&R benefits	- All non-titleholders (as identified on the date of census survey) will also be eligible for R&R benefits
13	Preference should be given to land –based resettlement strategies for displaced persons whose livelihoods are land-based.	Specified	No	-
14	Provide support for the transition period (between displacement and livelihood restoration)	Specified	Yes, no such benefits provision for non titleholder residing/drawing livelihood for a period less than 3 years	- Transition benefits to be provided to all non titleholders (displaced and livelihoods impacted) who have been identified as per census survey.
15	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.	Mentioned for vulnerable groups as defined under NRRP. Specific mention of additional provisions for SC and ST community mentioned under #7.21 of the NRRP. Requirement of a separate tribal development plan to be prepared if number of tribal displaced families exceeds 200 families.	No	- Special R&R assistance to SC community. - Special attention to be made by the R&R implementing NGO, the vulnerable PAH/persons receive R&R support as made out for them in the RAP.

Source: JICA Study Team

3.4 Applicability of LARR 2013 in the Context of Meghalaya

Being a tribal State, the management of land in Meghalaya as defined under the Sixth Schedule of Indian Constitution is under the Autonomous District Councils. Based on this stipulation, the State Government of Meghalaya has not adopted the LARR 2013. In keeping view of the requirements under JICA guidelines, the resettlement policy and entitlement proposed in this RAP report will be adopted in this project.

CHAPTER 4 SOCIO-ECONOMIC PROFILE

4.1 Socio-Economic Profile of Meghalaya and West Garo Hills District

4.1.1 State of Meghalaya

The Assam Reorganisation (Meghalaya) Act of 1969, which came into effect on 2nd April 1970, enabled the creation of an Autonomous State of Meghalaya within the state of Assam. The introduction of the North-Eastern Areas (Reorganisation) Act on 30th December 1971 conferred full statehood to the autonomous state of Meghalaya. Two districts of Assam – the United Khasi and Jaintia Hills and the Garo Hills – were integrated to form the state of Meghalaya. Meghalaya, which literally means ‘the abode of clouds’, became a full-fledged state of the Indian Union on January 21st, 1972. Meghalaya covers an area of approximately 300 km in length and about 100 km in breadth (22,429 km²), and its altitude ranges from 170 m to 1920 m (Das et al., 2006). The state is bounded by Assam to the north and by Bangladesh to the south. Today, there are eleven districts for administrative purposes.

According to the 2011 Census, the population of Meghalaya is 2,967,000. Out of those, 86% belong to scheduled tribe. A total of 17 notified STs are recognised in the state with the Khasi, Garo and Jaintia¹ being the three major tribes. The Khasi constitutes more than half of the total ST population of the state (56.4%), and Garo accounts for 34.6%. Altogether, they constitute more than 90% of the total ST population. The Khasi, Garo and Jaintia had their own kingdoms until they came under British administration in the 19th century. Other tribes include the Koch, the Biate of Saipung Constituency and Jowai, the related Rajbongshi, Boro, Hajong, Dimasa, Hmar, Paite, Kuki, Lakhar, Karbi, Rabha and Nepali. All of them were generally known as “hill tribes” by the British. English is the official and widely spoken language of the state. Other principal languages are Khasi, Pnar and Garo. Hindi and Bengali are also widely spoken in the state.

4.1.2 West Garo Hills District

West Garo Hills is one of the largest districts of Meghalaya located in the western part of the State. The Garo Hills district was divided into two district, vis-à-vis West Garo Hills District and East Garo Hills District in October 1976. West Garo Hills District was further divided into West and South Garo Hills on June 1992. West Garo Hills District is headquartered in Tura, which, with the population of 74,858 people as per 2011 Census, is the second largest town in Meghalaya after Shillong.

¹ Jaintia (Synteng or Pnar) is listed both as a sub-tribe under Khasi and as a separate ST.

West Garo Hills District comprises of eight Development Blocks, which are:

- ✓ Rongram Development Block
- ✓ Dadenggre Development Block
- ✓ Dalu Development Block
- ✓ Betasing Development Block
- ✓ Sellsella Development Block
- ✓ Tikrikilla Development Block
- ✓ Zikzak Development Block
- ✓ Gambegre Development Block

The proposed project falls in three blocks, namely Rongram, Dalu and Gambegre Development Blocks. Block-wise population data as per 2011 Census is shown below.

Table 4.1 Block-wise Population of West Garo Hills District per Gender

Block	Male	Female	Total
Rongram	67,114	66,642	1,33,756
Sellsella	88,349	86,857	1,75,206
Dalu	27,351	26,744	54,095
Dadenggre	20,842	20,753	41,595
Betasing	36,340	35,763	72,103
Zikzak	37,867	36,735	74,602
Tikrikilla	29,267	29,121	58,388
Gambegre	17,029	16,517	33,546
Total	3,24,159	3,19,132	6,43,291

Noted: Blocks where the project road is located are heighted.

Source: District Statistical Handbook 2015

Table 4.2 Block-wise Population of West Garo Hills District per Caste

Block	ST	SC	Other	Total
Rongram	106987	2701	24068	133756
Sellsella	78715	3046	93445	175206
Dalu	47108	464	6523	54095
Dadenggre	40351	41	1203	41595
Betasing	65776	305	6022	72103
Zikzak	49862	1703	23037	74602
Tikrikilla	52729	507	5152	58388
Gambegre	32484	43	1019	33546
Total	474012	8810	1604	643291

Source: District Statistical Handbook 2015

Meghalaya is primarily a rural-agrarian economy with 80% of the population residing in rural areas and around 62.8% of the working population engaging in agriculture and allied activities.

Table 4.3 Distribution of Workers per Different Category of Work

Category	Male	Female	Total
Cultivators	68298	52442	120740
Agricultural laborers	19037	20688	39725
Workers in household industry	3428	4215	7643
Others	61151	26434	87585
Total workers	151914	103779	255693

Source: District Statistical Handbook 2015

4.1.3 Garo Culture

The Garos, like the Khasis and Jaintias, also follow the matrilineal system where the lineage and inheritance are traced through women. The youngest daughter inherits all wealth and she also takes care of her parents. When it comes to marriage, proposals must always come from the woman and not the man. A man may marry as many women as he like, but usually it is limited to three; though for him to remarry, he must obtain the permission of his earlier wives. Originally, the Garos were divided into three katchis or exogamous clans, namely, Momin, Marak, and Sangma. With time, there has been new addition to these clans and new clans like the Arengs, Ebang and Shira has been named as exogamous independent groups. Although they speak different dialects and have different traditional songs, dances and music, they share the main features of their traditional political set-up, social institutions, marriage system, inheritance system and religious beliefs. Among the Garos, great importance is attached to this practice and marriage within the same clan is taboo. The children belong to their mother's clan or "motherhood". The motherhood or "machong" (Ma meaning mother and Chong meaning group) was originally a family unit whose members are descended from a common mother or ancestress. Descent in motherhood must naturally be in the mother's line, and a child belongs to the mother's machong, and not to that of the father, whose family is barely recognised (Playfair, 1909; Sangma, 2012).

Rice is the staple food for Garo people. They also eat millet, maize, tapioca. They tend to be very liberal in their food habits. They rear goats, pigs, fowls, ducks and relish their meat. They also eat other wild animal such as wild pigs. Fish, prawns, crabs, eels and dry fish are also part of their diet. Their jhum (shifting cultivation) field and forest provide them with a number of vegetables and root for their curry but bamboo shoots are esteemed as a delicacy.

The common and regular festivals are those connected with agricultural operations. The most notable festival is called "Wangala", which is no more a celebration of thanksgiving after harvest in which Saljong, the traditional god who provides mankind with nature's bounties and ensures their prosperity,

is honoured. There is no fixed date for the celebration, but varies from village to village. Typically, Wangala is celebrated in October or November. Nokma (traditional village leader) of the village takes the responsibility of the festival in which a large quantity of food and rice-beer must be prepared in advance. The climax of the celebrations is the colourful Wangala dance in which men and women percolate in their best clothes.

4.1.4 Bengali People and Culture

Bengali is majority population of Bengal, the region of northeastern South Asia that generally corresponds to the country of Bangladesh and the Indian state of West Bengal. There are considerable numbers of Bengali community in North East state including Meghalaya, and according to 2011 Census, about 18% of the State's population belong to Bengali. Most Bengali follow either the Hindu or the Muslim faith, but Hindu is more common in Bengali living in India. Bengali Hindus speak Bengali, which is classified as a part of the Indo-Aryan language family. Among Bengali Hindus, considerations of caste rank are important in marriage. Marriage usually occurs between persons of the same caste. Hypergamous unions (between members of closely ranked castes, with women marrying upward) are not forbidden, but hypogamous marriages in which a woman marries a man of a lower caste are strongly discouraged and rarely occur.

Politically, the district is dominated by the Garos as it is Garos who represent them in the District Council, the Legislative Assembly, and the Parliament. Despite being Hindus and retaining all cultural traits different from those of Garos, however, the Bengalis community in Dalu prospers and many engage in petty marketing to supplement their primary occupation.

4.2 Socio-Economic Profile of Project Affected Household (PAH)

4.2.1 Approach and Methodology

The Baseline Survey for all Project Affected Household (PAH) along the project roads has been carried out to understand the nature of likely impacts and devise mitigation measures that are tailored to the livelihood conditions of the affected community. Given the tribal nature of the project area, Social Work Department of Martin Luther Christian University (MLCU) based in Tura has been involved in this undertaking.

Training for the field surveyors and their advance site visit were conducted before the commencement of the field survey in order to avoid any confusion among the survey respondents. The survey form used in the Baseline Survey is attached in Appendix B. During the survey, a senior professor from

MLCU and environment and social expert from JICA Study Team supervised and were responsible for the survey teams. Under their supervision, a total of three teams consisting of four surveyors carried out the survey from 18th June 2015 to 6nd July 2015. Upon the completion of the survey, the information gathered were entered into an excel datasheet for compilation and analysis, and the finding is presented below. Two sets of map highlighting key land use types and structures to be affected for two section of the project road have been developed based on the survey and are included in Appendix C.

4.2.2 Cautiously Note for Understanding the Survey Results

It is important to note, however, that the survey is based on the preliminary design and thus needs to be updated once the final ROW design is established. As such, the result is subject to change depending on the differences between the preliminary and final design, but effort has been made to include the maximum possible households which will be impacted by the current project design in the survey. Also, the official record of land ownership will be available only after government notification concerning land acquisition is issued. The survey made effort to ascertain land ownership status of PAHs through interaction with PAPs and government officials, but the survey results are entirely based on information provided by PAPs and as such, may not be accurate. A person who does not have a valid record of land title may respond that they have the same, or the reported income figure may not be accurate either due to intentional decision or unintentional error of PAPs. With these limitations, the results of the survey are presented below.

4.2.3 Demographic Characteristics

The baseline survey has identified and surveyed 367 households (173 households whose houses will be affected and 194 households whose businesses will be affected). The total number of people is 1,820. Out of these, 319 households (161 households whose houses will be affected and 158 households whose businesses will be affected) will have to be relocated. The remaining 48 will be partially affected but relocation will not be necessary. The average household size is 4.9, ranging from the maximum thirteen to the minimum one person. The social categories of affected households per three development blocks are shown below. Except for Dalu block near the border with Bangladesh, almost all affected households belong to ST (Garo tribes). The Development Block has been the basic unit of the survey but it can be divided further into smaller locality. The number of such affected localities in each block are as follows: Dalu – 15; Gambegre – 23; and Rongram – 10.

Table 4.4 Block-wise Social Category of Affected Households

Block	ST	SC	OBC	General	Prefer not to answer	Total
Dalu	103	2	17	33	7	162
Gambegre	75	0	0	0	3	78
Rongram	116	0	1	2	8	127
Total	294	2	18	35	18	367

Source: Baseline Survey

The result of religious affiliation overlaps closely with the respondents' social category. The result confirms that Christianity is the dominant religious belief among Garo people while population near Bangladesh border follows Hindi.

Table 4.5 Block-wise Religious Affiliation of Affected Households

Block	Christian	Hindu	Muslim	Prefer not to answer	Total
Dalu	103	53	2	4	162
Gambegre	75	1	0	2	78
Rongram	117	6	1	3	127
Total	295	60	3	9	367

Source: Baseline Survey

Educational Attainment of household heads is shown below. Being a sensitive question, the share of “no answer” is rather high, but no respondents had difficulties in reading the questionnaire form and communicating with the surveyors for elaborating their answers².

Table 4.6 Educational Attainment of Household Heads

Educational Attainment	Dalu	Gambegre	Rongram	Total
Below Elementary	16	6	9	16
Completed Elementary	29	16	18	29
Below High School	4	8	13	4
Completed High School	31	6	23	31
Not completed college	8	8	10	8
Graduate and above	8	2	17	8
No Answer	71	32	37	71
Total	167	78	127	167

Source: Baseline Survey

4.2.4 Vulnerability Status

The vulnerability was screened based on the definition of the vulnerable in the NRRP 2007. The NRRP 2007 defines vulnerable persons as disabled, destitute, orphans, widows, unmarried girls, abandoned women or persons above 50 years of age, who are not provided or cannot immediately be

² The literacy rate of Meghalaya is 75.8% as per Census 2011.

provided with alternative livelihood, and who are not otherwise covered as part of a family (para 6.4 (v), NRRP 2007).

According to Reserve Bank of India, the share of the poor in Meghalaya is 12.5% in rural area and 9.3% in urban area in 2012³. However, the survey found that over 40% of respondents consider themselves as BPL household, which may reflect their real coping capacity against negative impacts. Also, the project should take into account the fact that 35% of households are headed by women, when the details of the Rehabilitation Plan is developed to ensure women's participation.

Table 4.7 Vulnerability Status of Affected Households

Block	Total HH	Women-headed HH	HH head over 50	Disabled in HH	Widow in HH	Below Poverty Line*
Dalu	167	43	55	1	2	92
Gambegre	78	37	33	2	0	30
Rongram	122	49	25	0	1	29
Total	367	129	113	3	3	151

Note: BPL figure is based on self-judgment of respondents and may not be accurate.

Source: Baseline Survey

4.2.5 Land Ownership Status of Affected Households

Land ownership in North East States including Meghalaya can be broadly classified into following categories:

- Private Land with Land settlement certificates (LSC): Land holding of the owners is certified with Land Settlement Certificate;
- Periodic Patta: A prescribed Land Settlement document setting agricultural land periodically whereby an individual has entered an agreement with the Government to pay land revenue and taxes at the rate legally assessed or imposed in respect of the land so leased out;
- Village Council Pass (or Garden Pass): Issued by Village Council which have traditionally acted as certificates of land ownership for agricultural purposes within the Council's territory; and
- Government Land: land owned by Government

The land ownership status of affected households is shown below.

Table 4.8 Land Ownership Status of Affected Household

Ownership Status	Dalu	Gambegre	Rongram	Total
LSC	55	30	16	101
Periodic Patta	41	9	54	104

³ Number and Percentage of Population Below Poverty Line, Reserve Bank of India, Sep 16, 2013 (accessed August 11, 2015), <https://www.rbi.org.in/scripts/PublicationsView.aspx?id=15283>

Village Council Pass	16	7	3	26
Government Land	41	12	28	81
No Answer	9	20	26	55
Total	162	78	127	367

Source: Baseline Survey

4.2.6 Occupation and Income of Affected Households

Tea stalls, restaurant and petty shops are major primary occupation of the respondents. This reflects the fact that the target section of NH51 is located near international boarder (where truck drivers takes rest) and near busy area of Tura town.

Table 4.9 Primary Occupation of Household Heads

Block	Agriculture	Shop ¹	Business	Government	Misc ²	Retired/ Unemployed
Dalu	16	101	7	9	6	7
Gambegre	4	43	9	4	1	3
Rongram	4	101	5	20	1	10
Total³	24	245	21	33	8	20

Note: ¹ Tea stall, restaurant, petty shop; ² Driver, cottage industry (craft); ³ This does not add up because several respondents answered more than one primary occupations while a few others did not answer this question.

Source: Baseline Survey

Monthly income of affected households has been summarized below. It is found that most of households with monthly income below Rs 2,500 reside in Gambegre block, which is more rural part of the section between Dalu and Tura.

Table 4.10 Monthly Household Income

Educational Attainment	Dalu	Gambegre	Rongram	Total
2,500 and below	2	5	1	8
2,501 – 5,000	40	10	22	72
5,001 – 10,000	49	23	33	105
10,001 – 20,000	31	6	22	59
20,001 – 50,000	13	7	19	39
50,001 and above	2	3	2	7
No Answer	25	24	28	77
Total	162	78	127	367

Source: Baseline Survey

CHAPTER 5 SOCIAL IMPACT OF THE PROJECT

5.1 Introduction

While the project is expected to positively impact the area with better transport network, the project is also cause adverse social impacts in terms of loss of land assets, non-land assets, loss of livelihood, and impacts on common properties. In particular, sections of the society who are susceptible to socio-economic risks will be particularly vulnerable to such impacts. Identification of such anticipated adverse impacts and developing appropriate mitigation measures during project planning, design and implementation is essential for achieving social sustainability of any project.

The preliminary cut-off date for land acquisition is 6th July 2015, which is the completion date of the baseline survey, and was informed to the project affected households during the survey. Formal cut-off date for the Project will be announced to project affected villages/households through Notification during the final inventory survey after the final ROW drawing is developed.

5.2 Impact on Affected Households and Structures

As discussed in Chapter 4, the project shall impact 376 households. Of these households, 173 households will have their housing structures affected⁴ by the project and 194 households whose business structures such as tea stalls and petty shops will be affected by the project. Out of 173 households, 161 households will have to be resettled while 12 households will be partially affected. Meanwhile, 148 business structures will have to be relocated whereas 36 such structures will be partially affected⁵. Types of affected structures per block are shown below. Based on the baseline survey, about 75% of the affected households and business are considered as titleholder (i.e. in possession of LSC, periodic patta, village council pass)⁶.

Table 5.1 Type of Affected Structures per Block

Block	Housing	Shop ¹	Workshop	Public Str. ²	Total
Dalu	53	88	5	1	147
Gambegre	35	31	1	0	67
Rongram	51	73	0	1	125
Total³	139	192	6	2	339

Note: ¹ Tea stall, restaurant, petty shop; ² Well and Toilet; ³ This does not matches to the number of affected households and businesses because there are cases where a single structure is shared by multiple households. Also, there are several street vendors without structures to be affected by the project.

Source: Baseline Survey

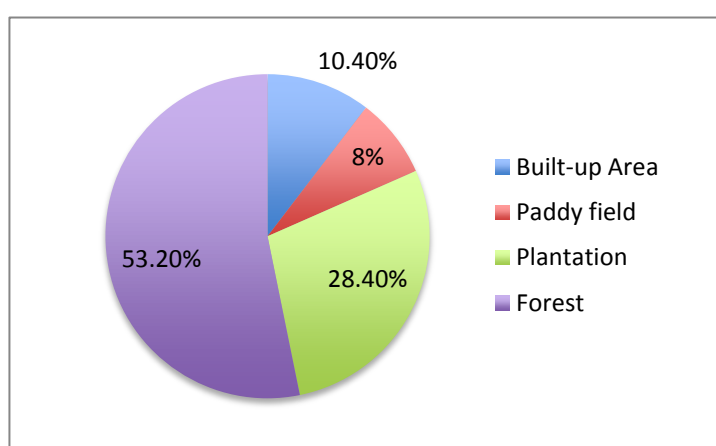
⁴ This includes house-cum-commerce in which a single structure is used both as resident and for commercial purpose.

⁵ This is based on the preliminary ROW design and will have to be verified once the final ROW drawing is established.

⁶ Based on the baseline survey. For those who did not answer to the question about land-holding status, the share of title holder and non-titleholder is assume to be the same as the group who answered the question.

5.3 Impact on Land

The project requires additional land area of 78.6 h, out of which 67 ha is required for widening and improvement work and 11.6 ha is needed for disposing surplus soil. The candidate locations for surplus soil disposal have been identified during the preliminary design and the budget for disposal, including measures to prevent soil erosion, have been included in the project cost. However, the sites will have to be verified after the additional topographic survey and in consultation with affected community as well as State/District Government. The breakdown of land to be acquired by type based on the field survey and satellite data is shown below.



Source: JICA Study Team

Figure 5.1 Breakdown of Affected Land to by Type

Proper disposal of surplus soil is critical to avoid soil erosion and damage to productive land and forest. At the same time, the disposal sites must be located near the sites where surplus soil is generated so as to transport cost and related emissions/noise. The candidate sites that satisfies following conditions:

- ✓ Ground shape with concavity topography
- ✓ Ground gradient less than 22 degree which is assumed as average angle of spoil bank slope with necessary steps, and the height is less than 30m
- ✓ Not close to built-up area

Along the 54km stretch, a total of 9 such locations have been identified with the enough capacity to handle surplus soil generated from this project. The distance between each site is less than 5km.

5.4 Impact on Trees and Crops

Plantations of Areca nut, rubber and cashew as well as wild trees along the road will be affected by the project. Toward the end of the section near Dalu, the road also runs through paddy area. Other affected trees include fruit bearing trees (Banana, Mango, Jackfruit, other citrus fruit, etc.) and bamboo. Since the ROW drawing for the widening and improvement is yet to be finalized, the counting exercise of affected trees has not been carried out at this stage. This will be carried out after the final ROW drawing is prepared based on the additional topographic data. Meanwhile, the budget for compensating trees and crops has been provisionally estimated based on the affected area (approximately 28.6 ha. based on the estimate shown in section 5.3) and weighted average price of trees/crops identified during the survey⁷.

5.5 Social Impacts

5.5.1 Land Use

The project does not lead to large-scale change in land use as the engineering work will be constrained mostly along the existing road. On the other hand, construction of spoil bank is likely to cause changes in land use pattern, potentially affecting existing agricultural and plantation activities. In particular, several plantations is located by the road and installment of retaining walls, embankment and slope protection measures not only affect the land but potentially alter long-term productivity by changing micro-level hydrology. This issue should be taken into account when the compensation for agricultural land/plantation next to existing road is finalized by District Collector.

5.5.2 Local Economy and Livelihood

Significant volume of local resources such as sand may be used for construction work. This could cloud out the use of such resources for other purposes in the short-term. In the long-term, the better road network may attract new business, possibly from outside the state with detrimental impact on local business/traders. While the project overall will have significant positive impacts on the local and regional economy, the better transport network may put some groups at risk at least in the short and medium-term. This is of particular concern because Dalu is at the border with Bangladesh. For example, if the travel time is reduced thanks to the improved road condition, truck drivers may stop taking rest in Dalu or other places, negatively affecting local businesses in the project area. These potential high-risk groups should be identified in the preparation of R&R plan to ensure that they will not be in a disadvantaged position due to the project.

⁷ Weighted average price of tree/crops is derived as follows. 1) derive average price of tree/crop based on the Basic Schedule Rate (e.g. bamboo: 10-200; banana: 100-200; jackfruit 2,500-3,000; Tea: 100-1,900); 2) estimate the average number of such trees/crops per ha.; and 3) multiply 1 and 2 to obtain estimated cost for compensation.

5.5.3 General, Regional /City Plans

The project will create new opportunities for village and block-level development planning. In particular, the construction of spoil bank will create large area of flat land where such surface is a scarce commodity. The development of spoil bank, therefore, should be coordinated with the village/block development plan so that the land will benefit the community.

5.5.4 Social Institutions and Local Decision-making Institutions

Being a tribal state, block and village council and traditional community leaders called Nokma have significant influence on decision-making process in the area. As such, their support and cooperation is critical in smooth implementation of the project, particularly activities related to resettlement. The implementation of EMP as well as RAP/R&R should be built on existing social institutions and will be best guided by local people, rather than outside experts.

5.5.5 Social Infrastructure and Services

For most people residing along NH51, the highway is the only route of access to social infrastructures such as schools and hospitals. Construction activity is likely to cause temporary disturbance to their access to such infrastructure and service and therefore, schedule and timing of the engineering activity should be developed in consultation with the local community. When road blockage is necessary, e.g. for blasting, the local community should be informed in advance so that they can make alternate plan accordingly.

5.5.6 Unequal Distribution of Benefit and Damage and Local Conflicts of Interest

Roadside location offers critical advantages for local business (tea stalls, restaurant, petty shops). Resettlement from roadside to inner part of the village may significantly undermine the viability of these businesses, and therefore, business owners to be affected may be worse off compared with farmers to be relocated. Likewise, allocation of plot in resettlement site may become a source of conflicts among affected households who wish to be relocated to more advantageous plots. Sound arbitration and conflict resolution mechanism by local leaders should be in place for smooth implementation of RAP and R&R activity.

5.5.7 Religious and Sensitive Facilities

The project will not affect religious facility, but the access to churches may be impaired during the construction stage. Given the significance of religious belief in the area, access to these facilities,

particularly Sunday mass, should not be disturbed by construction activities. Similarly, more stringent standard for noise and vibration and air quality should be adopted where sensitive facilities such as school and hospitals are located.

5.5.8 Poor People

The baseline survey has identified gap between official poverty level and poverty level as reported by the people. R&R activity should take into account the limited coping capacity of the local community and develop measures that leads to sustainable income generation of the affected people, rather than one-off payment of compensation and assistance.

5.5.9 Ethnic Minorities/ Indigenous People

In the state of Meghalaya, the tribal (Scheduled Tribe: ST) population constitutes about 85% of the total population. Most of affected people belong to Garo tribe except for Dalu town with sizable Bengali community. Majority of the affected people also belong to ST, and hence they are not minority. While tribal groups in project area holds traditional culture, including shifting cultivation in forest called jhum, they freely interact and share their sources of water, folklore, food, infrastructure and other belongings with the non-ST and other tribal population within and outside community. This is clear from the fact that Bengali and Garo community along NH51 co-exist peacefully without ethnicity-related tensions. Moreover, ST population in project area is not isolated from outside and they are open to new ideas such as family planning and formal education.

5.5.10 Gender

Tribal and non-tribal women in North East States enjoy a relatively higher position in the society than what their non-tribal counterparts do, which is reflected in their high literacy rate. Garo women are largely involved in household work, collection of forest produce, firewood collection, cultivation and other agricultural activities and thus they will be affected in a way that is different from their male counterpart. In order to ensure that affected women will not be disadvantaged, a dedicated chapter on gender issue is included in this RAP in which options to facilitate women's participation in project implementation and various opportunities to be created by the project is discussed.

CHAPTER 6 STAKEHOLDER CONSULTATION

6.1 Overview

Stakeholder consultation is an important method of involving various stakeholders particularly, local community with reference to the proposed development initiatives. Consultations provide a platform to participants to express their views, concerns and apprehensions that might affect them positively or negatively. This process is of particular importance for this project given the high ST share among the affected population. The World Bank OP 4.10 on Indigenous Peoples emphasizes “a process of free, prior, and informed consultation (FPIC) 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.” Consultations for this project adopted the following framework to ensure a process of FPIC.

- a) Conduct appropriate gender and intergenerationally inclusive consultations with the Project Affected Peoples’ communities, the Affected Peoples' Organizations (village council, women's groups, etc.), and other local civil society organizations (NGOs) identified by the Affected Peoples' communities;
- b) Use consultation methods appropriate to the social and cultural values of the Affected Peoples’ communities and their local conditions (including using local languages, allowing time for consensus building, and selecting appropriate venues) and give special attention to the concerns of women and their access to development opportunities and benefits; and
- c) Provide the Affected Peoples’ communities with all relevant information about the project (including an assessment of potential adverse effects of the project) in a culturally appropriate manner.

The purpose of consultations was to inform people about the project, take note of their issues, concerns and preferences, and allow them to make meaningful choices. It ensured participation of potential project affected persons (PAPs), local community and other stakeholders. People in general were informed in advance through invitation letter and phone calls, and allowed to participate in a free and fair manner. During these consultations, PAPs were informed about the project, likely scale of resettlement, its resettlement policy, including compensation based on full replacement cost, resettlement assistance, schedule, and grievance mechanism. Consultations provided meaningful contributions with regard to appropriate compensation, sufficient allowance for resettlement, livelihood restoration, reducing adverse impacts, address safety issues, etc. Most stakeholders expressed their needs for compensation at a full replacement cost and some stakeholders expressed their concerns regarding assistance for relocation; however, no objections were raised concerning the

implementation of the project and to compensations based on replacement cost during both stakeholder consultations and door-to-door census surveys. The following sections present details of the consultations.

6.2 1st Round Consultations with Communities

The initial briefing was made to every village representatives (Nokma) prior to the commencement of the baseline survey. MLCU team as well as Environmental and Social Expert of the Study Team visited villages along the targeted section of NH51 to inform them of the project, seek their support to the survey, and to verify the validity of the survey questionnaire. The first round of consultations was held in conjunction with the baseline survey. Initially, it was planned that one consultation meeting to be held in each development block at this stage. However, after such meeting in Rongram Block, there were requests from the PAPs to hold follow-up meetings for community members so that more members can be engaged in the process. Responding to this request, two additional meetings were held in Rongram block, providing opportunities for more stakeholders to voice their opinions about the project. The details of the meeting are summarized below, and the list of attendees in each meeting is included in Appendix D.

Table 6.1 Summary of 1st Round of Consultation Meetings

Block	Date	Venue	Number of Participants
Dalu	May 21 st , 2015	Multi-facility Building, Dalu	17
Gambegre	May 22 nd , 2015	Bharat Nirman Rashtriya Gram Seva Kendra, Darakgre Bazar	36
Rongram	June 26 th , 2015	Circuit House, Tura	11
Follow-up meeting 1	June 29 th , 2015	Chibgral Community Hall	67
Follow-up meeting 2	July 4 th , 2015	Rongkohn School	74

Source: JICA Study Team

Table 6.2 Participation Details of 1st Round of Consultation

District	Date	Total No. of Participants	Representation (No.) from		
			Govt. Dept.	Nokma/Vilalge Rep	Affected Persons
Dalu	May 21 st , 2015	17	2	11	4
Gambegre	May 22 nd , 2015	36	2	11	23
Rongram	June 26 th , 2015	11	3	8	0

Follow-up meeting 1	June 29 th , 2015	67	2	4	61
Follow-up meeting 2	July 4 th , 2015	74	2	0	72

Source: JICA Study Team



Photo 6.1 Consultation at Gambegre Block (L) and Rongram Block (follow-up meeting 2) (R)

The consultation meetings were attended mainly by village representatives (Nokma and Village Council members), who then shared the meeting contents with other members in the village. To ensure sufficient participation of PAP during consultation, village representatives who attended from each locality agreed to share the meeting contents with other members in the village and share their feedback, if any.

At the outset, PWD and village representative introduced the consultant's team with the participants and stated the broad objective of such consultations. The MLCU team and Environment and Social Expert of the Study Team provided brief description about the project, highlighting importance of consultations with likely project affected persons, local community and other stakeholders. Design concepts (e.g. minimize surplus soil, install proper slope protection) with preliminary alignments were also informed and explained. Expected benefits and likely anticipated adverse impacts as well as resettlement policy framework as per JICA Guidelines for Environmental and Social Considerations were conveyed as well. The consultations were held in local language (Garo) with assistance from a local person who helped in interpretation as well as preparation of transcripts. The proceedings of the consultations were audio recorded as part of documentation process. A summary of consultations on various issues is presented below:

- The community people mentioned about their grievances and experiences of not getting any compensation from the Government during previous road improvement projects and land

acquisitions. Villagers without any land documents also raised their concerns about compensation payments.

- Nevertheless, broad community support for the project was observed in all the villages in view of the expected benefits of road construction. Fair compensation and resettlement and rehabilitation assistance for land, structures and other assets likely to be affected will be essential for winning community's support to the project.
- Some shopkeepers mentioned that these shops are their sole/major source of income and thus noted it would be helpful if they would be allowed to shift their shops from one side of the road to the other during construction activity.
- A few Nokmas voiced concern about the Sima (pillar) of the Nokmas which abutted the road and noted that there are certain rituals and the expenses to be paid in shifting such 'Simas'.
- The need for proper retaining walls have been highlighted. There are cases in previous road improvements where their lands were acquired and encroached upon during the construction phase without proper retaining wall, which cause many difficulties such as soil erosion.

6.3 2nd Round Consultations with Communities

The second round of consultation meetings with communities was planned to be held in August to share the result of the baseline survey with the community and discuss entitlements and other matters related to land acquisition and resettlement. Due to prolonged heavy rain in the project area since mid-August, however, such meetings could not be held as of August 28th, and is planned to be held in the first week of September

6.4 Information Disclosure

The RAP report will be posted on the website of JICA as well as NHIDCL. Also, the Garo version of the executive summary will be distributed to Nokma in each village along the targeted section of NH51 and will be shared with other members of the village.

CHAPTER 7 RESETTLEMENT POLICY

7.1 Objective of Resettlement Policy Framework

Under ADB-funded North Eastern State Roads Investment Program, a RAP report targeting different section of NH51 (Garobadha to Dalu) was prepared in 2010. This RAP was prepared as per ADB's Safeguard Policy Statement, 2009, and as such, broadly in line with the requirements of JICA and the World Bank. The resettlement policy and entitlement matrix proposed in this RAP builds on the RAP for ADB-funded project with revisions/updates based on changes in socio-economic conditions and new provisions in LARR 2013.

In this backdrop, the resettlement policy framework aims to:

- Update the resettlement policy that was followed in the previous project in Meghalaya/West Garo Hills in line with provisions of new relevant Acts and Rules, and other projects being implemented with financial support from multilateral funding agencies with safeguard policies comparable to that of JICA;
- Bring together and build upon the previous experiences and good project implementation practices;
- Enhance institutional capacity at the Project level for implementation of RAP and livelihood restoration activities; and
- Establish mechanism and processes for fair grievances redress with respect to land acquisition and compensation and any other matters associated with the RAP

For above objectives, the policy framework builds on following principles:

- Involuntary resettlement shall be avoided to the extent possible or minimized where feasible, exploring all viable alternative project designs and also take due precautions to minimize disturbance to habitations, and places of cultural and religious significance;
- Where displacement is unavoidable, people losing assets, livelihood or other resources shall be assisted in improving or at a minimum regaining their former status of living at no cost to themselves; Ensure that the socio-economic conditions of the Project Affected Persons (PAPs) actually improve after implementation of the project;
- Share information, consult and involve PAPs and local persons from preparation stage in issues of land acquisition, loss of livelihood and in identifying social issues likely to arise during project implementation;
- Ascertain broad community support based on free, prior and informed consultation;
- Pay special attention to marginalized and vulnerable groups and secure their participation;

- Ensure payment of compensation and assistance to PAPs at replacement cost, prior to any displacement or start of civil works;
- The common property resources will be replaced as far as feasible and assistance will be provided at replacement value to the group;
- All land acquisition will be carried out after issuance of notifications for harvesting of crops;
- Ensure that project does not involve any kind of activities involving child labor; and
- Ensure equal opportunities and wage to women/female workers

7.2 Entitlement Matrix

The Entitlement Matrix has been developed in accordance with the principles adopted and analysis of initial identification of project impacts. The Entitlement Matrix recognizes and lists various types of losses associated with the project and provides the basic tools and guidelines for preparation of compensation and resettlement packages.

Table 7.1 Entitlement Matrix

Type of Loss	Occupant of Property	Unit of Entitlement	Entitlement	Details of Entitlement
Agricultural land	Titleholder	Household	Compensation at Replacement value and Assistance	<p>a) Land for land, if available. Or cash compensation for the land at replacement cost⁸, which will be determined by District Collector.</p> <p>b) If the compensation amount is less than the replacement cost mentioned above, the difference amount will be paid as Assistance.</p> <p>c) If the residual land is unviable for agriculture, PAPs shall have the following three options:</p> <ul style="list-style-type: none"> ● Compensation for affected land and continue on the remaining unaffected plot of land; or ● If eligible person surrenders the residual plot, then compensation and assistance given for the entire plot of land; or ● Replacement land, if so wished by eligible persons, subject to availability of land that is at least equally productive <p>d) Resettlement allowance of Rs. 50,000/- will be provided to those who do not get land for land, irrespective of the size of land.</p> <p>e) Subsistence Grant equivalent to Rs. 3000 (MAW: Minimum Agricultural Wage) per month for 6 months.</p> <p>f) In case of severance of cultivable land, an additional grant of 10% shall be paid over and above the amount paid for land acquisition.</p> <p>g) Four (4) months' notice to harvest standing crops shall be given. However, if notice cannot be given then compensation for these crops shall be paid at market value</p>

	Periodic Patta Holder/ Temporary Village Pass Holder		Assistance	<p>a) Land for land, if available; if not, replacement value of land as determined by District Collector shall be given to land owners/holders.</p> <p>b) Resettlement allowance of Rs. 50,000/- will be provided to those who do not get land for land, irrespective of the size of land.</p> <p>c) Subsistence grant equivalent to Rs. 3,000.00 per month (MAW) for 6 months.</p> <p>d) Four (4) months' notice to harvest standing crops shall be given. However, if notice cannot be given then compensation for these crops shall be paid at market value.</p>
Non- agricultural vacant land (Homestead, Commercial and others)	Titleholder	Household	Compensation for structure at Replacement Cost plus assistances	<p>a) Replacement cost for structure at latest Basic Schedule of Rates (BSR) without depreciation with a minimum of Rs. 1,50,000.00</p> <p>b) Two (2) months' notice for removal of structure</p> <p>c) In case of partially affected structures and the remaining structure continues to be viable, in such case an additional assistance equivalent 25% of replacement cost will be paid towards repair/restoration of Structure</p> <p>d) Right to salvage materials from the demolished structure</p> <p>e) For the displaced eligible persons whose remaining structure is unviable, the following shall be payable</p> <ul style="list-style-type: none"> ● Subsistence grant of Rs. 3,000/- per month for a period of twelve (12) months from the date of displacement ● One time resettlement allowance of Rs.50,000/- ● Transportation cost of Rs. 50,000.00 for shifting family, building materials, domesticated animals etc. ● Lumpsum Assistance amount of Rs. 7,500/- for re-establishing other basic facilities such as electricity connection, water supply pipeline ● All fees, taxes and other registration charges incurred for the replacement structure <p>f) Compensation in the form of residential / commercial plot at resettlement site if so opted by 15 or more PAPs on payment and free of cost for vulnerable groups will be provided. The size of the plots will be equal to the area lost or minimum of 35 m² for house and 15 m² for shop.</p>

	Periodic Patta Holder/ Temporary Village Pass Holder			<p>For land</p> <ul style="list-style-type: none"> ● Subsistence grant equivalent to Rs. 3,000.00 per month of MAW for 6 months. ● Four (4) months' notice to harvest standing crops/trees shall be given. However, if notice cannot be given then compensation for these crops shall be paid at market value <p>For structure</p> <ul style="list-style-type: none"> ● Replacement cost for structure at latest Basic Schedule of Rates (BSR) without depreciation with a minimum of Rs. 1,50,000.00 ● Two (2) months' notice for removal of structure ● Right to salvage materials ● Lump sum Transportation cost of Rs.50,000
Loss of Plants/Trees	Owner/Occupant	Household	Compensation	Revenue Department or Special Committee to determine the current cost. For perennial fruit bearing trees such as Pineapples, Jackfruits, etc.), average productivity of such trees will be taken as 20 years.
Loss of Cattle shed, poultry shed or any other shed for domestic animals	Owner/Occupant	Household	Compensation	Rs. 600 per m ² for Thatched roof and Rs. 1000 per m ² for GCI sheet roof (to be paid as per revised/latest available updated basic schedule of rates for buildings). In case of non-revision, 10% premium per year will be added to the latest rate available.
Loss of residence/ commercial unit	Tenant	Household	Assistance	<p>a) The amount of deposit or advance paid by the tenant to the landlord or the remaining amount at the time of expropriation (this will be deducted from the payment to the landlord)</p> <p>b) Subsistence grant of Rs. 3,000/- per month for a period of twelve (12) months from the date of displacement</p> <p>c) Lump sum shifting allowance of Rs. 15000/-</p>
Loss of kiosk	Owner/occupant	Household	Assistance	<p>a) Lump sum shifting allowance of Rs. 7500/-</p> <p>b) Right to salvage materials from the existing structure</p>
Loss of employment	Wage earner	Household	Assistance	<p>a) Economic Rehabilitation Grant equivalent to twenty-five (25) days of Minimum Agricultural Wages (MAW) per month for a period of three months.</p> <p>b) Priority work opportunities in the project construction work</p> <p>c) Rs. 20,000/- towards vocational/skill improvement as per choice.</p>

Loss of Livelihood (losing commercial unit, losing agricultural land and with balance land below MEH)	Titleholder/ Periodic Patta holder/ Village Pass holder	Household	Assistance	a) Priority work opportunities in the project construction works. b) Rs. 20,000/- towards vocational/skill improvement as per choice. The amount will cover daily stipend equivalent to MAW for the duration of training and shall also cover costs towards boarding, lodging, transportation, etc.
Additional support to vulnerable groups	Titleholder/ Periodic Patta holder/ Village Pass holder	Household	Assistance	One time additional financial assistance of Rs. 25,000/- as Economic Rehabilitation Grant towards income generation
Loss of Jhum /Fallow land)	Village	Village	Compensation at 'replacement value'	Replacement value for the common property transferred/acquired shall be paid to Village Council and the amount will be utilized through participatory planning by the villagers within 6 months from date of release of payment. PIU shall monitor its utilization
Loss of Common Property Resources	Village	Village	Enhancement of community resources	Replacement /Restoration or augmentation of existing infrastructure and provision of additional infrastructure facilities based on identified need
Loss of Access	Village	Village	Alternate access	Provision of access path(s), steps, footpaths at identified locations in consultations with community
Temporary and unforeseen impacts.	Affected entity	Household	Mitigation measures in line with principles of resettlement policy framework	Unforeseen and temporary impacts during construction will be documented and dealt with on case by case basis through the GRM in accordance with the principles laid down in the resettlement policy framework

Source: JICA Study Team

7.3 Methods for Assessing Replacement Cost⁹

The methods for assessment of replacement cost and determination of compensation for loss of land, structure, and other assets to be adopted in awarding compensation are discussed below:

- The District Collector, who will be responsible for determining the value of compensation, shall consider recent sales and transfer of title deeds and registration certificates for similar type of land in the village. Unlike other parts of India, however, transfer of land is not common in the project area and thus estimating the market rate based on the recent transfer may prove difficult. For provisional estimate of RAP budget, the official rate plus premium for rural land and 100% solatium has been used as per LARR 2013. In other words, the value of compensation is four times the official rate.
- The official rate in India is typically much lower than the prevailing market rate and thus falls short of replacement cost. The ultimate authority to determine the amount of compensation lies in DC, but PIU shall confirm whether four times the official rate is sufficient or not through market rate survey during the detail design. Again, given the limited number of land transactions in the project area, this will require careful consultation with stakeholders through which deliberation on replacement cost shall be made and agreed upon. As discussed earlier, the gap between the amount as determined by DC and the actual replacement cost shall be paid as assistance.
- The replacement value of the houses, buildings and other immovable assets will be determined as per Basic Schedule Rate (BSR) of the year in which compensation is paid without depreciation. In case of partial impact, if the residual structure is rendered structurally unsafe or unviable, the entire structure shall be considered affected and compensated accordingly. Similarly, for plants and trees the replacement costs will be determined by taking into consideration the BSR of the year when compensation is paid. The BSR of West Garo Hills has not been updated in past three years¹⁰ and thus the RAP budget needs to be updated once the latest notification is issued. In case no notification is issued prior to the determination of the

⁹ With regard to land and structures, "replacement cost" is defined as follows: For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset. Where domestic law does not meet the standard of compensation at full replacement cost, compensation under domestic law is supplemented by additional measures so as to meet the replacement cost standard.

¹⁰ Notification 19th October 2012, No. GHAD-REV/RE-ASSESS OF L. REV/1255/12, issued by the Department of Land and Revenue, Office of the Garo Hills Autonomous District Council, Tura.

compensation, the existing BSR will be adjusted taking into account infraction since the issuance of the notification.

7.4 Grievance Redress Mechanism (GMS)

The Grievance Redress Mechanism (GMS) involves formation of Grievance Redress Committee (GRC). The main objective is to provide a step-by-step process of registering and addressing the grievances with respect to land acquisition. It is expected that this mechanism will ensure redress of disputes through participative process. The mechanism and principles of GMS builds on the provisions laid out in the Right to Information Act, 2005 (see Box 7.1).

Box 7.1 The Right to Information Act, 2005

The Right to Information Act, 2005 provides for setting out the practical regime of right to information for citizens. Under the provisions of the Act, any citizen may request information from a "public authority" (a body of Government or "instrumentality of State") which is required to reply expeditiously or within thirty (30) days.

The Act also requires every public authority to computerize their records for wide dissemination and to proactively publish certain categories of information so that the citizens need minimum recourse to request for information formally. Thus under the Act, citizens have right to seek information from concerned agencies by following the set procedures.

Source: the Right to Information Act, 2005

The first tier of GMS takes place at village/block level and involves physical verification and certification upon receipt of any grievance such as inaccurate measurement of impacted asset, loss of access, damage to structures and/or crops during construction. The verification and certification will be carried out by the RAP implementation agency, Nokma and/or members of Village Council in presence of PAPs who file the grievance, and appropriate documentation would be done. Response would be provided to the concerned PAP within 7-10 days of receipt of grievance. Financial implications of any changes would be presented to the GRC for consideration and approval.

The second tier of resolution will be undertaken by the GRC. A district-level GRC will be formed by the Project Authority within one month from the date of mobilization of RAP implementation agency at site. The GRC will comprise Project Director, NHIDCL; PWD; Deputy Commissioner of West Garo Hills; representatives of the concerned Village Council or his/her authorized representative, PAPs and RAP implementation agency. Grievances of PAPs in writing will be brought to GRC for redress by the RAP implementation agency. The RAP implementation agency will provide necessary

assistance to PAPs in presenting his/her case before the GRC. The GRC will respond to the grievance within 7 days. The GRC will meet once in 15 days but may meet more frequently, depending upon the number of such cases. However, after convening the first GRC meeting, it will not hold any meeting till such time any grievance is brought to the GRC for redressal. Grievances brought to the GRC shall be redressed within a time period of one month (30 days) from the date of receipt of grievance. The decision of the GRC will not be binding to PAPs. In other words, decision of the GRC does not bar PAPs taking recourse to court of law. The flow of grievance redress mechanism is shown below.

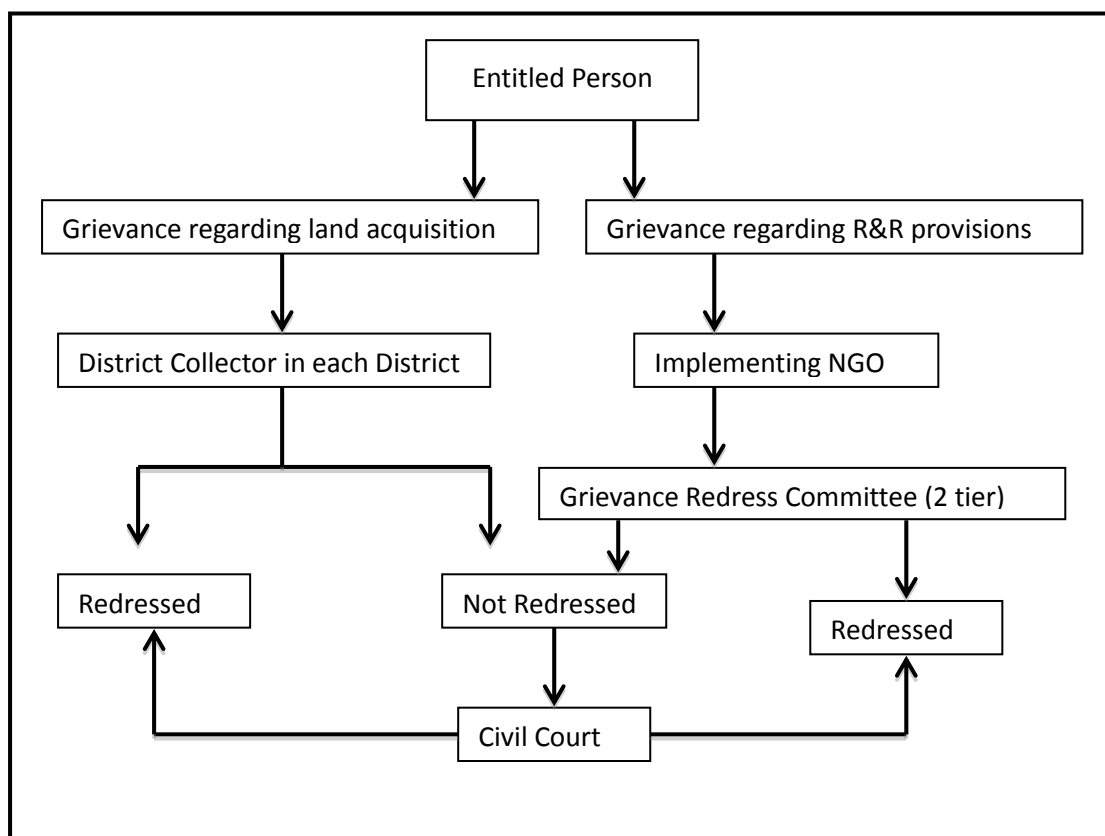


Figure 7.1 Flow of Grievance Redress

CHAPTER 8 INSTITUTIONAL ARRANGEMENT

8.1 Institutional Arrangement

As per Indian regulatory framework, activities related to resettlement and rehabilitation will be carried out by the State Government. Given the autonomous characteristics of West Garo Hills District, however, it is proposed that the district council as well as Nokma, traditional village leaders, also play a major role in implementing RAP. At the moment, NHIDCL has regional offices in Guwahati, Assam, and for this project, it is expected that a project office (Project Implementation Unit: PIU) to be set up in Tura. A dedicated NHIDCL staff (or expert hired by NHIDCL) will work closely with State and district officials as well as Nokma to ensure that implementation of RAP is in line with JICA Guidelines for Environmental and Social Considerations. Institutional arrangement includes provisions to strengthen the capacity of PIU and PWD with regard to land acquisition and implementation of RAP and management of other social issues. The project institutional arrangement is shown below.

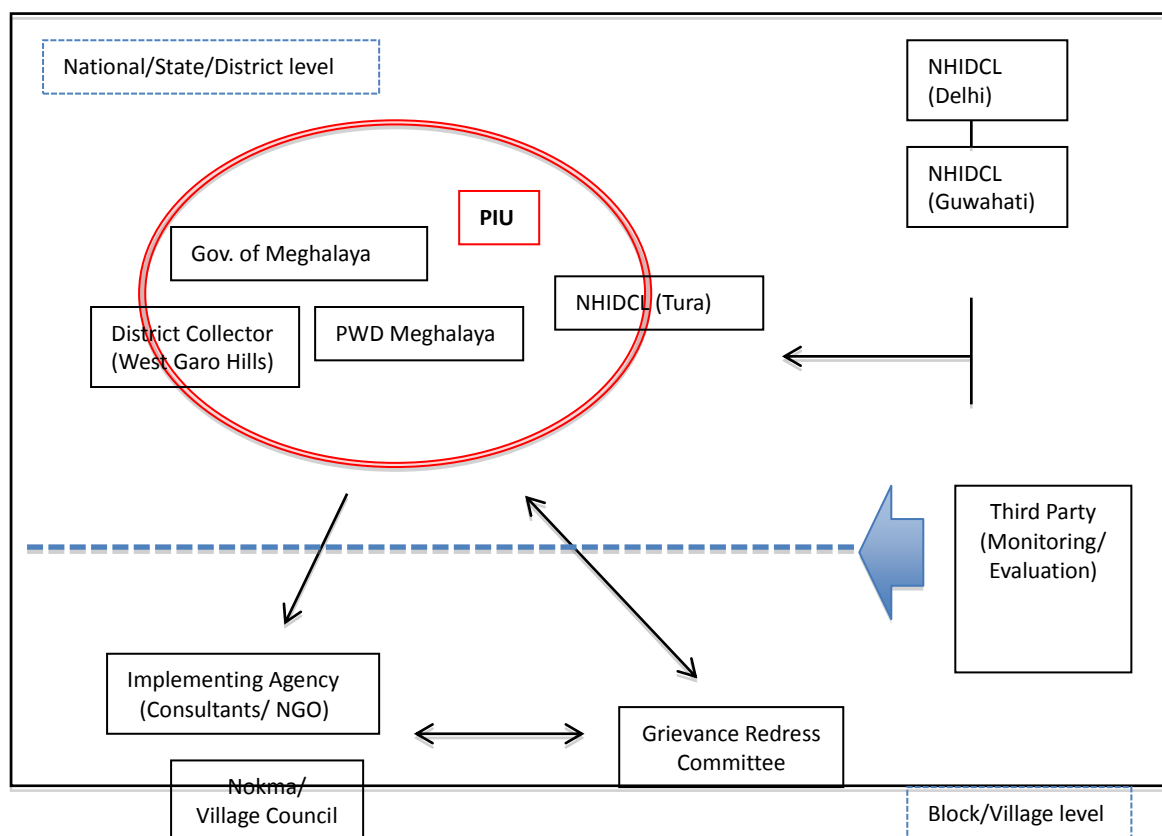


Figure 8.1 Institutional Arrangement for RAP Implementation

8.2 Monitoring and Evaluation

8.2.1 Objective

Monitoring and evaluation are important activities of any infrastructure development project, and even more so for projects involving involuntary resettlement. It helps make suitable changes, if required during the course of RAP implementation and also to resolve problems faced by the PAPs. Monitoring is periodical checking of planned activities and provides midway inputs, facilitates changes, if necessary, and provides feedback to project authority for better management of the project activities. On the other hand, evaluation assesses the resettlement effectiveness, impact and sustainability. In other words, evaluation is an activity aimed at assessing whether the activities have actually achieved their intended goals and purposes. Thus monitoring and evaluation of RAP implementation are critical in order to measure the project performance and fulfillment of project objectives.

8.2.2 Monitoring Indicators

Indicators and benchmarks for achievement of the objectives proposed under the RAP report can be grouped into four categories as follows:

1. Proposed indicators – indicating project inputs, expenditures, staff deployment, etc.
2. Output indicators – indicating results in terms of numbers of project affected persons compensated and resettled, training held, credit disbursed, etc,
3. Impact indicators – related to the longer-term effect of the project on people’s lives.
4. Complaints and Grievances received and resolved

The benchmarks and indicators are limited in number, and combine quantitative and qualitative types of data. The first two types of indicators, related to process and immediate outputs and results, will be monitored to inform project management about progress and results, and to adjust the work program where necessary. Process monitoring would enable the project authority to assess whether the due process are being followed or not, whereas performance monitoring would mainly relate to achievement in measurable terms against the set targets. Monitoring report will also provide necessary guidance and inputs for any changes, if required during the course of the implementation.

8.2.3 Monitoring and Evaluation Activities

In terms of the type of monitoring, the internal monitoring will be carried out by the PIU, PWD with assistance from RAP Implementation Agency. In addition, PIU and PWD will engage an External agency (third party) to undertake monitoring biannually and evaluations at the mid- and end-term for the project through field visits and all other necessary activities including consultations. Details of specific tasks to be carried out in each type of monitoring activities are discussed below.

I. Internal Monitoring

Objective

The objectives of internal monitoring are:

- ✓ To measure and report progress against the RAP schedule,
- ✓ To verify that agreed entitlements are delivered in full to affected people,
- ✓ To identify any problems, issues or cases of hardship resulting from the resettlement process, and to develop appropriate corrective actions, or where problems are systemic refer them to the management team,
- ✓ To monitor the effectiveness of the grievance system, and
- ✓ To periodically measure the satisfaction of project affected people.

Activities

The RAP identifies the following activities for the internal monitoring teams:

- ✓ Coordinate with the PIU, relevant state and district authorities, NGO and project affected communities to review and report progress against the RAP;
- ✓ Verify that land acquisition and compensation entitlements are being delivered in accordance with the RAP;
- ✓ Verify that agreed measures to restore or enhance livelihood are being implemented;
- ✓ Verify that agreed measures to restore or enhance livelihood are being implemented;
- ✓ Identify any problems, issues, or cases of hardship resulting from the resettlement process;
- ✓ Assess project affected peoples' satisfaction with resettlement outcomes through informal village head and household interviews;
- ✓ Collect records of grievances, follow-up that appropriate corrective actions have been undertaken and that outcomes are satisfactory;
- ✓ When required, assist with verification activities to support the expert panel; and
- ✓ Prepare brief quarterly progress and compliance reports for BTC Management and the Expert RAP Monitoring Panel.

Implementation

Internal monitoring teams activities might involve 30 percent of time in the office and 70 percent of time in the field. Typical office review activities will entail:

- ✓ Liaison with District Collector to collate up-to-date information on land acquisition progress such as agreement signing, compensation disbursement, RAP Funds milestones and disbursement, land areas under construction, land areas reinstated and the like;
- ✓ Review of grievance register and basic analysis of grievance types, numbers, and closures; and
- ✓ Report preparation.

Fieldwork activities will entail:

- ✓ Liaison with the village/block level representatives to gather information about progress, incidents, grievances and issues;
- ✓ Spot checking on complainants who had lodged grievances to verify outcomes of corrective actions;
- ✓ Conduct semi-structured interviews with a cross-section of affected households including vulnerable groups to verify receipt of entitlements, review effectiveness of measures, assess satisfaction with outcomes; and
- ✓ Conduct interviews with other key informants

II. External Monitoring Panel

Objective

- ✓ To assess overall compliance with the RAP;
- ✓ To verify that measures to restore or enhance project affected peoples' quality of life and livelihood are being implemented and to gauge their effectiveness; and
- ✓ To assess the extent to which the quality of life and livelihoods of affected communities have been restored.

Activities

- ✓ Review of internal monitoring procedures and reporting to ascertain whether these are being undertaken in compliance with the RAP;
- ✓ Review internal monitoring records as a basis for identifying any areas of non-compliance, any recurrent problems, or potentially disadvantaged groups or households;
- ✓ Review grievance records for evidence of significant non-compliance or recurrent poor

performance in resettlement implementation;

- ✓ Discussions with NGO, DC, PIU and others involved in land acquisition, compensation disbursement or livelihood restoration to review progress and identify critical issues;
- ✓ Survey affected households and enterprises to gauge the extent to which project affected people's standards of living and livelihood have been restored or enhanced as a result of the project;
- ✓ Assess overall compliance with the RAP requirements and JICA Guidelines; and
- ✓ Prepare a summary compliance report for NHIDCL on resettlement progress, any issues arising and any necessary corrective actions.

Implementation

- ✓ The Expert Monitoring Panel would initially convene by teleconference or in person and discuss the review agenda, overall and district-by-district.
- ✓ Each Expert Monitoring Panel member would then travel to project site.
- ✓ In-site, a panel member would:
 - ✓ spend 3-4 days in the project office reviewing internal monitoring reports, grievance registers, interviewing internal monitoring team members, project / government officers, NGOs as necessary to assess functioning of monitoring and grievance systems, assess progress against the RAP and identify issues arising;
 - ✓ Brief/ prepare terms of reference for livelihood restoration verification surveys, when required; and
 - ✓ Spend 7-10 days in field interviews with affected people, key informants, project field staff and the like.
- ✓ All panel members would then convene for 4-5 days to run through overall and district-level findings and develop key conclusions and recommendations.
- ✓ Panel members would return to home offices to draft and finalize the six monthly external monitoring report.

Based on the above, the assignment period for each expert monitoring panel member would be 30 days.

III. RAP Completion Audit

Objective

A key objective of the RAP is that resettlement actions and mitigation measures should lead to sustainable restoration or enhancement of affected peoples' pre-project living standards and income

levels. At such time as affected peoples' quality of life and livelihood can be demonstrated to have been sustainably restored, the resettlement process can be deemed "complete".

Resettlement planning for the projects assumes that livelihood restoration of affected landowners will be complete when the productivity of agricultural land affected by construction has been fully restored, compensatory forestation for loss of forest is carried out, and community and social investment programs are well established. It is proposed that the resettlement completion audit be conducted by the Expert RAP Monitoring Panel 36 months following relocation or at such time as the Expert RAP Monitoring Panel determines affected peoples' living standards and income levels have been fully restored, whichever occurs earlier.

The summary of various monitoring and evaluation activities to be carried out on course of project implementation is summarized in Table 8.1 below, and the proposed monitoring form is included in Appendix E.

Table 8.1 Summary of Monitoring Activity

Type	Frequency	Prepared by	For	Report Contents
Internal RAP Monitoring	Quarterly	PIU	NHIDCL/ State Government	10-15 page report (plus supporting documentation) summarizing progress against the RAP; outline of any issues and agreed related actions; summary schedule of grievance status; minutes of any stakeholder or affected people consultations or meetings
External Monitoring	Half-yearly	Expert Panel	NHIDCL/ State Government	25-35 page report (plus supporting documentation) summarizing assessment of progress towards living standard restoration, livelihood restoration; compliance of JICA Guidelines; discussions of any RAP issues of concern; identification of any areas of non-compliance and agreed corrective actions; and summary or resettlement status.
Completion Audit	One-off	Expert Panel	NHIDCL/ State Government	RAP Completion Audit to verify NHIDCL has complied with undertakings defined by the RAP and that land acquisition and compensation has been completed in accordance with JICA Guidelines

Source: JICA Study Team

CHAPTER 9 REHABILITATION PLAN

The socio-economic survey of the PAPs (see details in chapter 4) indicates that the main sources of income in the project influence area are agriculture and small business enterprises. The population has limited capacity to benefit from the livelihood opportunities created under the development projects or any government sponsored program. One of the key principle of the RAP is to ensure that the livelihood of PAPs will be improved, or at least restored compared with pre-project level. The project will provide income restoration opportunities by way of skill development training and linkage with the on-going government schemes for this purpose. The Rehabilitation Plan will therefore aim to support PAPs to regain their previous living standards by creating income generation opportunities as well as improving PAPs capacity to benefit from the various economic opportunities developed by the project. The Rehabilitation Plan will be developed and implemented by State Government in the course of this project, and the detail of the plan should be tailored with inputs from stakeholders in a later stage of the project. Keeping JICA and World Bank policies in perspective, however, following options and principle are proposed for inclusion to the Rehabilitation Plan.

(1) Shared market place

While the road widening and improvement proposed under the project are expected to facilitate trade across borders, these roads also may have the potential to boost local level trade and improving linkages of the villages in the interiors with the local and regional markets. At the same time, relocation is likely to cause negative impact on households along the road who have benefited from the roadside location suitable for business. It is recommended that project creates benefit sharing arrangements with communities along the project roads and build capacity for increasing the production and trade potential, for example, through construction of common market place in a convenient location along the road where community members can buy and sell agricultural goods and engage in small businesses.

(2) Backyard Poultry

Many households rear chicken for their own consumption but rarely doing it commercially. Small marketing effort may work to the benefit of the producer.

(3) Support for expanding plantation

Insufficient supply of saplings is a barrier for initiative towards better methods of farming. Productivity of cashew, rubber and other plantations along NH51 can be enhanced through supply of quality saplings.

Proposed TOR for NGO/Consultants/University to be involved in the implementation of R&R activities, including development and finalization of Rehabilitation Plan is included in Appendix F. Implementing Agency with support from PIU will assist PAPs in making a choice for feasible income generation activities. Market feasibility study and training need assessment shall be undertaken by the Implementing Agency to devise feasible and practical Rehabilitation Plan that matches to PAPs needs and local context.

CHAPTER 10 GENDER

10.1 Potential Project Impacts on Women

Notwithstanding the social and economic changes such as urbanization, globalization and education that have permeated the societies of the region in last few decades, tribal and non-tribal women in North East States enjoy a relatively higher position in the society than what their non-tribal counterparts do. In tribal Garo community, in particular, land really belongs to the wife of the nokma or traditional village chief or headman of a Garo village¹¹. Traditionally, a nokma is always looked upon as the owner of the lands of his village, who derived his rights through his wife. The literacy rate in West Garo Hills District is 93% for men and 90% for women. The gender gap is significantly small compared to national average (men: 82.1% and women: 65.5%, according to 2011 Census).

Garo women are largely involved in household work, collection of forest produce, firewood collection, cultivation and other agricultural activities. They use the road for their routine activities and economic activities such as agriculture and marketing horticulture products. Hence the positive benefits ensuing from the availability of all weather roads shall be safer connectivity and better transport services, which will ease the burden of their routine water and firewood collection. Enhanced mobility will also bring about positive impacts in terms of better access to social services, higher levels of schooling and better health facility.

On the other hand, this project is likely to have different impact on women and other vulnerable groups. For example, changes caused by relocation would not have equal implications for members of both sexes and may result in greater inconvenience to women. Due to disturbance in production systems, reduction in assets like land and livestock, women and marginalized and vulnerable groups may have to face additional challenge of running a household on limited income and resources. This may force women as well as children to participate in involuntary work to supplement household income, which may also lead to deteriorate social network of women and men alike hence making them more vulnerable to both social and environmental hazards. Given high share of women-headed households in the affected community, it is of great importance to assess potential impacts on women and accordingly, design an appropriate strategy.

¹¹ Nongkynrih, D., *Land Relations in the Tribal Societies of Meghalaya: Changing Patterns of Land Use and Ownership*, Social Change and Development, vol. XI No.2, 2014.

10.2 Women Involvement in Project Preparation and Implementation

Participation of women has been expected in various stages of the project, specifically in the following areas:

- Each field team of the RAP & Rehabilitation Plan Implementation Agency will include at least one women investigator/facilitator
- The project implementation unit ensures that the women are consulted and invited to participate in activities to ensure that they have equal access and control over the resource as part of the RAP
- The RAP Implementation Agency will make sure that women are actually taking part in issuance of identity cards, opening accounts in the bank, receiving compensation amounts in their name.
- Assistancess would be provided to women as a vulnerable group in creating alternative livelihood for them to ensure their sustainable socio-economic improvement. This include support to existing women self-help organization in the project area.
- During monitoring and evaluation, women would be encouraged to evaluate the project outputs from their point of view and their useful suggestions would be noted for taking necessary actions.

10.3 Involvement of Women in Construction Activities

The requirement of unskilled labor forces will be met from the project area during construction work. Employment in road construction works will be taken by both men and women, and majority of them will be commuting from their home. In case women members of the skilled and semi-skilled laborers will be staying in the construction camps, necessary provisions should be made to avoid sexual violence and harassment and ensure the welfare of women and their children.

10.4 Measures for Controlling STD and HIV/AIDS

One of the unintended consequences of any road construction project is that it also provides ample opportunities for a closer inter-phase of mobile population with the local community as most transport and infrastructure projects attract migrant and unskilled labor to project sites. These road construction workers, mostly men, are separated from their partners and families for prolonged periods of time, increasing their susceptibility to engage in risk behaviors. This could potentially lead to interactions between the existing groups practicing high-risk behaviors and the road sector workforce.

In addition, there are also probability that the construction work could potentially increases risk of HIV among road sector workers and communities along the roadways. Local organizations including

Truck Owners Associations shall be involved in generating awareness among workers and communities along the roadways to intervene early and prevent further spread of STD and HIV/AIDS in the area.

CHAPTER 11 RESETTLEMENT BUDGET

The resettlement budget comprise estimated value of compensation for land, structures, trees, various resettlement assistances, cost of CPRs, institutional cost, contingency, hiring of RAP implementation agency, HIV/AIDS awareness generation, capacity building, external monitoring and evaluation consultant, among others. The total resettlement cost for the project road is estimated at about Rs. 454,300,000.

The resettlement and rehabilitation budget has been estimated based on the information, data collected from field and other secondary sources. The budget shall be updated and adjusted as per the market rate of various items as the project continues. The compensation amount for assets shall be determined by the land acquisition officer of the project to be hired for the implementation of RAP. The breakdown of budget for different components is provided in Table 11.1 below.

Table 11.1 Resettlement Budget

Item	Unit	Unit Cost	Quantity	Total (Rs)
I. Compensation				
Land (construction)	ha.	500,000	67	33,500,000
Land (surplus soil)	ha.	400,000	11.6	4,640,000
Rural area multiplier	*the land price will be double for compensation of rural area land as per LARR 2013			38,140,000
Structure	Sq. m	4,000	3,000	12,000,000
Public toilet, water point	No.	50,000	5	250,000
Crops	No.			45,000,000
Solatium	*100% of compensation as per LARR 2013			178,530,000
Sub-Total (I)				312,060,000
II. Allowance				
Moving allowance	Household	50,000	330	16500000
Subsistence allowance	Household	18,000	380	6840000
Assistance to vulnerable	Household	20,000	200	4000000
Training	Household	20,000	380	7600000
Sub-Total (II)				34,940,000
III. Implementation				
Expert fees	Lump sum			7,000,000
Staff training	Lump sum			1,000,000
External monitoring	Lump sum			2,000,000
Information disclosure	Lump sum			1,000,000
Livelihood restoration	Lump sum			10,000,000
Sub-Total (III)				21,000,000
Sub-Total (I+II+III)				368,000,000
Contingency (10%)				36,800,000
Total				404,800,000

Source: JICA Study Team

CHAPTER 12 RESETTLEMENT SCHEDULE

The implementation of RAP consists of following major activities:

- Deployment of required staffs (at PIU and village/block level);
- Information dissemination activities by holding consultations, distributing leaflets containing salient features of resettlement policy and entitlement matrix in Garo language;
- Verify and update the list of PAPs and their status through Detailed Measurement Survey (DMS), list and measure all property and assets affected and their estimation;
- Preparation of micro plan (RAP implementation at village/block level);
- Disburse of R&R assistance to PAPs, which may include preparation and distribution of identity card and opening of bank account;
- Relocation and rehabilitation of CPRs; and
- Preparation for relocation of PAPs

Considering the long rainy season prevalent in the project area and whole state, approximately a period of 5-6 months (May - October) is not available for construction works. The RAP implementation period is proposed to be 24 months, but this needs to be scheduled in a manner so that initial activities such as verification, measurement etc. can be completed during the dry period. The other activities such as preparation of micro plan, approval, disbursement and other necessary documentation can be completed during the rainy season. RAP implementation activities to be carried and respective agencies likely to be involved for each activity are presented in Table 12.1.

Table 12.1 Resettlement Schedule

Year	1				2				3			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4
Preparaton												
Completion of ROW drawings		▲										
Hiring NGO for RAP implementation	■											
Verifcation and update RAP	■	■	■	■								
Preparation of Rehabilitation Plan	■	■	■	■								
Submission of revised RAP to JICA				▲								
RAP budget approval from Central Government				▲								
Disclosure of revised RAP				▲	■	■	■	■	■	■	■	■
Establish Grievance Redress Mechanism				▲	■	■	■	■	■	■	■	■
Declaration of cut-off data (LA notification)				▲								
Preparation of resettlement sites				■	■	■	■	■				
Implementation												
Rehabilitation				■	■	■	■	■	■	■	■	■
Disbursement of compensation and assistance				■	■	■	■	■				
Physical displacement				■	■	■	■	■	■	■	■	■
Taking possession of acquired land					■	■	■	■	■	■	■	■
Handover of acquired land to contractor					■	■	■	■	■	■	■	■
Monitoring												
Harf-yearly report		▲			▲				▲			
Completion report										▲		
Road Construction Civil Works												
									■	■	■	■

Source: JICA Study Team

GOVERNMENT OF INDIA

MINISTRY OF ROAD TRANSPORTATION AND HIGHWAYS

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION

GOVERNMENT OF INDIA

**PREPARATORY STUDY FOR NORTH
EAST CONNECTIVITY IMPROVEMENT
PROJECT IN INDIA**

**WIDENING AND IMPROVEMENT OF
NH54 (AIZAWL-TUIPANG)**

DRAFT RESETTLEMENT ACTION PLAN

AUGUST 2015

**JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)**

**NIPPON KOEI CO.,LTD.
NIPPON KOEI INDIA PVD. LTD.**

TABLE OF CONTENTS

ABBREVIATIONS.....	iv
EXECUTIVE SUMMARY.....	v
Chapter 1 INTRODUCTION	1
1.1 Background	1
1.2 Project Location	1
1.3 Requirement and Objective of RAP Report	2
1.4 Issues Related to Indigenous People	3
Chapter 2 DESCRIPTION OF PROJECT.....	4
2.1 Preparatory Study For North East Connectivity Improvement Project in India	4
2.2 Widening and Improvement of NH54 (Aizawl – Tuipang).....	4
Chapter 3 POLICY AND LEGAL FRAMEWORK	16
3.1 Summary of Applicable Acts and Policies	16
3.2 Key Policies and Legislations	17
3.3 Key gaps between LARR 2013 and JICA Guidelines	24
3.4 Applicability of LARR 2013 in the Context of Mizoram	28
Chapter 4 SOCIO-ECONOMIC PROFILE.....	29
4.1 Socio-Economic Profile of Mizoram and Project Area.....	29
4.2 Socio-Economic Profile of Project Affected Household (PAH)	32
Chapter 5 SOCIAL IMPACT OF THE PROJECT	37
5.1 Introduction.....	37
5.2 Impact on Affected Households and Structures.....	37
5.3 Impact on Land.....	38
5.4 Impact on Trees and Crops.....	39
5.5 Social Impact.....	39
Chapter 6 STAKEHOLDER CONSULTATION	43
6.1 1 st Round Consultations with Communities.....	44
6.2 2 nd Round Consultations with Communities	44
Chapter 7 RESETTLEMENT POLICY	52
7.1 Objective of Resettlement Policy Framework	52
7.2 Entitlement Matrix	53
7.3 Methods for Assessing Replacement Cost.....	58
7.4 Grievance Redress Mechanism (GMS).....	59

Chapter 8	INSTITUTIONAL ARRANGEMENT	61
8.1	Institutional Arrangement	61
8.2	Monitoring and Evaluation	62
Chapter 9	REHABILITATION PLAN	67
9.1	Options for Rehabilitation/Income Restoration	67
9.2	Identification and Development of Resettlement Site.....	68
Chapter 10	GENDER	74
10.1	Potential Project Impacts on Women.....	74
10.2	Women Involvement in Project Preparation and Implementation	75
10.3	Involvement of Women in Construction Activities.....	75
10.4	Measures for Controlling STD and HIV/AIDS	75
Chapter 11	RESETTLEMENT BUDGET	77
Chapter 12	RESETTLEMENT SCHEDULE.....	78

List of Tables

Table 2.1	Present Conditions and Provisional Improvement Cost of NH54	4
Table 2.2	Projected Traffic Volume in NH54 till 2035	5
Table 2.3	Landslide Locations and Proposed side of Widening for Section A.....	7
Table 2.4	Landslide Locations and Proposed side of Widening for Section B	8
Table 2.5	Landslide Locations and Proposed side of Widening for Section C.....	8
Table 2.6	Landslide Locations and Proposed side of Widening for Section D	9
Table 2.7	Slope Protection Work in DPR regarding and a New Proposal.....	10
Table 2.8	Design Criteria of Cut Grade and Protection Work	10
Table 2.9	Traffic Safety Facilities Proposed for NH54.....	12
Table 2.10	Road Appurtenances to be Applied for NH54	13
Table 2.11	Spoil Bank Volume Requirement	13
Table 3.1	Applicable Acts and Policies	16
Table 3.2	Process of Amending LARR 2013	18
Table 3.3	Key Gaps between JICA and Indian Regulations	24
Table 4.1	District-wise Population and Literacy Rate	29
Table 4.2	Composition of Various Mizo Tribes in the State	29
Table 4.3	Snapshot of District in Mizoram.....	31
Table 4.4	Economic Growth of Mizoram	32
Table 4.5	District-wise Social Category of Affected Households.....	34
Table 4.6	District-wise Religious Affiliation of Affected Households.....	34

Table 4.7	Educational Attainment of Household Heads	34
Table 4.8	Vulnerability Status of Affected Households	35
Table 4.9	Land Ownership Status of Affected Household	35
Table 4.10	Primary Occupation of Household Heads	36
Table 4.11	Month Household Income.....	36
Table 5.1	Type of Affected Structures per District	37
Table 6.1	Participation Details of 1 st Round of Consultation	44
Table 6.2	Summary of 1 st Round Consultations	45
Table 6.3	Participation Details of 2 nd Round of Consultation	44
Table 7.1	Entitlement Matrix.....	54
Table 8.1	Summary of Monitoring Activity	66
Table 11.1	Resettlement Budget	77
Table 12.1	Resettlement Schedule	79

List of Figures

Figure 1.1	Road Alignment and Present Road Condition of NH54	2
Figure 1.2	Existing Road Profile of NH54.....	2
Figure 2.1	Daily (L) and Hourly (R) Variation of Traffic Volume of NH54.....	5
Figure 2.2	Geological Profile of Typical Landslide	6
Figure 2.3	Typical Cross Section of Cut Slope	11
Figure 2.4	Traffic Safety Facilities to be installed at Hair-Pin Bends	12
Figure 2.5	Traffic Safety Facilities to be installed at Built-up Area	13
Figure 2.6	Example Pictures of Sceneries taken from NH54.....	15
Figure 5.1	Breakdown of Affected Land to by Type	38
Figure 7.1	Flow of Grievance Redress	60
Figure 8.1	Institutional Arrangement for RAP Implementation	61
Figure 9.1	Map of Village along NH54: Aizawl District.....	69
Figure 9.2	Map of Village along NH54: Serchhip District	70
Figure 9.3	Map of Village along NH54: Lunglei District.....	71
Figure 9.4	Map of Village along NH54: Lawngtlai District	72
Figure 9.5	Map of Village along NH54: Saiha District	73

List of Appendix

APPENDIX A: DETAILED COMPARISON OF JICA GUIDELINES AND INDIAN REGULATION
APPENDIX B: QUESTIONNAIRE FORM USED IN THE BASELINE SURVEY

APPENDIX C: ATTENDEES' LIST OF CONSULTATION MEETINGS

APPENDIX D: PROPOSED MONITORING FORM FOR RAP IMPLEMENTATION

APPENDIX E: PROPOSED TOR FOR RAP AND R&R IMPLEMENTING AGENCY (NGO)

ABBREVIATIONS

ADB	Asian Development Bank
BPL	Below Poverty Line
BSR	Basic Schedule of Rates
CA	Competent Authority
DDP	Desert Development Program
DPR	Detailed Project Report
FPIC	Free Prior Informed Consultations
GOI	Government of India
GRM	Grievance Redress Mechanism
GRC	Grievance Redress Committee
IPP	Indigenous Peoples Plan
IRC	Indian Road Congress
LARR	Land Acquisition, Rehabilitation and Resettlement Act
LSC	Land Settlement Certificates
MAW	Minimum Agricultural Wage
MFP	Minor Forest Produce
MLCU	Martin Luther Christian University
NH	National Highway
NHIDCL	National Highway & Infrastructure Development Corporation Limited
NRRP	National Rehabilitation and Resettlement Policy
PAF	Project Affected Family
PAH	Project Affected Households
PAP	Project Affected Person
PIU	Project Implementation Unit
PPP	Public Private Partnership
PWD	Public Works Department
RAP	Resettlement Action Plan
R&R	Resettlement and Rehabilitation
ROW	Right of Way
SC	Scheduled Caste
SIA	Social Impact assessment
ST	Scheduled Tribe

EXECUTIVE SUMMARY

The Government of India has requested the Government of Japan to provide financing for about 1,200 km of roads that enhance connectivity in North-East States. Out of 10 candidate roads and bridges, Aizawl-Tuipang section of NH54 in the State of Mizoram has been selected as one of the two priority projects (the other is Tura -Dalu section of NH51 in Meghalaya).

The project objective is to improve intra-state connectivity for North East States and regional road connectivity for Mizoram and North East India to neighboring countries. The residents of the North East Region, Bangladesh and Myanmar and countries beyond should benefit from the increased regional connectivity which is expected to result in increased trade and economic development over the longer term.

The existing road is about 381 km in length and stretches over five districts in Mizoram. NH54 is the most important road in the State, connecting Mizoram with other States of India and other countries. This is the lifeline of many Mizo people who depend on road network for the supply of essential commodities. The current condition of road, however, is poor and the road is prone to landslide and slope failures. The riding quality is poor, particularly after Lunglei district, making travelling arduous and difficult, particularly in monsoon season.

Socio-economic profile of the Project Affected Households (PAHs) has been worked out on the basis of the baseline survey conducted as part of the preparatory study. The project shall affect 2,037 households (1,971 households whose houses will be affected and 66 households whose businesses will be affected). The total number of affected people is 8,230. Out of these, 1307 households (1,265 households whose houses will be affected and 42 households whose businesses will be affected) will have to be relocated. Based on the preliminary ROW design, remaining 730 households will be affected but relocation will not be necessary. In terms of distribution of PAHs by religion and social category, most of the PAHs are Christians and are Scheduled Tribes (Mizo).

The existing width of carriageway varies across different sections, but ranges from 3.75 to 5.5 meters. The width of road will be enhanced up to 12 meters including road shoulder. The project shall require land acquisition of 435.5 ha across the entire stretch and additional 160.3 ha for spoil bank as well as 28.8 ha for resettlement site. Efforts have been made to minimize the adverse impacts on the structures along the existing road by drawing ROW alignment to avoid structures as much as possible.

Free Prior Informed Consultations (FPIC) were held in all three development blocks in conjunction with the baseline survey stages. During consultations brief description about the project, likely adverse impacts and positive impacts, employment generation, entitlements applicable for different

types of lose, among others, were discussed and opinion of people was solicited. Major concerns expressed by the communities include: a) non-payment of compensation in past road improvement project; b) eligibility of persons without proper land holding document; c) lack of land for relocation. Communities perceived the positive impacts to be more business and work opportunities during construction and better and more stable access. Negative impacts envisaged by the communities included: loss of land, structures and other common properties and potential soil erosion due to improper management of slope. Overall they were appreciative of the proposed project and conveyed their support. They also indicated their willingness to participate during implementation of the project.

The RAP policy and entitlement matrix proposed in this RAP should form the basis for preparation of the final RAP and Rehabilitation Plan to be prepared by the State Government upon the completion of final ROW drawing. Meanwhile, no separate Indigenous Peoples Plan (IPP) is being prepared given that significant proportion of the population of the state as well as affected persons are designated as Scheduled Tribes and that their concerns can be incorporated into RAP.

The Grievance Redress Mechanism will be established. The RAP implementation agency will provide all necessary help to PAPs in presenting his/her case using the mechanism. The decision of the Grievance Redress Committee will not be binding on the PAPs. In other words, the decision shall not debar PAPs taking recourse to court of law. The internal monitoring will be carried out by the PIU, PWD with assistance from RAP Implementation Agency. In addition, PIU and PWD will engage an External agency (third party) to undertake monitoring biannually and evaluations at the mid- and end-term for the project through field visits and all other necessary activities including consultations.

The project will provide income restoration opportunities by way of skill development training and linkage with the on-going government schemes. Implementing Agency with support from PIU will assist PAPs in making a choice for feasible income generation activities. Market feasibility study and training need assessment shall be undertaken by the Implementing Agency to devise feasible and practical Rehabilitation Plan that matches to PAPs needs and local context.

Considering the long rainy season prevalent in the project area and whole state, approximately a period of 5-6 months (May - October) is not available for construction works. The RAP implementation period is proposed to be 24 months, but this needs to be scheduled in a manner so that initial activities such as verification, measurement etc. can be completed during the dry period. The other activities such as preparation of micro plan, approval, disbursement and other necessary documentation can be completed during the rainy season.

CHAPTER 1 INTRODUCTION

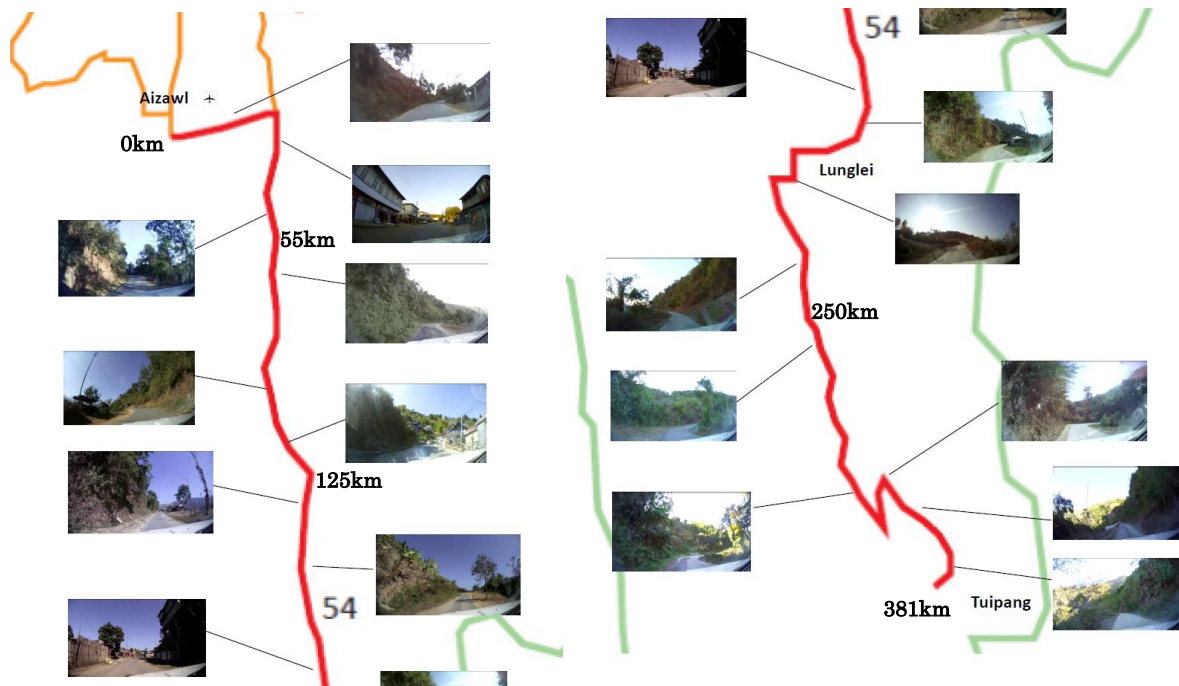
1.1 Background

India has achieved remarkable economic growth in the past decades. Rapid development of transport infrastructures strengthened the linkage between major cities and thus contributed to the economic growth. In particular, road is one of most important modes of transportation given that road transportation constitutes 85% of passenger and 60% of freight transport in India. However, development of transport infrastructure is lagging in mountainous regions of India due to financial and technical reasons, leading to greater economic disparity between mountainous regions and plain areas of the country which have been fully benefited from improved transport network.

Only 28.5% (63.4% is average in whole country) of the road in North-East states is paved and only 53% of national highway has more than 2-lane road. This is because the North-East states are located far from mainland of India and access road to neighboring countries are underdeveloped due to security concern. Severe natural conditions such as steep mountainous geography (most of the state is located in hilly area) and prolonged monsoon season also complicates the challenge. To accelerate economic growth in this part of the country, therefore, improvement in the road network is of great importance. To this end, Government of India (GOI) launched “Special Accelerated Road Development Program for North-East” committed in “Twelfth Five Years Plan (from April, 2012 to March, 2017)” to cope with above mentioned problems by improvement of national highways that connect major cities within the North-East states, and requested Government of Japan to provide loan assistance in carrying out the improvement. Aizawl – Tuipang section of NH54 stretching over five districts of Mizoram State has been selected among a total of 10 candidate roads and bridges during the screening process in the preparatory study.

1.2 Project Location

The targeted section of NH54 starts from Aizawl in Mizoram state to Tuipang with total length of approximately 381km. The study road mainly passes on brow of variegated mountains and alignment of the study road consist of many small horizontal and vertical curves as shown in Figures below.



Source: JICA Study Team

Figure 1.1 Road Alignment and Present Road Condition of NH54



Source: JICA Study Team

Figure 1.2 Existing Road Profile of NH54

1.3 Requirement and Objective of RAP Report

The project requires land acquisition for proposed widening and other work including slope protection and stabilization. For a project involving involuntary displacement of 400 or more families en masse in plain areas, or 200 or more families en masse in tribal or hilly areas, the National Rehabilitation and Resettlement Policy 2007 (NRRP, 2007) requires the administrator for Rehabilitation and

Resettlement (R&R) to undertake a Baseline Survey and Census for identification of the persons and families likely to be affected (Sec.6.2). This will be carried out by the State Government, who is responsible for rehabilitation once the final ROW is determined based on the additional topographic survey. Meanwhile, this RAP report has been prepared based on the preliminary design with the aim of informing the R&R related discussion between State Government and NHIDCL to ensure that land acquisition and involuntary resettlement for this project be carried out in a manner that is consistent with the JICA Guidelines for Environmental and Social Considerations.

1.4 Issues Related to Indigenous People

In the state of Mizoram, the tribal (Scheduled Tribe: ST) population constitutes about 95% of the total population. While tribal groups in project area holds traditional culture, including shifting cultivation in forest called jhum, they freely interact and share their sources of water, folklore, food, infrastructure and other belongings with the non-ST and other tribal population within and outside community. This is particularly evident in the section between Aizawl and Lunglei where different sub-tribe of Mizo, including Lushai, Lai and Mara and non-Mizo people co-exist peacefully without ethnicity-related tensions. Moreover, ST population in project area is not isolated from outside and they are open to new ideas such as family planning and formal education. Given that the mainstream population of the area is tribal, elements of an Indigenous People Plan (IPP) as described in the World Bank OP4.10 have been incorporated into this report. No separate IPP has been prepared for this project.

CHAPTER 2 DESCRIPTION OF PROJECT

2.1 Preparatory Study For North East Connectivity Improvement Project in India

Only 28.5% (63.4% is average in whole country) of the road in North-East states is paved and only 53% of national highway has more than 2-lane road. Poor infrastructure has been the bottleneck of the economic development of North East States. To address this challenge, the Government of India requested Government of Japan to provide loan assistance in carrying out the improvement of existing roads in eight sections, repairing of two existing bridges and construction of one new bridge within six states of North East state in India. The Preparatory Study has been carried out in response to this request with two key objectives, which are: i) to screen project and identify priority project(s) and ii) to review existing feasibility study (Detailed Project Report) prepared by Indian consultant and propose preliminary design of priority projects. After a screening process during the preparatory study, Aizawl – Tuipang section of NH54, stretching for about 381km, has been selected as one of the priority section and thus the preliminary design is proposed for its widening and improvement.

2.2 Widening and Improvement of NH54 (Aizawl – Tuipang)

The number of lanes is 1.5 lanes for the section near Aizawl and 1.0 lane for other sections. Pavement condition between Aizawl to Lunglei is fair, while section between Lunglei and Tuipang is deteriorated due to inadequate road maintenance. Existing condition of the targeted section of NH54 is shown in Table 2.1. The project involves the widening of existing one-lane road to two-lane roads with installment of proper slope protection and land slide prevention measures, drainage and traffic safety facilities. The total width of the road including carriageway and road shoulder will be 12m except for four sections for which new bypass is proposed.

Table 2.1 Present Conditions and Provisional Improvement Cost of NH54

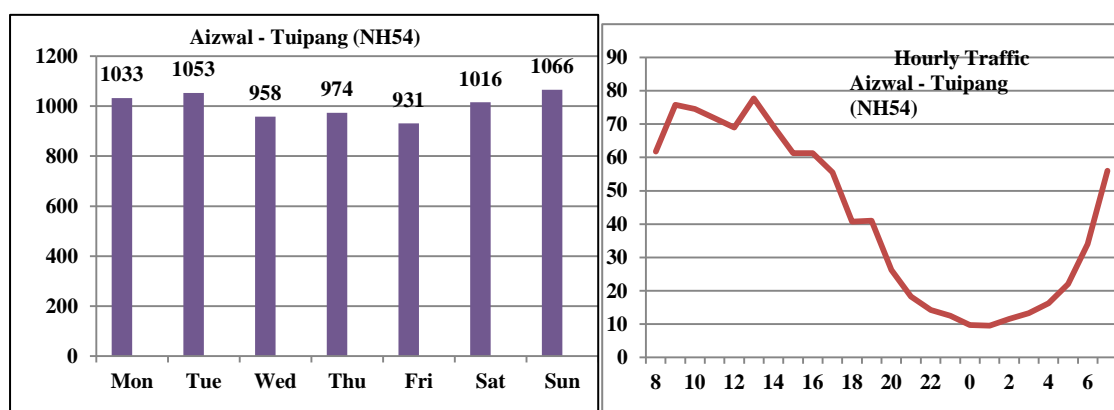
No	Data Items	Type / Unit	Road			
			NH54 (Upper: KM distance from Aizawl, Lower: KP)			
			0-55	55-125	125-250	250-381
			181-236	236-306	306-431	431-562
1	Number of Lanes	Four (4): Carriageway Width (7m+7m), Double (2): Carriageway Width (7m/10m), Intermediate (1.5): Carriageway Width (5m/5.5m), Single (1): Carriageway Width (3.5m/3.75m) New (0)	1.5	1	1	1
2	Carriageway Width	m	5.5	3.75	3.75	3.75
3	Shoulder Width	Average in section / m	0.4	0.5	0.4	0.45
4	Shoulder Type	Paved or Unpaved	Unpaved	Unpaved	Unpaved	Unpaved
5	Average Altitude	m	714	860	724	853

6	Average Roughness	IRI	4.5	5	6.2	9.1
7	Total Area of Crack	%	6.3	7.5	25	62
8	Ravelled Area	%	6.3	10	5	4
9	No. of Pot Holes	per km	5	5	21	7
10	Edge Break Area	m2/km	50	100	50	20
11	Road Side Friction	%	50	15	10	5
12	Average Travel Speed	km/h	30	26	23	21
13	Road Capacity	PCU – IRC73-1980	5,000	1,000	1,000	1,000

14	Improvement Project Cost (W=12m: Carriageway 3.5mx2+ Shoulder 2.5mx2)	Mountainous (INR crore/km)	9	49	63	112	117
		Rolling (INR crore/km)	5.5	0	0	0	0
		Level (INR crore/km)	4	0	0	0	0
		Long Bridge (INR crore/km)	12	0	0	0	0
		Total (INR crore)		495	630	1125	1179

Source: JICA Study Team

The current traffic volume of NH54 is shown below.



Source: JICA Study Team

Figure 2.1 Daily (L) and Hourly (R) Variation of Traffic Volume of NH54

Traffic projections for the project road has been made based on the estimated growth rates derived from the trend of the number of vehicle registration and economic indicators in the area. As shown in Table 2.2 below, 2-laning of NH54 will be necessary to cater for future increase in the traffic volume.

Table 2.2 Projected Traffic Volume in NH54 till 2035

Road ID	Road/Section & Terrain	Unit	2020	2025	2030	2035
RD-1	Aizawl - Tuipang (NH 54)					
RD-1.1	Km 0 - Km 55, Mountainous	Veh.	6131	8782	12216	16541
		PCU	6090	8611	11876	16010
		No. of Lanes	2	2	>2	>2
RD-1.2	Km 55- Km125, Mountainous	Veh.	1905	2732	3802	5148
		PCU	1916	2716	3749	5057

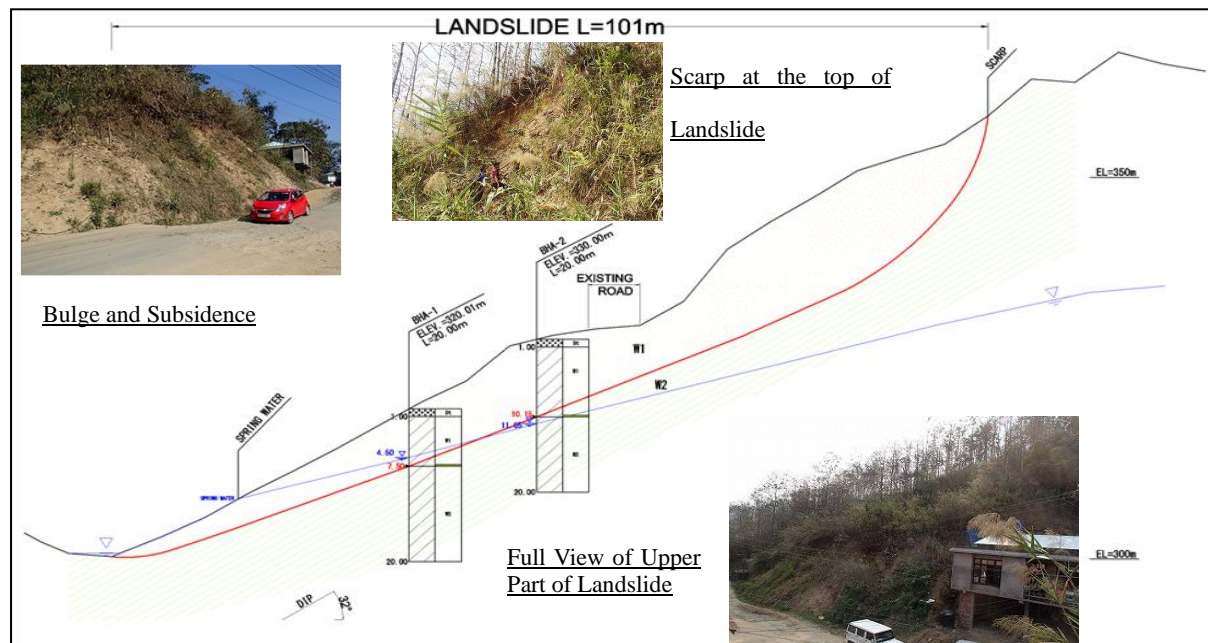
Road ID	Road/Section & Terrain	Unit	2020	2025	2030	2035
		No. of Lanes	2	2	2	2
RD-1.3	Km 125 - Km 250 , Mountainous	Veh.	1558	2237	3123	4242
		PCU	1598	2268	3142	4246
		No. of Lanes	2	2	2	2
RD-1.4	Km 250 - Km 381 Mountainous	Veh.	1882	2690	3741	5072
		PCU	1865	2646	3664	4957
		No. of Lanes	2	2	2	2

Source: JICA Study Team

Key components of widening and improvement works are summarized below.

2.2.1 Earth work, slope protection and land slide prevention

The sandstone and shale of tertiary formation distribute around NH54. Slope failure and erosion have frequently occurred. A image of typical landslide site is shown below.



Source: JICA Study Team

Figure 2.2 Geological Profile of Typical Landslide

The slope inventory survey was conducted for the purpose of topographic measurement, verification of geological and geotechnical condition, and identification of landslide risk. The road stretch was divided into four sections in the slope inventory survey, namely: section A from Aizawl to Serchhip,

section B from Serchhip to Hrangchlkawn, section C from Hrangchlkawn to Lawgtlai, and Section D from Lawgtlai to Tuipang. Locations of land slide and road deformation as identified during the inventory survey is shown below.

Table 2.3 Landslide Locations and Proposed side of Widening for Section A

Sec	LS No.	Landslide Location				Disaster Type	Road Deformation				Recommended Widening Side		
		Slope No.	Start	~	End		Collapse	Sinking	Crack	Bulge	R/L	H/V	Landslide Countermeasure
A	01	009	2 + 555	~	2 + 600	MM	x		x		L	V	Soil retaining wall
A	02	009	2 + 770	~	2 + 800	SF	x		x		L	V	Soil retaining wall
A	03	011	3 + 555	~	3 + 585	MM	x		x		L	V	Rockfall prevention wall
A	04	016	5 + 320	~	5 + 340	MM			x		R	H	Earth removal
A	05	017	5 + 620	~	5 + 650	MM	x		x		L	V	Groundwater drainage
A	06	021	6 + 930	~	7 + 020	MM-p					L	V	Soil retaining wall
A	07	024	7 + 630	~	7 + 860	SF	x				L	V	Soil retaining wall
A	08	025	7 + 980	~	8 + 400	SF	x				L	V	Soil retaining wall
A	09	027	9 + 030	~	9 + 050	MM-p					R	V	Earth removal
A	10	034	12 + 260	~	12 + 340	MM-p			x		R	V	Soil retaining wall
A	11	039	13 + 420	~	13 + 510	MM-p					L	V	Groundwater drainage
A	13	039	13 + 640	~	13 + 680	MM	x		x		L	V	Soil retaining wall
A	14	042	14 + 380	~	14 + 410	MM	x			x	L	V	Soil retaining wall, Groundwater drainage
A	15	051	17 + 710	~	17 + 760	MM	x		x		R	H	Earth removal
A	16	062	20 + 950	~	20 + 990	SF	x		x		L	V	Soil retaining wall
A	17	063	21 + 080	~	21 + 150	MM-p	x		x		L	V	Soil retaining wall
A	18	081	29 + 470	~	29 + 520	SF	x		x		L	V	Soil retaining wall
A	19	085	31 + 150	~	31 + 180	SF			x		R	V	Soil retaining wall
A	20	115	49 + 400	~	49 + 430	MM-p					L	V	Soil retaining wall, Groundwater drainage
A	21	119	52 + 280	~	52 + 310	MM	x		x		L	V	Soil retaining wall, Groundwater drainage
A	22	119	52 + 310	~	52 + 370	MM	x		x		L	V	Soil retaining wall, Groundwater drainage
A	23	119	52 + 370	~	52 + 550	SF	x		x		L	V	Rockfall prevention wall
A	24	119	52 + 570	~	52 + 690	SF	x		x		L	V	Rockfall prevention wall
A	25	124	56 + 100	~	56 + 200	MM	x	x	x		L	H	Anchor
A	26	140	64 + 270	~	64 + 320	MM-p					L	V	- No need
A	27	151	71 + 200	~	71 + 220	MM-p					R	V	Soil retaining wall
A	28	152	71 + 770	~	71 + 830	MM	x	x	x		L	H	Earth removal, Crib work, Rock-bolt
A	29	153	73 + 990	~	74 + 020	MM	x		x		R	H	Earth removal, Soil retaining wall
A	30	178	87 + 470	~	87 + 510	MM-p					R	V	Groundwater drainage
A	31	178	87 + 510	~	87 + 670	MM-p					R	V	Groundwater drainage
A	32	186	91 + 130	~	91 + 150	SF	x		x		R	H	Soil retaining wall

Table 2.4 Landslide Locations and Proposed side of Widening for Section B

Sec	LS No.	Landslide Location				Disaster Type	Road Deformation				Recommended Widening Side		
		Slope No.	Start	~	End		Collapse	Sinking	Crack	Bulge	R/L	H/V	Landslide Countermeasure
B	01	009	4 + 550	~	4 + 585	MM-p					R	V	Soil retaining wall
B	02	080	36 + 690	~	36 + 760	MM	x			x	L	V	Soil retaining wall
B	03	083	37 + 960	~	38 + 030	MM	x			x	L	V	Renew soil retaining wall
B	04	124	58 + 470	~	58 + 525	MM	x				R	V	Soil retaining wall
B	05	127	60 + 080	~	60 + 150	MM	x			x	L	H	Earth removal, Soil retaining wall
B	06	133	62 + 860	~	62 + 920	SF	x	x			R	V	Soil retaining wall
B	07	134	62 + 960	~	63 + 030	MM			x	x	R	V	Counterweight fill, Groundwater drainage
B	08	161	74 + 600	~	74 + 630	MM-p					L	V	Soil retaining wall
B	09	174	80 + 230	~	80 + 340	MM			x		L	V	Soil retaining wall, Groundwater drainage
B	10	195	88 + 420	~	88 + 480	MM			x		L	V	Soil retaining wall, Groundwater drainage
B	11	196	89 + 340	~	89 + 430	SF	x				R	H	Soil retaining wall
B	12	198	90 + 040	~	90 + 100	MM			x		L	V	Soil retaining wall
B	13	214	96 + 960	~	97 + 030	MM	x	x			R	H	Groundwater drainage
B	14	216	97 + 660	~	97 + 720	MM	x			x	L	V	Soil retaining wall, Groundwater drainage
B	15	243	108 + 930	~	109 + 015	MM-p					R	V	- No need

Table 2.5 Landslide Locations and Proposed side of Widening for Section C

Sec	LS No.	Landslide Location				Disaster Type	Road Deformation				Recommended Widening Side		
		Slope No.	Start	~	End		Collapse	Sinking	Crack	Bulge	R/L	H/V	Landslide Countermeasure
C	01	006	2 + 330	~	2 + 540	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	02	007	2 + 540	~	2 + 570	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	03	007	2 + 570	~	2 + 700	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	04	008	2 + 700	~	2 + 750	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	05	008	2 + 750	~	2 + 870	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	06	008	2 + 870	~	3 + 010	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	07	008	3 + 010	~	3 + 240	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	08	009	3 + 240	~	3 + 580	SF	x				R/L	H/V	Cut&Retaining wall, REW
C	09	031	11 + 700	~	11 + 800	MM-p					R	V	- No need
C	10	032	11 + 850	~	11 + 950	MM-p					R	V	- No need
C	11	042	15 + 470	~	15 + 520	MM	x		x		R	V	Groundwater drainage
C	12	055	20 + 520	~	20 + 530	DF	x				R	V	Box culvert
C	13	080	31 + 400	~	31 + 450	MM	x		x		R	V	Counterweight fill, Groundwater drainage
C	14	093	37 + 710	~	37 + 720	DF	x				R	V	Box culvert
C	15	097	39 + 000	~	39 + 040	MM-p					R	V	- No need
C	16	097	39 + 200	~	39 + 280	MM-p					R	V	- No need
C	17	133	54 + 730	~	55 + 020	MM		x			L	V	Groundwater drainage
C	18	140	59 + 250	~	60 + 060	SF					R	V	Rockfall prevention wall
C	19	143	60 + 350	~	60 + 400	MM-p					R	V	- No need
C	20	145	61 + 120	~	61 + 410	SF					R	V	Rockfall prevention wall

Table 2.6 Landslide Locations and Proposed side of Widening for Section D

Sec	LS No.	Landslide Location				Disaster Type	Road Deformation				Recommended Widening Side					
		Slope No.	Start	~	End		Collapse	Sinking	Crack	Bulge	R/L	H/V	Landslide Countermeasure			
D 01	004	2	+	770	~	2	+	880	MM-p					R	V	- No need
D 02	019	9	+	520	~	9	+	740	SF	x				R	V	Rockfall prevention wall
D 03	028	13	+	480	~	13	+	510	MM-p					L	V	- No need
D 04	029	13	+	750	~	13	+	800	MM	x		x		L	V	Soil retaining wall
D 05	030	14	+	100	~	14	+	190	MM-p					L	V	- No need
D 06	037	17	+	650	~	17	+	710	MM-p					L	V	- No need
D 07	040	18	+	920	~	19	+	100	MM-p					L	V	- No need
D 08	048	22	+	010	~	22	+	090	MM		x			L	V	Groundwater drainage
D 09	048	22	+	220	~	22	+	300	MM		x			R	H	Earth removal
D 10	050	23	+	350	~	23	+	420	MM		x			R	H	Anchor
D 11	052	23	+	840	~	23	+	940	MM-p					L	V	Groundwater drainage
D 12	064	29	+	540	~	29	+	790	MM-p					L	V	- No need
D 13	065	29	+	790	~	29	+	870	MM			x	x	L	V	Groundwater drainage
D 14	067	31	+	090	~	31	+	140	MM			x	x	L	V	Soil retaining wall, Groundwater drainage
D 15	071	33	+	060	~	33	+	020	MM-p		x			L	V	- No need
D 16	072	33	+	540	~	33	+	560	MM-p					L	V	- No need
D 17	076	35	+	400	~	35	+	450	MM			x		L	V	Soil retaining wall
D 18	077	35	+	620	~	35	+	705	MM	x		x		R	H	Earth removal
D 19	079	36	+	740	~	36	+	790	MM	x		x		L	V	Soil retaining wall, Rockfall prevention fence
D 20	080	36	+	950	~	36	+	970	SF	x				L	V	Rockfall prevention fence
D 21	087	40	+	150	~	40	+	190	MM	x				L	V	- No need
D 22	087	40	+	610	~	40	+	650	MM		x			L	V	Counterweight fill
D 23	115	53	+	430	~	54	+	320	SF					R	V	Rockfall prevention fence
D 24	118	55	+	120	~	55	+	170	MM		x			L	H	Anchor
D 25	119	55	+	360	~	55	+	480	MM		x			R	V	Anchor
D 26	122	56	+	540	~	56	+	600	MM		x			L	H	Anchor
D 27	139	65	+	350	~	65	+	440	MM-p					R	V	- No need
D 28	141	65	+	830	~	65	+	930	SF					R	V	Soil retaining wall
D 29	141	66	+	060	~	66	+	110	MM-p					R	V	- No need
D 30	147	68	+	980	~	69	+	050	SF					R	V	Soil retaining wall
D 31	151	70	+	540	~	70	+	620	SF	x		x		R	V	Soil retaining wall
D 32	153	71	+	790	~	71	+	860	SF	x		x		R	V	Earth removal, Soil retaining wall

Source: JICA Study Team

MM: Mass Movement, MM-p: Inactive mass movement, SF: Slope Failure, RF: Rockfall, DF: Debris Flow

R: Right side, L: Left side, H: Hill side, V: Valley side

REW: Reinforced Earth Wall

In the Detailed Project Reports (DPR) prepared by several Indian consultants, road widening is planned mostly on hill side with cutting slope, resulting in huge volume of cut soil. The large volume of cut soil is not always economical comparing the retaining wall on the valley side due to cost for disposal of soil, construction of temporary access road to the top of the cut slope, and safety measures in construction for high cut slope. From the environmental point of view, generation of significant volume of surplus soil is not recommended. Therefore, the preliminary design proposes that the widening to be carried out on both hill and valley sides in case by case basis and apply land slide prevention measures at sites prone to disaster and road subsidence. The comparison of DRP and the new proposal is shown below.

Table 2.7 Slope Protection Work in DPR regarding and a New Proposal

Item	Sec I 0~125 km*	Sec II 125~250 km**	Sec III 250 km~End**	JICA Study Team Proposal***
Widening Side	Mainly hill side	Mainly hill side	Mainly hill side	Plan to widening to both hill and valley side in case by case basis.
Cut Grade				
Soil	Not defined	60°	1:0.5	Decide based on classification of rock and soil.
Soft Rock		60°	1:0.25	
Hard Rock		80°	80-90°	
Cut Soil Amount (m3)	Unclear	23.5 million	7.1 million	Reduce by widening on valley side and balance with embankment volume.
Embankment Amount (m3)	Unclear	0.018 million	0.085 million	Will increase with widening on valley side.
Slope Protection	Retaining wall Brest wall	Nil	Retaining wall Gabon wall	Appropriately adopt on landslide risk slope.
Landslide Sites	Not recognized.	Recognized 2 sites	Recognized 4 sites	Identify landslide risk sites in inventory survey and plan its countermeasures.
Countermeasure Plan	Nil	Gabion wall Valley revetment (Wooden fence)	Nil	

Source: *DPR as of May 2015, **DPRs as of April 2015, ***JICA Study Team

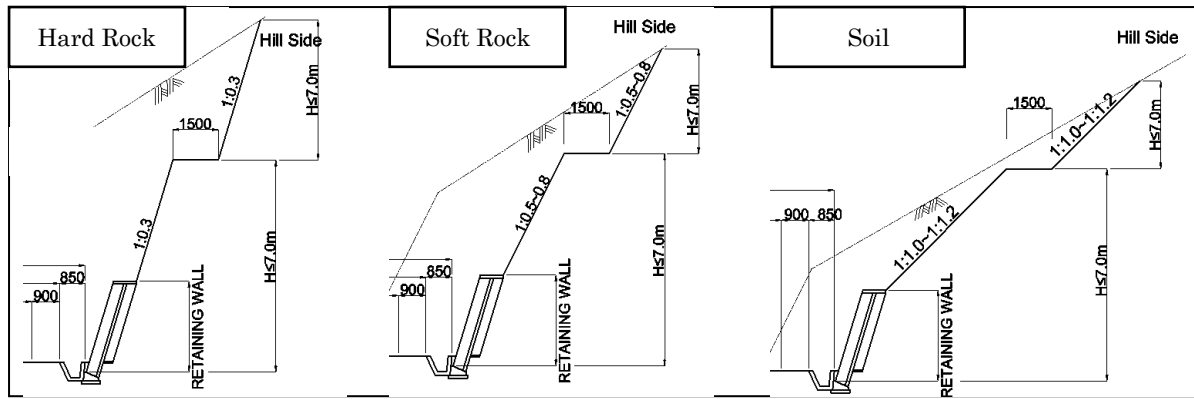
Cut grade of slope above the retaining walls along the road shall be decided based on geological and geotechnical condition of slope. Design criteria and typical cross section of cut slopes are shown below.

Table 2.8 Design Criteria of Cut Grade and Protection Work

IRC Standard*		JICA Study Team		Cut Grade	Slope Protection Work
Classification	Cut Grade	Rock/Soil Classification			
Hard Rock	80 ~ 90 degree	Rock	Very Hard	1:0.2	No protection work
			Hard	No Risk	1:0.3
Landslide Risk	Crib work				
Ordinary Soft Rock	1:0.25 ~ 1:0.125		Soft	Non-Dip Slope	1:0.5
		Dip Slope		1:0.8	Hydroseeding (t=5 cm)
Ordinary Soil/ Heavy Soil	1:1.0 ~ 1:0.5	Soil	Dense Soil	1:1.0	Seeding and Mulching
			Loose Soil	1:1.2	Seeding and Mulching

*IRC: SP:48:1948 Clause 7.4

Source: JICA Study Team



Source: JICA Study Team

Figure 2.3 Typical Cross Section of Cut Slope

2.2.2 Drainage design

On the existing NH-54, large number of culvert does exist crossing under the road, out of which about 80% is slab culvert. It is necessary to that culvert or side ditch on road have adequate capacity of draining water surrounding or upstream of road to downstream properly. Specially, hill road is always suffered from large volume of water from mountain slope towards the road. It is quite important to protect the road by arranging cross drainage appropriately to satisfy the discharge from crossing water. The new drainage system is designed by based on hydrological calculation result. Based on obtained location of water crossing and water discharge, dimension and locations for drainage system are determined. It is proposed that all existing culverts to be replaced with new one based on the IRC standard. For cross drainage structure, appropriate culvert type is selected by taking account of economy, construction workability, and maintenance ability. In general, box culvert will be used for areas were large volume of water discharge is expected and pipe culvert will be used for other areas.



Photo 2.1 Existing Slab Culvert (L) and GI Sheet (R) Along NH54

2.2.3 Bridge

It is necessary for bridges on NH-54 to provide function adapted to current National Highway standard. If the existing bridge is adequate for requirement of current National Highway, it can be retained with or without some repairing works. If the existing bridge is deemed to be inadequate, it should be replaced to new bridge. A review during the preparatory study found that three bridges will need to be replaced.

2.2.4 Traffic safety

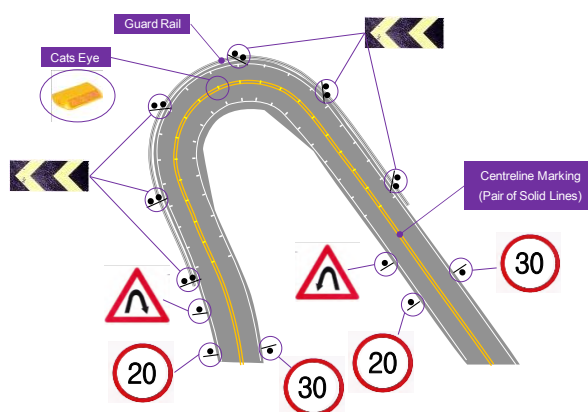
Traffic safety facilities will provided on roads or roadside to secure safety of all road users as well as nearby residents. Considering the function of existing road as rural community roads as well as usage trend, three types of safety-related facilities has been proposed in the preliminary design.

Table 2.9 Traffic Safety Facilities Proposed for NH54

No.	Item	Remarks / Related Code
1	Traffic Sign	IRC67-2001, IRC7-1971, IRC-SP-31-1992
2	Road Marking	IRC35-1997, IRC-SP-31-1992, IRC2-1968
3	Road Delineator	IRC79-1981
4	Guard Rail	
5	Street Furniture (Blinker, Road Stud/Cats Eye)	MORTH's Research Project R-63

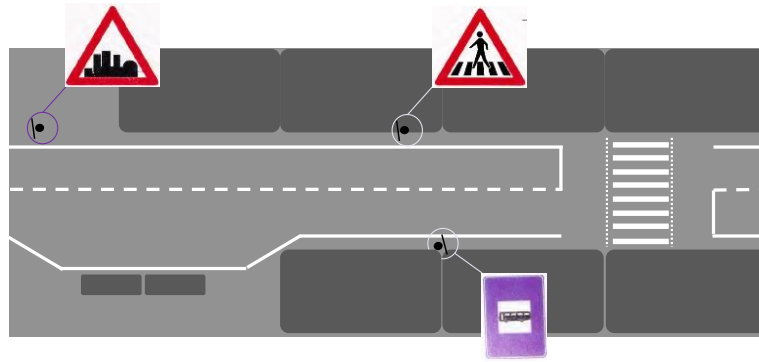
Source: JICA Study Team

Example of proposed traffic safety facilities at hair-pin curves and in built-up area is shown in Figures below.



Source: JICA Study Team

Figure 2.4 Traffic Safety Facilities to be installed at Hair-Pin Bends



Source: JICA Study Team

Figure 2.5 Traffic Safety Facilities to be installed at Built-up Area

2.2.5 Road Appurtenances

Road appurtenances are miscellaneous facilities for road users to take a rest and obtain road-related information. For road administrators, they are useful facilities for maintaining their roads efficiently. During the preparatory study, facilities listed in Table below are proposed for consideration during the detail design stage.

Table 2.10 Road Appurtenances to be Applied for NH54

No.	Item	Remarks / Related Code
1	Kilometer Stone	IRC8-1980, IRC26-1967
2	Boundary Stone	IRC25
3	Bus Bay	w/Bus Shed, IRC80-1981
4	Road Amenity	Public Toilet, Bazar Shed

Source: JICA Study Team

2.2.6 Surplus Soil Management

Based on the result of preliminary design of NH54 widening and improvement, the necessary volume of spoil bank for disposal of surplus soil has been estimated as shown below. Overall, the project will need spoil bank with the total capacity to handle about 7.3 million m³ of surplus soil.

Table 2.11 Spoil Bank Volume Requirement

Highway No.	Sec.	Item	Unit	Volume of Generated Soil	Coefficient of Compaction	Volume of Compacted Soil	Required Volume of Spoil Bank
				Cu.m		Cu.m	Cu.m
NH54	S1	Cut Soil	cu.m	3,442,909	0.9	3,098,618	2,400,495
		Fill Soil	cu.m			698,123	
	S2	Cut Soil	cu.m	3,710,629	0.9	3,339,566	2,437,522
		Fill Soil	cu.m			902,044	
	S3	Cut Soil	cu.m	3,560,596	0.9	3,204,536	2,465,129
		Fill Soil	cu.m			739,407	
Total							7,303,146

Source: JICA Study Team

The preparatory study has identified 115 candidate locations which altogether will have sufficient capacity and satisfy conditions described below.

- ❖ To find out suitable place at every 5km length along NH-54 with following condition;
 - Ground shape with concavity topography
 - Less ground gradient than 22 degree which is assumed as average angle of spoil bank slope with necessary steps
 - No built-up area
 - Not close to National Park, Wildlife Sanctuary or other ecologically sensitive areas
- ❖ To be able to construct the spoil bank in less than 30m height

Out of 115 candidate sites, 41, 32 and 42 sites have about 2.43, 2.90 and 2.51 million m³ capacities in Section I, II and III respectively. The section-wise locations of 115 candidate sites are shown below. The final location of the spoil bank will need to be agreed upon in consultation with local community during the detailed design.

2.2.7 View Point

Along the NH54, there are some places where impressive views of mountains and/or rivers are seen against the background of the wide sky. It is, therefore, recommended to develop parking spaces for such view points along the road for the road users to enjoy natural panoramas and feel refreshed after a long drive. The below Figure is example pictures of sceneries taken from NH54.





Source: JICA Study Team

Figure 2.6 Example Pictures of Sceneries taken from NH54

CHAPTER 3 POLICY AND LEGAL FRAMEWORK

3.1 Summary of Applicable Acts and Policies

Applicable acts, notifications, and policies relevant in the context of the project are discussed below. The Project Authority will ensure that project activities implemented are consistent with the national, state, local regulatory/legal framework as well as JICA Guidelines for Environmental and Social Considerations.

Table 3.1 Applicable Acts and Policies

No.	Acts, Notifications, Policies	Relevance and Applicability to the Project
1	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR 2013)	Provides for enhanced compensation and assistances measures and adopts a more consultative and participatory approach in dealing with the Project Affected Persons (PAPs). The Act took effect in January 2014, however, State of Meghalaya opposes to the provisions on the ground that being under the Sixth Schedule of the Constitution, land in the State belongs to the individuals and not the Government.
2	National Rehabilitation & Resettlement Policy, 2007 ((NRRP 2007)	Provides limited benefits to affected family (an ex-gratia payment of not less than Rs. 20,000/- and in case land-holder becoming landless or small or marginal farmer in such cases other rehabilitation benefits as applicable.
3	The National Tribal Policy, 2006	Provides an environment conducive to the preservation of traditional and customary systems and regime of rights and concessions enjoyed by different ST communities.
4	The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	Provides for recognition of forest rights to Scheduled Tribes in occupation of the forest land prior to 13.12.2005 and to other traditional forest dwellers who are in occupation of the forest land for at least 3 generations i.e. 75 years, up to maximum of 4 hectares. These rights are heritable but not alienable or transferable.
5	The Right to Information Act, 2005	Provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission and State Information Commissions and for matters connected therewith or incidental thereto.

6	World Bank OP 4.12 – Involuntary Resettlement	The project requires additional land area for widening and strengthening, junction improvements, realignments, safety provisions, etc. It will also affect structures mainly used for residences, business units, cattle sheds and livelihood of people. Some of them are without any valid pass/permit. All affected under the project, irrespective of a valid pass/permit shall be supported under the project to improve their quality of life or at least restore to pre-project standards.
7	OP 4.10 – Indigenous Peoples	Over 90% of the population in the State belongs to Tribal community, and almost all affected households belong to ST. While a separate IPP report is not prepared, the issues discussed in RAP takes into account this fact and address issues related to indigenous peoples in the RAP. The project shall ensure broad community support for the project based on free prior and informed consultation.
8	JICA Guidelines for Environmental and Social Considerations	See Box 3.1 below

Source: JICA Study Team

3.2 Key Policies and Legislations

3.2.1 Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (LARR), 2013

The Act provides for enhanced compensation and assistances measures and adopts a more consultative and participatory approach in dealing with the Project Affected Persons. Enhanced compensation provision for land acquisition provides for 1-2 times the prevailing market rate (as determined by stipulated mechanism, primarily relying on officially recorded/registered rates) in urban areas (as determined by the state) and 2-4 times the prevailing market rate in rural areas. The original law also made provision for need for ‘consent’, while exempting 13 existing laws (having sections governing land acquisition processes for projects coming under its ambit). Subsequently, in 2015 an amendment bill was brought in the bill and enforced through ordinance by the current central government. Key changes made by this bill vis-à-vis the original law are:

The LARR 2013 exempted 13 laws, including the National Highways Act from its purview. However, the LARR 2013 required that the compensation, rehabilitation, and resettlement provisions of these 13 laws be brought in consonance with the LARR 2013 within a year of its enactment (that is, by January 1, 2015), through a notification. The Bill brings the compensation, rehabilitation, and resettlement provisions of these 13 laws in consonance with the LARR Act, 2013. The Bill creates five special categories of land use: (i) defence, (ii) rural infrastructure, (iii) affordable housing, (iv) industrial corridors, and (v) infrastructure projects including Public Private Partnership (PPP) projects where the

central government owns the land. The LARR 2013 requires that the consent of 80% of landowners is obtained for private projects and that the consent of 70% of landowners be obtained for PPP projects. The proposed amendment to the Bill, currently under the parliamentary discussion, exempts the five categories mentioned above from this provision of the Act. Being a rural infrastructure project, the above requirement does not technically apply to this project. As per the proposed amendment, projects that belong to five categories do not require social impact assessment. The amendment has not yet passed, but regardless the passage of the amendment, the project has sought to obtain support from the affected community as shown in the chapter on consultation in keeping with JICA Guidelines for Environmental and Social Guidelines. Timeline for LARR 2013 amendment process is as follows.

Table 3.2 Process of Amending LARR 2013

Date	Action
1 January 2014	LARR 2013 comes into existence, repealing the Land Acquisition Act, 1984
31 December 2014	LARR (Amendment) Ordinance, 2014 promulgated
24 February 2015	LARR (Amendment) Bill, 2015 introduced in Lok Sabha
10 March 2015	LARR (Amendment) Bill, 2015 passed in Lok Sabha with amendments but could not be passed by the Rajya Sabha and remains pending
3 April 2015	LARR (Amendment) Ordinance, 2015 incorporating the amendments made by the Lok Sabha promulgated
10 April 2015	Public interest litigation (PIL) filed in Supreme Court to declare LARR (Amendment) Ordinance, 2015 as “unconstitutional” and ultra vires of the Constitution and as a “colorful exercise of power”
13 April 2015	Supreme Court issues notice in the PIL but refuses to stay the LARR (Amendment) Ordinance, 2015.
11 May 2015	LARR (Amendment) Second Bill, 2015 introduced in the Lok Sabha
13 May 2015	LARR (Amendment) Second Bill, 2015 referred to the Joint Committee of Parliament
30 May 2015	LARR (Amendment) Second Ordinance, 2015 promulgated. The ordinance will lapse if it is not passed by Congress within six months.

Source: JICA Study Team based on PRS Legislative Research, India

Other requirements in the LARR 2013 that may be applicable to this project are the following:

- The LARR 2013 required that if the acquired land remains unused for five years, it must be returned to the original owners or the land bank. The Bill states that the period after which unused land will need to be returned will be: (i) five years, or (ii) any period specified at the time of setting up the project, whichever is later.
- The LARR Act, 2013 states that the Land Acquisition Act, 1894 will continue to apply in certain cases, where an award has been made under the 1894 Act. However, if such an award was made five years or more before the enactment of the LARR 2013, and the physical possession of land has not been taken or compensation has not been paid, the LARR 2013 will apply.
- The LARR 2013 stated that if an offence is committed by the government, the head of the department would be deemed guilty unless he could show that the offence was committed

without his knowledge, or that he had exercised due diligence to prevent the commission of the offence. The Bill replaces this provision and states that if an offence is committed by a government official, he cannot be prosecuted without the prior sanction of the government.

3.2.2 National Rehabilitation & Resettlement Policy, 2007

The policy, prepared by the Department of Land Resources, Ministry of Rural Development, and Government of India, stipulates the minimum benefits to be ensured for persons displaced due to acquisition of land for public purposes. The objectives of the Policy are:

- (a) to minimize displacement and to identify the non-displacing or least-displacing alternatives;
- (b) to plan the Resettlement and Rehabilitation of project affected families (PAFs), or project affected households (PAHs), including tribal and vulnerable households;
- (c) to provide improved standard of living to PAFs or PAHs; and
- (d) to facilitate a harmonious relationship between Requiring Body/Competent Authority (CA) and PAFs.

The Policy is applicable to projects displacing 400 or more families en masse in plain areas, or 200 or more families en masse in tribal or hilly areas, Desert Development Program (DDP) blocks, areas mentioned in Schedule V and Schedule VI of the Constitution of India. Some of the highlights of this policy may be noted as follows:

- (i) Recognizes apparent need for additional R&R benefits which must be beyond compensation of loss of land or structure;
- (ii) SIA as mandatory component where project is likely to impact 400 or more families en masse (in plain areas), or 200 or more families en masse in tribal or hilly areas;
- (iii) Detailed R&R planning in case anticipated displacement is more than 400 families in plains (200 families in hilly/tribal areas). The plan to have details such as extent of land to be acquired with names and identification of affected families, village wise list of affected persons, their profile, agricultural laborers as affected persons, people with livelihood affected, list of occupiers, public utilities, comprehensive list of benefits and packages to be provided to affected persons. Other information include- Resettlement site related details such as location and area, amenities to be provided, schedule for displacement and resettlement;
- (iv) Special care to protect rights of weaker sections specifically SC and ST community and affirmative action by way of state obligation for their treatment with concern and

sensitivity;

- (v) R&R cost (arising out of benefits and packages beyond compensation) will be included as part of project cost;
- (vi) Compensation and resettlement activities to be done well in advance of ouster of affected families;
- (vii) R&R benefits to be extended to all affected families. Benefits includes possible allotment of house site, one time assistance for house construction to BPL families (quantum aligned with existing house construction schemes by state), Replacement cost basis or land for land approach for PAFs who have become landless or marginal account of project impacts. Stamp duty and other fees to be borne by requiring body. Provisions of assistance for land development, cattle shed, shifting allowance (on actual cost basis), assistance to rural artisans, self-employed for construction of working shed/shop. Conditional provision for employment of those rendered jobless or rehabilitation grant, subsistence allowance for displaced PAFs; and
- (viii) Requirement of developing of tribal development plan and recommended consultation with tribal advisory council where project entails displacement of 200 or more ST families. Consultation with Gram Sabha or Panchayats for land acquisition in scheduled areas.

3.2.3 National Tribal Policy 2006

The Scheduled Tribes (STs) have traditionally lived as isolated entities in about 15% of the country's geographical areas, mainly forests, hills, undulating inaccessible terrain in plateau areas, rich in natural resources. The problems and difficulties being faced by the scheduled tribes and tribal areas in the country are to be addressed by the National Tribal Policy, 2006. A periodic review of implementation of various initiatives/measures outlined in the policy is essential to ensure accountability of the different public agencies responsible for implementation and to reveal the practical difficulties in implementation. The objectives of the policy are to:

- Provide an environment conducive to the preservation of traditional and customary systems and regime of rights and concessions enjoyed by different ST communities, and reconciliation of modes of socio-economic development with these.
- Prevent alienation of land owned by STs and restoring possession of wrongfully alienated lands.
- Protect and vesting of rights of STs on forestlands and other forest rights including ownership over minor forest produce (MFP), minerals and water bodies through appropriate legislations and conversion of all forest villages into revenue villages.
- Provide a legislative frame for rehabilitation and resettlement in order to minimize displacement,

ensure that affected persons are partners in the growth in the zone of influence, provide for compensation of social and opportunity cost in addition to market value of the land and rights over common property (NPV).

- Empower tribal communities to promote self-governance and self-rule as per the provisions and spirit of the Panchayats (Extension to the Scheduled Areas) Act, 1996.
- Protect political rights to ensure greater and active participation of tribal peoples in political bodies at all levels.

3.2.4 JICA Guidelines for Environmental and Social Considerations

JICA updated its guidelines governing its safeguard policies. Key principles concerning land acquisition and resettlement are summarized in Box below.

Box 3.1 Principle of JICA Policies on Involuntary Resettlement Right

The key principle of JICA policies on involuntary resettlement is summarized below.

- I. Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.
- II. When, population displacement is unavoidable, effective measures to minimize the impact and to compensate for losses should be taken.
- III. People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels.
- IV. Compensation must be based on the full replacement cost as much as possible.
- V. Compensation and other kinds of assistance must be provided prior to displacement.
- VI. For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy,
- VII. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people.
- VIII. Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans.
- IX. Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

Above principles are complemented by World Bank OP 4.12, since it is stated in JICA Guideline that “JICA confirms that projects do not deviate significantly from the World Bank’s Safeguard Policies”. Additional key principle based on World Bank OP 4.12 is as follows.

- X. Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits.
- XI. Eligibility of Benefits include, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying.
- XII. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.
- XIII. Provide support for the transition period (between displacement and livelihood restoration.
- XIV. Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.
- XV. For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.
- XVI. In addition to the above core principles on the JICA policy, it also laid emphasis on a detailed resettlement policy inclusive of all the above points; project specific resettlement plan; institutional framework for implementation; monitoring and evaluation mechanism; time schedule for implementation; and, detailed Financial Plan etc.

Source: JICA Guidelines for Environmental and Social Considerations, 2010

3.2.5 World Bank OP4.12 for and OP4.10

JICA recommends the World Bank policy OP 4.12 for RAP preparation and its implementation. The said policy operates with objectives that recommend avoidance of involuntary resettlement or minimizing it by exploring all options. In cases of involuntary resettlements, resettlement activities are to be conceived and executed as sustainable development program, with displaced persons also sharing from project benefits. Further, the displaced persons require to be assisted in their efforts to improve their livelihoods or at least restore to their pre displacement status. The policy recognizes impacts in terms of relocation or loss of shelter, loss of or loss of access to assets, loss of livelihood or income, and loss of access to protected forest parts- as source of livelihoods, on account of project related land acquisitions. Some of the highlights of the recommended policy measures may be noted as:

- Where the negative impacts are unavoidable, the project-affected persons will be assisted in improving or regaining their standard of living. Vulnerable groups should be identified and assisted to improve their standard of living.
- All information related to resettlement preparation and implementation should be disclosed to all concerned, and people's participation should be ensured in planning and implementation of the project.
- Before taking possession of the acquired lands and properties, compensation and R&R assistance should be made in accordance with recommended policy (i.e. OP 4.12).
- The project affected persons who do not own land or other assets but who have economic interest or claim to such land/assets or lose their livelihoods should be assisted as per the broad principles brought out in this policy.
- Prompt and effective compensation at full replacement cost i.e. amount sufficient to replace lost asset and transaction cost where valuation does not factor in any depreciation in value of structures or assets.
- Provision of assistance and allowances. Support to be provided during transition period i.e. between displacement and livelihood restoration. Similarly land related development assistance should also be provided such as credit facilities/access, training and skill upgradation, job opportunities etc.).
- Land based resettlement strategies would be preferred for displaced families who depend on land based livelihood occupations. Equivalent productive assets to be provided against loss of land, residential houses etc.
- 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

and particular attention will be paid to the needs of groups such as those below poverty line (BPL), destitutes, landless, elderly, women, women headed households, widows, disabled, children and orphans and ethnic minorities.

- Appropriate grievance redressal mechanism will be established at the district level to ensure speedy resolution of disputes.
- All consultations with PAPs shall be documented and continue during the implementation of resettlement and rehabilitation works.
- A detailed Resettlement Plan that covers all of the above including detailed implementation time plan, institutional framework for implementation, M&E framework, a fully itemized budget and an implementation schedule linked to the civil works contract is required to be prepared.

OP 4.10 of World Bank Policies pertain to project affected Indigenous people and considerations to be made in project design and related R&R strategies to minimize and support these groups in situations where such project impacts cannot be avoided. It also requires for a separate IP development plan to address to the needs of such affected groups. In case of Mizoram and its demography, more than 95 percent of the state population belongs to scheduled tribe group and therefore the R&R plan prepared will invariably have such components and recommendations that will meet the requirements characteristics of typical IPP. This RAP can thus be treated as treated as combined RAP and IPP document for the project.

3.3 Key gaps between LARR 2013 and JICA Guidelines

The following table summarizes key deviations between the two sets of legal and policy frameworks i.e. JICA policies and the existing Indian policies relevant to this project. The table also makes recommendations for measures to plug these gaps. A more comprehensive review of the gap is included in Appendix A.

Table 3.3 Key Gaps between JICA and Indian Regulations

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
1	Involuntary resettlement should be avoided wherever possible.	Stated aim to minimize large scale displacement. Encourages projects to be set up on waste land, degraded land, Un-irrigated land. (NRRP 2007, #1.4, Chap 1)	No	-
2	When population	If unavoidable, Govt. to	No	-

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
	displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken.	consider different alternatives to minimize displacement, total land acquired and total agricultural land acquired for non agricultural use (NRRP 2007, #1.4, Chap 1), LARR has provision for compensation for losses incurred.		
3	People who must be settled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre0project levels.	Provisions made for R&R benefits to all; but subject to condition that non titleholders must be residing or drawing livelihood in the affected area for a period not less than 3 years preceding date of declaration of the affected area. (NRRP, #3.1.b.iii)	Yes, Non titleholders need to be residing continuously or drawing livelihood from the affected area for a period not less than 3 years preceding the date of declaration. LARR silent on compensation rights of Non Titleholders for loss of land (illegally occupied), structures. R&R benefits such as housing improvement, development benefits, loss of crops, trees, transitional support etc to be provided only if residing/ drawing livelihood for a continuous 3 year period in the area, preceding declaration of 'affected area'	Recognize claims of Non Title holders (as identified by census survey and irrespective of their residing period status) and in respect of – - Compensation for structures, trees - Structure transfer assistance - Structure reconstruction assistance - Shifting assistance for residential house owner - Tenant shifting allowance Assistance to be provided at par with similar R&R support extended to titleholder familiar
4	Compensation must be based on the full replacement cost as much as possible	Compensation made on market rate as determined or recognized by state	Yes, Market rate as calculated by government is usually far below the actual prevailing market rates.	Compensation to be provided at full replacement cost based on prevailing market rates and additional allowances
5	Compensation and other kinds of assistance must be provided prior to displacement	Provisions exist in NRRP		-
6	For projects that entails large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public.	Requirement for RAP is mentioned subject to number of displaced exceeding 400 families in plains or 200 in hilly/tribal areas or Desert Development Programme (DDP) blocks.	Yes, numerical condition (400 in plain area, 200 in tribal, hilly or DDP blocks) attached. JICA requires this to be implemented if PAH number is higher than 50.	RAP to be prepared for this project.

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
7	In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance.	Specific mention provided in NRRP	No	-
8	When consultation held, explanation must be given in a form, manner, and language that are understandable to the affected people	Provision made	No	-
9	Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans	Specified	No	-
10	Appropriate and accessible grievance mechanisms must be established for the affected people and their communities	Specified	Yes, R&R Committee to be set up only if in the project area more 400 families (in plains) or 200 in tibal/hilly areas are to be displaced	<ul style="list-style-type: none"> - GRM to be set up. Should be accessible to PAHs- to be constituted at district level for issues around land acquisition R&R benefits. Similar body to exist at state level for monitoring and supervision - R&R implementing NGO/Consultant to have presence in each project affected district and facilitate and inform PAHs about GRM and its processes.
11	Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socio-economic	Specified under NRRP for identification of all affected persons	No	-

Sl. No.	JICA Guidelines (2010)	Applicable Policy (LARR and NRRP)	Gaps Between JICA's Guidelines and LARR and NRRP	Proposed Gap Filling Measures
	survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advantage of such benefit.			
12	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under la), the PAPs who do not have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying	Specified- R&R benefits to non titleholders provisioned by subject to them residing/ drawing livelihood for period not less than 3 years in the project affected area (from the date formal declaration)	Yes, Non titleholders if residing or drawing livelihood for a period less than 3 years are not eligible for R&R benefits	- All non-titleholders (as identified on the date of census survey) will also be eligible for R&R benefits
13	Preference should be given to land –based resettlement strategies for displaced persons whose livelihoods are land-based.	Specified	No	-
14	Provide support for the transition period (between displacement and livelihood restoration)	Specified	Yes, no such benefits provision for non titleholder residing/drawing livelihood for a period less than 3 years	- Transition benefits to be provided to all non titleholders (displaced and livelihoods impacted) who have been identified as per census survey.
15	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.	Mentioned for vulnerable groups as defined under NRRP. Specific mention of additional provisions for SC and ST community mentioned under #7.21 of the NRRP. Requirement of a separate tribal development plan to be prepared if number of tribal displaced families exceeds 200 families.	No	- Special R&R assistance to SC community. - Special attention to be made by the R&R implementing NGO, the vulnerable PAH/persons receive R&R support as made out for them in the RAP.

Source: JICA Study Team

3.4 Applicability of LARR 2013 in the Context of Mizoram

According due recognition to the complexities that surround land issues in the state and its sensitive nature, the state of Mizoram enjoys significant freedom in formulating its own autonomous land policies. One of the most important features of administration in the North-East States including Mizoram is the Sixth Schedule of the Constitution which provides for the setting up of Autonomous Regional/District Councils in the four States of Assam, Tripura, Meghalaya and Mizoram. These provisions have been made in exercise of the enabling provisions given in Article 244(2) and 275(1) of the Constitution. The philosophy behind the Sixth Schedule of the Constitution is to protect tribes, their population and their interests by constitutionally mandating a special kind of autonomous governance structure. On August 14, 1986 the Central Government enacted The Constitution (Fifty Third) Amendment Act, 1986 which inserted Article 371 G to the Constitution which provides special provision to the State of Mizoram¹. And the section read as:

Article 371-G Of Indian Constitution states that no Act of Parliament in respect of religious or social practices of the Mizos, Mizo customary laws and practices, administration of civil and criminal justice involving decisions according to Mizo customary laws and ownership and transfer of land shall apply to Mizoram unless the Legislative Assembly of the State by a resolution so decides...”

In light of the above-referred constitutional provision and exercising the freedom granted thereby, the Council of Ministers, Government of Mizoram has announced its intention of developing its own land acquisition laws for future development projects, rather than applying LARR 2013. The Government has so far drafted the Draft Mizoram (Land Acquisition, Rehabilitation and Resettlement) Bill, 2015, but this has not yet finalized as of August 2015. The proposed Bill generally follows the LARR 2013 but there are differences in terms of the additional benefits to rural area and solatium to be added to the compensation. While LARR 2013 offers as much as double compensation to rural land, such provision is not adopted in the draft bill. Likewise, 100% solatium which is to be added to the compensation, is reduced to 50% in the draft bill. In keeping view of the requirements under JICA guidelines, the resettlement policy and entitlement proposed in this RAP report will be adopted in this project.

¹ Referred from www.cgsird.gov.in/constitution.

CHAPTER 4 SOCIO-ECONOMIC PROFILE

4.1 Socio-Economic Profile of Mizoram and Project Area

4.1.1 Mizo people

The Mizos are broadly divided into 5 major tribes and 11 minor tribes. The 5 major tribes are Lushai, Ralte, Hmar, Paite and Pawi. Mizo is the official language and most widely used language for verbal interactions, but English being important for education, administration, formalities and governance, is also widely used. The Duhlian dialect, also known as the Lusei, was the first language of Mizoram and has come to be known as Mizo language. All the tribes still have their own unique dialects which are slightly different from the dominant Mizo (Duhlian), but they can understand each other without problems. As per 2011 census, total population of Mizoram is 1,097,206. Out of these, the number of male and female are 555,339 and 541,867 respectively. The Lushai tribes constituted the majority of the Mizo population. Population density of Mizoram is 52 per km². The literacy rate in Mizoram is 91.33 percent as per 2011 census. District-wise and Tribe-wise population of Mizoram is shown below. Out of 8 districts, the targeted section of NH54 passes through five districts (highlighted in below Table)

Table 4.1 District-wise Population and Literacy Rate

District	Population			Density (per Sq Km)	Sex Ratio	Literacy %
	Male	Female	Total			
Mamit	44,567	41,190	85,757	28	924	60
Kolasib	42,456	40,598	83,054	60	956	94.54
Aizawl	201,072	202,982	404,054	113	1009	98.50
Champhai	63,299	62,071	125,370	39	981	93.51
Serchhip	32,824	32,051	64,875	46	976	98.76
Lunglei	79,252	74,842	154,094	34	944	89.40
Lawngtlai	60,379	57,065	117,444	46	945	66.41
Saiha	28,490	27,876	56,366	40	978	88.41
Total	552,339	538,675	1,091,014	52	875	91.85

Source: 2011 Census

Table 4.2 Composition of Various Mizo Tribes in the State

Tribe	Number	Percentage (%)
Lushai	646,117	77
Chakma	71,283	8.5
Pawi	42,230	5
Lakher	36,018	4.3
Any Kuki tribes	21,040	2.5

Tribe	Number	Percentage (%)
Hmar	18,155	2.2

Source: 2001 Census²

The Mizo ancestors had no written language and the British missionaries, F.W. Savidge and J.H. Lorrain, created the Mizo alphabets based on the Roman scripts. The arrival of these two missionaries marked the formal origin of education in Mizoram. After only two and half months, Savidge started the first school on 1st April, 1894. They also prepared a Grammar and Dictionary of the Lushai language (Duhlian dialect) in 1898, which became the foundation of Mizo language. Today, Mizoram enjoys one of the highest rate of literacy in India, at 91.3%

The Mizo ancestors had no written language and were completely devoted to animism, worshipping all sorts of objects and natural phenomena. The British has to simply modernise them. The first missionary who came to Lushai hill was Rev. William Williams, a Welsh missionary for investigative visit for a week. On 11th January, 1894, F.W. Savidge and J.H. Lorrain arrived at Aizawl and this marked the origin of formal Christianity in Mizoram.

The majority of the Mizo people are Christian. The major Christian denominations are Presbyterian, Baptist, United Pentecostal Church, Roman Catholic, the Salvation Army, Congregational Church of India (Maraland), Seventh-day Adventist, among others. There are other religions like Buddhism, Hinduism, Muslim and Sikh. There are few people who practice Judaism claiming to be one of the lost Judaic tribe group Bnei Menashe and a modernized traditional Mizo religion called Hnam sakhua, which put a particular emphasis on Mizo culture and seeks to revive traditional Mizo values. There are also few tribal religions such as Lalchhungkua, Lalhnam and Nunna Lalchhungkua.

The Mizo celebrate many festivals among which the Chapchar kut and the Pawl kut are the most important. Chapchar kut is celebrated in the month of March and it is a spring festival. Pawl kut is a harvest festival celebrated in the months of December and January. They also celebrated Mim kut in the month of September. This festival is for the dead members of the family and they used to prepare foods for them. The Mizo people celebrated the festivals with many dances among which Cheraw is the most colorful dance. All the festivals are connected with agricultural activities.

The summary of each district in Mizoram is shown below.

² 2001 Census is the latest data available as per-tribe population data is not included in 2011 Census.

Table 4.3 Snapshot of District in Mizoram

Source: JICA Study Team

District	Description
Aizawl	Situated between the Tlawng River valley in the West and Tuirial River valley in the East. It is home to the Mizo tribes who are said to have migrated from Myanmar's Chin Hills 300 years ago. Being the capital city of Mizoram it is a political, commercial, educational and cultural hub of the state, housing all important government offices, the State assembly and secretariat, and tourist spots, including some beautiful churches and markets.
Lunglei	It is the biggest district (21.52 % of the total land area) bounded on the north by Mamit and Serchhip Districts, on the south by Lawngtlai and Saiha districts, on the east by Myanmar and on the west by Bangladesh, having dense forest area covering 524.63 sq.kms.
Champhai	Located near the India-Myanmar border, it serves as a gateway of all business activities between India and Myanmar. It is a fast developing venue on the Indo-Myanmar border. The famous Rihdil Lake is only about 50 kms away from the town of Champhai. Champhai valley known as "The Rice bowl of Mizoram" is located towards the base of the town. A chain of green hills encircle luxuriant rice fields, which add to the beauty of this place.
Lawngtlai	Located in the southern most part of Mizoram having common international borders with Bangladesh in the west and Myanmar in the east. It also shares common boundaries with Lunglei and Saiha District in the north and south respectively. Unlike other districts, it has two Autonomous District Councils within the District, namely the Lai Autonomous District Council (LADC) and the Chakma Autonomous District Council (CADC) with their headquarters at Lawngtlai and Kamalanagar respectively, and are administered in accordance with the provisions of the Sixth Schedule of the Constitution of India.
Mamit	Mamit District was created after bifurcation of the erstwhile Aizawl District in 1998. It is bounded on the north by Assam state, on the west by Tripura state and Bangladesh, on the south by Lunglei district, and on the east by Kolasib and Aizawl districts. It is 4th largest district in Mizoram in terms of total area. It receives abundant rainfall. The five main big rivers are Tlawng, Tut, Teirei, Langkaih and Khawthlangtuipui. Women Play major role in the society as well as in the family.
Kolasib	The District is bounded by Assam on the north and north west side, on the south and east by Aizawl, and on the south west by Mamit District. The location of the district occupies an important site as it is the main stream of road communication from other state of Mizoram. NH 54 passes through the middle of the district from north to south direction. The only Rail head in the state located at Bairabi. There are some worth visiting sites in and around the district which include Dampa Wildlife Sanctuary and Tlawng River.
Serchhip	Serchhip is located in the central part of the state of Mizoram; adjoined by Champhai District in the East, Aizawl in the North and North West, and Lunglei District in the South. The district has the highest literacy all over India. It lies between the two very important rivers of Mat and Tuikum. While River Tuikum is source for drinking water for Serchhip, River Mat is source for irrigation water for Zawlpui, the rice bowl of Serchhip. Serchhip is also the main producer of cabbages and mustards in Mizoram.
Saiha	Saiha District is situated on the southern-most fringe of the North-eastern region of India and shares border with Myanmar on the eastern and southern side. Administratively, it is divided into two blocks-Saiha and Tuipang. It is the third most developed and also the third most populous town in Mizoram State apart from the state Capital - Aizawl and Lunglei. It is also the capital of the third largest tribe - the Maras in Mizoram.

Source: JICA Study Team

4.1.2 Mizo economy

The main occupation of the people is agriculture. About 80% of the population are agriculturist. Rice is the main crop of Mizoram and besides rice, maize, potato, ginger, tumeric, black pepper, chilies and a variety of fruits are grown. In Mizoram, the ownership of land is vested with the government, which issues periodic pattas to individual cultivators. The Village Council distributes the plots of land among

the villagers for cultivation every year. The agricultural system practiced is of the primitive type of ‘jhum’ or ‘slash and burn’, a practice that has been regarded as detrimental to the top layer of the soil, rendering it to become loose and soft and susceptible to frequent soil erosion. The government is attempting to bring about a change to the practice of ‘jhum’ by introducing ‘terrace cultivation’ which is ideal for the hill slope. The main horticulture crops are fruit crops like Mandarin orange, banana, passion fruit, grapes, hatkora, pineapple, papaya, etc. and flowers like anthurium, bird of paradise, orchid, rose and other subsidiary seasonal flowers. People have also started extensive cultivation of oil palm, medicinal and aromatic plants. Anthurium is being sent for sale to places to major cities like Kolkata, Delhi, Mumbai and Hyderabad. The arecanut fibre, which is plentiful in the state, is very good for making disposable plates and saucers

As per the data available, the Net State Domestic Product (NSDP) for the year 2012-13 was about Rs 7,556 Crores, and the Per Capita Income (PCI) during the same period was Rs. 63,413. It has also been observed that during the period 2004-05 to 2012-13 the economy of the state grew at a compound annual growth rate of 9.3%, with Primary Sector growing at 7.6%, Secondary Sector at 7.9% and the Tertiary Sector at 10.3%. During the same period the per capita income of the state grew at 6.8%. The sector-wise growth rates as well as the growth of PCI are summarized in Table 10.1.1.2.

Table 4.4 Economic Growth of Mizoram

Sector	CAGR (2004-05 to 2012-13)
Agriculture & Allied – P (Primary Sector)	7.64%
Industry - S (Secondary Sector)	7.87%
Services – T (Tertiary Sector)	10.30%
NSDP (Net State Domestic Product)	9.30%
PCI (Per Capita Income)	6.77%

Note: CAGR – Compound Annual Growth Rate

4.2 Socio-Economic Profile of Project Affected Household (PAH)

4.2.1 Approach and Methodology

The Baseline Survey for all Project Affected Household (PAH) along the project roads has been carried out to understand the nature of likely impacts and devise mitigation measures that are tailored to the livelihood conditions of the affected community. Given the tribal nature of the project area, the baseline survey was undertaken by local surveyors led by Environmental and Social Specialists.

Training for the field surveyors and their advance site visit were conducted before the commencement of the field survey in order to avoid any confusion among the survey respondents. The survey form

used in the Baseline Survey is attached in Appendix B. During the survey, a senior staff from TARU Leading Edge. and environment and social expert from JICA Study Team supervised and were responsible for the survey teams. Under their supervision, a total of eight teams consisting of four surveyors carried out the survey from 17th March 2015 to 14th May 2015. Upon the completion of the survey, the information gathered were entered into an excel datasheet for compilation and analysis, and the finding is presented below.

4.2.2 Cautiously Note for Understanding the Survey Results

It is important to note, however, that the survey is based on the preliminary design and thus needs to be updated once the final ROW design is established. As such, the result is subject to change depending on the differences between the preliminary and final design, but effort has been made to include the maximum possible households which will be impacted by the current project design in the survey. Also, the official record of land ownership will be available only after government notification concerning land acquisition is issued. The survey made effort to ascertain land ownership status of PAHs through interaction with PAPs and government officials, but the survey results are entirely based on information provided by PAPs and as such, may not be accurate. A person who does not have a valid record of land title may respond that they have the same, or the reported income figure may not be accurate either due to intentional decision or unintentional error of PAPs. With these limitations, the results of the survey are presented below.

4.2.3 Demographic Characteristics

The project road stretching over 381km passes through 48 villages in 5 districts. The number of villages per district are the following (Aizawl: 11, Serchhip: 8, Lunglei: 17, Lawngtlai: 6 and Saiha: 6). In these villages, the baseline survey has identified and surveyed 2,037 households (1,971 households whose houses will be affected and 66 households whose businesses will be affected). The total number of affected people is 8,230. The average household size is 4.1, which is below the State average of 4.8. Out of these, 1307 households (1,265 households whose houses will be affected and 42 households whose businesses will be affected) will have to be relocated. Based on the preliminary ROW design, remaining 730 households will be affected but relocation will not be necessary.

The social categories of affected households per five districts are shown below. Overwhelming majority of the affected population are Mizo.

Table 4.5 District-wise Social Category of Affected Households

District	ST	SC	OBC	General	Prefer not to answer	Total
Aizawl	421	0	0	0	215	636
Serchhip	244	0	1	1	238	484
Lunglei	415	0	0	0	252	667
Lawngtlai	40	0	0	0	49	89
Saiha	119	0	0	0	42	161
Total	1,239	0	1	1	796	2,037

Source: Baseline Survey

The result of religious affiliation overlaps closely with the respondents' social category. The result confirms that Christianity is the dominant religious belief among Mizo.

Table 4.6 District-wise Religious Affiliation of Affected Households

District	Christian	Hindu	Muslim	Buddhist	Other	Prefer not to answer	Total
Aizawl	419	2	0	0	0	215	636
Serchhip	246	0	0	0	0	238	484
Lunglei	413	1	0	0	1	252	667
Lawngtlai	40	0	0	0	0	49	89
Saiha	119	0	0	0	0	42	161
Total	1,237	3	0	0	1	796	2,037

Source: Baseline Survey

Educational Attainment of household heads is shown below.

Table 4.7 Educational Attainment of Household Heads

Educational Attainment	Aizawl	Serchhip	Lunglei	Lawngtlai	Saiha	Total
No Education	30	16	43	3	13	105
Below Elementary	138	92	191	13	24	458
Completed Elementary	64	35	45	10	20	174
Below High School	136	70	72	5	27	310
Completed High School	27	16	27	6	17	93
Not completed college	8	9	12	2	10	41
Finished College (graduate or higher)	18	8	25	1	8	60
No Answer	215	238	252	49	42	796
Total	636	484	667	89	161	2,037

Source: Baseline Survey

4.2.4 Vulnerability Status

According to Reserve Bank of India, the share of the poor in Mizoram is 23% in rural area and 7.9% in urban area in 2012³. However, the survey found that over 40% of respondents or 446 households

³ Number and Percentage of Population Below Poverty Line, Reserve Bank of India, Sep 16, 2013 (accessed August 11, 2015), <https://www.rbi.org.in/scripts/PublicationsView.aspx?id=15283>

consider themselves as BPL household, which may reflect their real coping capacity against negative impacts. Also, the project should take into account the fact that over 230 households are headed by women when the details of the Rehabilitation Plan is developed to ensure women's participation.

Table 4.8 Vulnerability Status of Affected Households

District	Women-headed HH	HH head over 50	Widow in HH	Poverty Line*		
				Below Poverty Line	Above Poverty Line	Don't know / Not Aware
Aizawl	77	155	14	145	240	36
Serchhip	46	131	24	81	162	3
Lunglei	84	204	21	147	256	12
Lawngtlai	11	18	0	17	21	2
Saiha	15	54	7	56	62	1
Total	233	562	66	446	741	54

Note: BPL figure is based on self-judgment of respondents and may not be accurate.

Source: Baseline Survey

4.2.5 Land Ownership Status of Affected Households

Land ownership in North East States including Mizoram can be broadly classified into following categories:

- Private Land with Land settlement certificates (LSC): Land holding of the owners is certified with Land Settlement Certificate;
- Periodic Patta: A prescribed Land Settlement document setting agricultural land periodically whereby an individual has entered an agreement with the Government to pay land revenue and taxes at the rate legally assessed or imposed in respect of the land so leased out;
- Village Council Pass (or Garden Pass): Issued by Village Council which have traditionally acted as certificates of land ownership for agricultural purposes within the Council's territory; and
- Government Land: land owned by Government

The land ownership status of affected households is shown below.

Table 4.9 Land Ownership Status of Affected Household

Ownership Status	Aizawl	Serchhip	Lunglei	Lawngtlai	Saiha	Total
LSC	272	140	262	27	99	800
Periodic Patta	49	15	39	7	6	116
Home Site	18	36	5	1	1	61
Village Council Pass	82	55	108	4	13	262
Government Land	0	0	1	1	0	2
No Answer	215	238	252	49	42	796
Total	636	484	667	89	161	2,037

Source: Baseline Survey

It has been observed that majority of the affected households has been living in the project areas for a

period 11 to 30 years. This is in line with the fact that land transfer is not common in Mizoram, which should be taken into account in the calculation of solatium.

4.2.6 Occupation and Income of Affected Households

Table 4.10 Primary Occupation of Household Heads

Primary Occupation	Aizawl	Serchhip	Lunglei	Lawngtlai	Saiha	Total
Agriculture	73	42	117	5	1	238
Allied Agriculture	54	6	10	0	0	70
Dairy	2	4	20	0	4	30
Forestry	5	15	20	0	5	45
Household/Cottage Industry	1	3	3	1	1	9
Business/Trader/Shop Owner	108	40	36	4	4	192
Skilled Profession	74	36	32	4	6	152
Unskilled Labor	38	38	91	14	59	240
Pvt. Service	19	6	12	4	3	44
Govt. Service	32	20	47	5	29	133
Retired/Pensioner	13	17	18	2	5	55
Unemployed but capable to work	0	17	2	0	2	21
Too Young to work/disabled/Student	1	0	3	1	0	5
Other	1	2	2	0	0	5
Total	421	246	413	40	119	1,239

Source: Baseline Survey

Monthly income of affected households has been summarized below. About 40% of the surveyed households has monthly income between Rs.5,000 and 10,000 while about 23% of them has monthly income less than Rs5,000.

Table 4.11 Month Household Income

District	Average Monthly Income (Rs.)
Aizawl	9,879
Serchhip	12,791
Lunglei	14,024
Lawngtlai	15,515
Saiha	12,736
Average	12,989

Source: Baseline Survey

CHAPTER 5 SOCIAL IMPACT OF THE PROJECT

5.1 Introduction

While the project is expected to positively impact the area with better transport network, the project is also cause adverse social impacts in terms of loss of land assets, non-land assets, loss of livelihood, and impacts on common properties. In particular, sections of the society who are susceptible to socio-economic risks will be particularly vulnerable to such impacts. Identification of such anticipated adverse impacts and developing appropriate mitigation measures during project planning, design and implementation is essential for achieving social sustainability of any project.

The preliminary cut-off date for land acquisition is May 14th 2015, which is the completion date of the baseline survey, and was informed to the project affected households during the survey. Formal cut-off date for the Project will be announced to project affected villages/households through Notification during the final inventory survey after the final ROW drawing is developed.

5.2 Impact on Affected Households and Structures

As discussed in Chapter 4, the project shall impact 2037 households. Of these households, 1,971 households will have their housing structures affected⁴ by the project and 66 households whose business structures such as tea stalls and petty shops will be affected by the project. Out of 1971 households, 1,265 households will have to be resettled while 706 households will be partially affected. Meanwhile, 42 business structures will have to be relocated whereas 24 such structures will be partially affected⁵. Types of affected structures per block are shown below.

Table 5.1 Type of Affected Structures per District

District	Housing	Shop ¹	Public Bldg.	Religious Str	Utilities ²	Total
Aizawl	602	34	29	2	35	702
Serchhip	473	11	19	2	19	524
Lunglei	658	9	25	2	45	739
Lawngtlai	86	3	3	1	5	98
Saiha	152	9	6	1	20	188
Total²	1,971	66	82	8	124	2,251

Note: ¹ Tea stall, restaurant, petty shop; ² Well and Toilet

Source: Baseline Survey

Based on the baseline survey, all households are considered as titleholder (i.e. in possession of (LSC, periodic patta, village council pass) except for two households (one in Lunglei and the other in

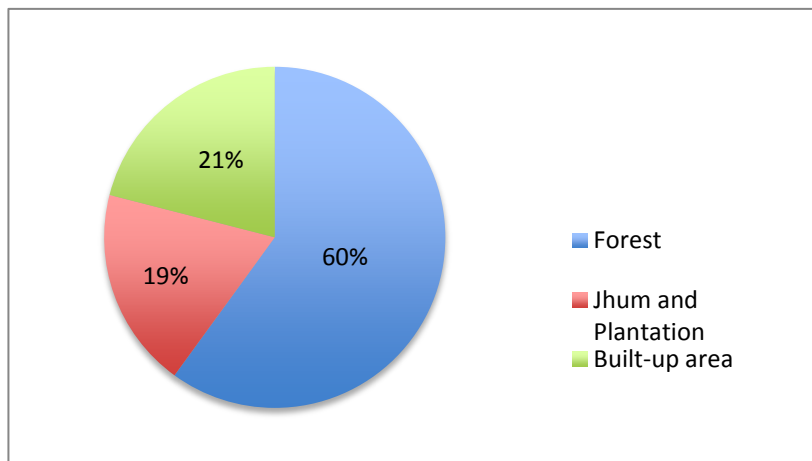
⁴ This includes house-cum-commerce in which a single structure is used both as resident and for commercial purpose.

⁵ This is based on the preliminary ROW design and will have to be verified once the final ROW drawing is established.

Lawngtlai) who reside on government land⁶.

5.3 Impact on Land

The project requires additional land area of 624.6 ha, out of which 435.5 ha is required for widening and improvement work. In addition, 160.3 ha is needed for disposing surplus soil and 28.8 ha for construction of resettlement sites. The candidate locations for surplus soil disposal have been identified during the preliminary design and the budget for disposal, including measures to prevent soil erosion, have been included in the project cost. However, the sites will have to be verified after the additional topographic survey and in consultation with affected community as well as State/District Government. The breakdown of land to be acquired by type based on the field survey and satellite data is shown below.



Source: JICA Study Team

Figure 5.1 Breakdown of Affected Land to by Type

Proper disposal of surplus soil is critical to avoid soil erosion and damage to productive land and forest. At the same time, the disposal sites must be located near the sites where surplus soil is generated so as to transport cost and related emissions/noise. The candidate sites that satisfies following conditions:

- ✓ Ground shape with concavity topography
- ✓ Ground gradient less than 22 degree which is assumed as average angle of spoil bank slope with necessary steps, and the height is less than 30m
- ✓ Not close to built-up area

⁶ For those who did not answer land-holding status, they are assumed to be title-holders based on the land-holding conditions of their neighbor.

Along the 381km stretch, a total of 115 such locations have been identified with the enough capacity to handle surplus soil generated from this project. The distance between each site is less than 5km.

5.4 Impact on Trees and Crops

Jhum land and bamboo plantations as well as wild trees along the road will be affected by the project. Fruit bearing trees (Banana, Mango, Jackfruit, other citrus fruit, etc.) will also be affected. Since the ROW drawing for the widening and improvement is yet to be finalized, the counting exercise of affected trees has not been carried out at this stage. Indeed the rational of counting exercise should be reviewed again given the widespread of jhum practice along the road. Forest area immediately after the burning (for jhum) will be without tree and if counting will be used as the basis of compensation, trees in jhum area will not be compensated. Should counting exercise be carried out in the detailed design stage, it should take into account the cycle of jhum to avoid such underestimation. Meanwhile, the budget for compensating trees and crops has been provisionally estimated based on the affected area (approximately 125 ha. based on the estimate shown in section 5.3) and weighted average price⁷ of trees/crops identified during the survey.

5.5 Social Impact

5.5.1 Land Use

The project does not lead to large-scale change in land use as the engineering work will be constrained mostly along the existing road. On the other hand, development of resettlement site to accommodate relocated households and construction of spoil bank is likely to cause changes in land use pattern, potentially affecting existing agricultural and plantation activities. Also, jhum cultivation, which is practiced in roadside as in Photo below, will be affected by slope protection/embankment work. The jhum practice directly next to the road is likely to have negative impacts from the road maintenance point of view and thus measures will be developed to shift existing jhum to areas far from the road or transform jhum to other agricultura practice.

⁷ Weighted average price of tree/crops is derived as follows. 1) derive average price of tree/crop based on the Basic Schedule Rate. (e.g. Cashew: 1,000-2,000; Teak: 3,000-6,000, Rubber: 1,500-3,000; Banana: 100-200) 2) estimate the average number of such trees/crops per ha.



Photo 7.1 Jhum next to NH54

5.5.2 Local Economy and Livelihood

Significant volume of local resources such as sand may be used for construction work. This could cloud out the use of such resources for other purposes in the short-term. In the long-term, the better road network may attract new business, possibly from outside the state with detrimental impact on local business/traders. While the project overall will have significant positive impacts on the local and regional economy, the better transport network may put some groups at risk at least in the short and medium-term. These potential high-risk groups should be identified in the preparation of R&R plan to ensure that they will not be in a disadvantaged position due to the project.

5.5.3 General, Regional /City Plans

The project will create new opportunities for village and district-level development planning. In particular, the construction of spoil bank will create large area of flat land where such surface is a scarce commodity. The development of spoil bank, therefore, should be coordinated with the village/district's development plan so that the land will benefit the community. Similarly, development of resettlement site should be well coordinated with village development plan to ensure proper supply of basic utilities and integration of new sites with the existing village area.

5.5.4 Social Institutions and Local Decision-making Institutions

Different tribes of Mizo people co-exist across the stretch of NH54 without tribe-rooted conflicts. To minimize potential disturbance and avoid the risk of conflicts, however, the resettlement will be planned within the village where relocation takes place. Being a tribal state, district and village council and traditional community leaders have significant influence on decision-making process in the area. As such, their support and cooperation is critical in smooth implementation of the project,

particularly activities related to resettlement. The implementation of EMP as well as RAP/R&R should be built on existing social institutions and will be best guided by local people, rather than outside experts.

5.5.5 Social Infrastructure and Services

For most people residing along NH54, the highway is the only route of access to social infrastructures such as schools and hospitals. Construction activity is likely to cause temporary disturbance to their access to such infrastructure and service and therefore, schedule and timing of the engineering activity should be developed in consultation with the local community. When road blockage is necessary, e.g. for blasting, the local community should be informed in advance so that they can make alternate plan accordingly.

5.5.6 Unequal Distribution of Benefit and Damage and Local Conflicts of Interest

Roadside location offers critical advantages for local business (tea stalls, restaurant, petty shops). Resettlement from roadside to inner part of the village may significantly undermine the viability of these businesses, and therefore, business owners to be affected may be worse off compared with farmers to be relocated. Likewise, allocation of plot in resettlement site may become a source of conflicts among affected households who wish to be relocated to more advantageous plots. Sound arbitration and conflict resolution mechanism by local leaders should be in place for smooth implementation of RAP and R&R activity.

5.5.7 Religious and Sensitive Facilities

It is expected that the project will affect 8 small churches along the road. Given the importance of religion and religious belief in the project area, the project should explore options avoid/minimize impacts to such facilities during the detailed design once additional topographic data is obtained. Also, access to these facilities, particularly Sunday mass, should not be disturbed by construction activities. Similarly, more stringent standard for noise and vibration and air quality should be adopted where sensitive facilities such as school and hospitals are located.

5.5.8 Poor People

The baseline survey has identified gap between official poverty level and poverty level as reported by the people. R&R activity should take into account the limited coping capacity of the local community and develop measures that leads to sustainable income generation of the affected people, rather than one-off payment of compensation and assistance.

5.5.9 Ethnic Minorities/ Indigenous People

In the state of Mizoram, the tribal (Scheduled Tribe: ST) population constitutes about 95% of the total population. Overwhelming majority of the affected people also belong to ST, and hence they are not minority. While tribal groups in project area holds traditional culture, including shifting cultivation in forest called jhum, they freely interact and share their sources of water, folklore, food, infrastructure and other belongings with the non-ST and other tribal population within and outside community. This is particularly evident in the section between Aizawl and Lunglei where different sub-tribe of Mizo, including Lushai, Lai and Mara and non-Mizo people co-exist peacefully without ethnicity-related tensions. Moreover, ST population in project area is not isolated from outside and they are open to new ideas such as family planning and formal education.

5.5.10 Gender

Tribal and non-tribal women in North East States enjoy a relatively higher position in the society than what their non-tribal counterparts do, which is reflected in their high literacy rate. Mizo women are largely involved in household work, collection of forest produce, firewood collection, cultivation and other agricultural activities and thus they will be affected in a way that is different from their male counterpart. In order to ensure that affected women will not be disadvantaged, a dedicated chapter on gender issue is included in this RAP (Chapter 10) in which options to facilitate women's participation in project implementation and various opportunities to be created by the project is discussed.

CHAPTER 6 STAKEHOLDER CONSULTATION

Stakeholder consultation is an important method of involving various stakeholders particularly, local community with reference to the proposed development initiatives. Consultations provide a platform to participants to express their views, concerns and apprehensions that might affect them positively or negatively. This process is of particular importance for this project given the high ST share among the affected population. The World Bank OP 4.10 on Indigenous Peoples emphasizes “a process of free, prior, and informed consultation (FPIC) 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.” Consultations for this project adopted the following framework to ensure a process of FPIC.

- a) Conduct appropriate gender and intergenerationally inclusive consultations with the Project Affected Peoples’ communities, the Affected Peoples' Organizations (village council, women's groups, etc.), and other local civil society organizations (NGOs) identified by the Affected Peoples' communities;
- b) Use consultation methods appropriate to the social and cultural values of the Affected Peoples’ communities and their local conditions (including using local languages, allowing time for consensus building, and selecting appropriate venues) and give special attention to the concerns of women and their access to development opportunities and benefits; and
- c) Provide the Affected Peoples’ communities with all relevant information about the project (including an assessment of potential adverse effects of the project) in a culturally appropriate manner.

The purpose of consultations was to inform people about the project, take note of their issues, concerns and preferences, and allow them to make meaningful choices. It ensured participation of potential project affected persons (PAPs), local community and other stakeholders. People in general were informed in advance through invitation letter and phone calls, and allowed to participate in a free and fair manner. During these consultations, PAPs were informed about the project, likely scale of resettlement, its resettlement policy, including compensation based on full replacement cost, resettlement assistance, schedule, and grievance mechanism. Consultations provided meaningful contributions with regard to appropriate compensation, sufficient allowance for resettlement, livelihood restoration, reducing adverse impacts, address safety issues, etc. Most stakeholders expressed their needs for compensation at a full replacement cost and some stakeholders expressed their concerns regarding assistance for relocation; however, no objections were raised concerning the implementation of the project and to compensations based on replacement cost during both

stakeholder consultations and door-to-door census surveys. The following sections present details of the consultations.

6.1 1st Round Consultations with Communities

The first round of district level meetings was held in all the 5 districts. It witnessed participation from project affected persons, representatives from district level line departments, elected representatives, civil society, local NGOs and other opinion leaders. These consultations/meetings were used as the platform for dissemination and disclosure of key information about the project, key components, alignment, affected villages, applicable laws and policies related to environmental and social considerations etc. It also sought to capture participants' perception about project, concerns and suggestions with respect to proposed alignment and existing policies and practices for management of environmental issues. The type and number of participants to each meeting is shown below. To ensure sufficient participation of PAP during consultation, village representatives who attended from each affected village agreed to share the meeting contents with other members in the village and share their feedback, if any.

Table 6.1 Participation Details of 1st Round of Consultation

District	Date	Total No. of Participants			Representation (No.) from					
		Total	M	F	Govt. Dept.	Village Council	NGO	MCHP*	District Taxi Union	Affected HHs
Aizawl	14-May-15	25	22	3	4	3	3	3	1	11
Serchhip	08-May-15	90	75	15	6	12	14	8	2	48
Lunglei	05-May-15	144	110	34	7	25	22	19	2	69
Lawngtlai	16-Apr-15	46	40	6	2	11	10	6	1	16
Saiha	13-Apr-15	58	42	16	3	8	7	12	1	27

Note: * Mizo Hmeichhe Inswikhawm Pawl (MHIP) is the women groups present across Mizoram.

Source: JICA Study Team

6.2 2nd Round Consultations with Communities

The second round of district level meetings was held in all the 5 districts. Reflecting the number of villages in Lunglei district, two meetings were held in Lunglei this time. The type and number of participants to each meeting is shown below.

Table 6.2 Participation Details of 2nd Round of Consultation

District	Date	Total No. of Participants			Representation (No.) from					
		Total	M	F	Govt. Dept.	Village Council	NGO	MCHP*	District Taxi Union	Affected HHs
Aizawl	26-Aug-15	37	34	3	2	13	9	6	2	15
Serchhip	24-Aug-15	85	60	25	3	26	22	14	1	32
Lunglei	13-Aug-15	78	55	23	4	28	19	10	2	34
	17-Aug-15	90	64	26	1	31	28	22	1	38
Lawngtlai	16-Aug-15	56	40	16	2	18	18	8	2	18
Saiha	20-Aug-15	52	39	13	3	19	14	6	1	16

Note: * Mizo Hmeichhe Inswikhawm Pawl (MHIP) is the women groups present across Mizoram.

Source: JICA Study Team

6.3 Outcome of Consultations

The summary of discussion outcomes from district level stakeholder consultation/meetings is presented in the section following. The list of participants of these meeting are attached in Appendix C.

Table 6.3 Summary of District-level Consultations

Districts	Key Outcomes/Concerns/Suggestions from Meeting	Response
Aizawl	<p><i>General: About Project, alignment, components and its significance</i></p> <ul style="list-style-type: none"> • Participants, specifically line department officials present in the meeting underscored the significance of the project and advantages that will come with widening and improvement of existing highway. • A public representative suggested that the road widening should not be uniform across the entire length, and it should also consider the habitation pattern and its density and designed accordingly. • A public VC representative from Tlangnuam, extended support of the community, despite this affecting the several houses, if it was for the benefit of the society and the state. • Another representative from Tuirial, opined that the state will any way be providing compensation for losses, so it is better that the residents prepare themselves for impacts, positive or negative. The sentiment found echo from the representatives from Tlangnuam who believed that community should also join in with their support for the project if it desires for development. <p><i>Project Concerns and Issues: On Land Acquisition,</i></p>	<p>The degree of widening will be modified depending of geographical conditions and development status of the area.</p> <p>Vulnerable groups such as widow will be entitled to</p>

	<p style="text-align: center;"><i>R&R processes and Impacts</i></p> <ul style="list-style-type: none"> • Some of the participants, from among the potentially affected households, cited challenges they would face if their houses are to be demolished because of the project. A widow pointed out that she alone to fend for herself and that it will be difficult for her to construct a new house on her own. Few others suggested that affected people’s consent should necessarily be acquired before government decides on the project and that such decisions should be in the interest of the property owners. • One of the participants suggested that for every village there should be a group of people identified for coordination of project activities and that one of them be appointed as public relation officer (and with some honorarium attached for his/her role functions). • Some of the participants also shared their expectation that the compensation should be made at market/replacement cost. • Few others suggested that there should first be a public hearing in each of the villages before commencement of the project execution. <p><i>Others</i></p> <ul style="list-style-type: none"> • A representative from local drivers’ union suggested that there should be coordination committee set up for the execution of the project that will also keep away greedy and opportunistic elements away from siphoning of the benefits of the project. The union will be in full support of the project. • Recognizing the benefits of the project, participants highlighted the need for awareness campaign as part of community mobilization and preparedness for the project, to make them aware about the project and its benefits. This would require rounds of public meetings and consultations, and also a sound compensation award system. <p>In summary, the project finds a positive response from the people with broad suggestions being around engaging with local affected community, their representatives, compensation at market value, and efforts to minimize environmental impact. The affected otherwise are willing to cooperate and support the infrastructure development project.</p>	<p>receive additional support, inc. allowance and assistance in income restoration and rehabilitation</p> <p>The consent of local community will be secured before the project approval</p> <p>To be reflected in implementation of RAP</p> <p>The compensation will be made in the replacement cost</p> <p>Village-level consultation will be held in preparation of final RAP and R&R plan</p>
Serchhip	<p><i>General: About Project, alignment, components and its significance</i></p> <ul style="list-style-type: none"> • Public representatives in general appreciated the 	

	<p>project and significance it will have in people's life. Similar sentiments were made by other participants and specifically in the context of Serchhip town, for which they wanted it to be diverted away from the main town area.</p> <p><i>Project Concerns and Issues: On Land Acquisition, R&R processes and Impacts</i></p> <ul style="list-style-type: none"> • One of the participants (from YMA) pointed out at 'Compensation' as the major challenge for projects of this nature. He suggested that to get over this, the project should consider of bypassing the major settlement areas which will also reduce compensation costs. • Another YMA representative highlighted the need for adequate awareness generation among people. He also cautioned against unwanted political and bureaucratic hurdles/ vested interest that sometimes come in the way of development projects. He therefore suggested the project proponents to work towards earning goodwill and trust among people for this project. • VC representatives present in the meeting too shared the opinions expressed by YMA around engaging with people. And more importantly the need to be fair and diligent in compensation awards, identification of award beneficiaries. • Further on the issue of compensation, village representatives wanted the award to be completed before commencement of physical works as people will have time to resettle to new location. • Participants also suggested for a public meeting in each village that will also enable amicable resolution, if any, that will arise and related to the project. • Participants from Darlawng, too highlighted the need for public hearing as 2-3 villages in their vicinity will be affected because of the project. • Meeting also discussed the need for a fair and reasonable compensation while efforts should be made to minimize property and land loss. <p><i>Others</i></p> <ul style="list-style-type: none"> • Participants in general suggested for public meeting in village to know about their opinion, concerns and suggestions related to alignment. They also wanted the alignment to minimize blind curves by construction of bridges or cutting. However, as the bottom line they also want minimal damage to environment and the ecology in their villages. 	<p>Four bypasses are proposed to avoid densely built-up area</p> <p>Local community will be informed of throughout the preparation and implementation of the project</p> <p>Community engagement will continue through the preparation of final RAP and R&R plan</p> <p>Award of compensation will be made before construction work begins</p> <p>Village-level consultation will be held in preparation of final RAP and R&R plan</p> <p>The preliminary ROW drawing makes the best effort to avoid impact on existing structures</p>
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	<p>In summary, the project is expected to find support among the people. Suggestions include the need to have public meeting in each village, need for fair compensation policy and practice and ensuring minimal damage to environment.</p>	
Lunglei	<p><i>General: About Project, alignment, components and its significance</i></p> <ul style="list-style-type: none"> • Representatives from YMA while sharing their opinion recognized the importance of the project but at the same shared their belief that the project is being executed as part country's strategic defense policy. <p><i>Project Concerns and Issues: On Land Acquisition, R&R processes and Impacts</i></p> <ul style="list-style-type: none"> • Highlighting the critical issue of compensation, the YMA representative wanted the compensation award estimation to factor in actual loss to people, keeping in mind that each house will have different internal furnishing and hence the amount cannot be decided just on the basis of super structure. This issue will crop up as major hurdle and that there should be no vested interest or partisan politics played by the state on these aspects. • Representatives from a women organization while welcoming the project for its development benefits, also cautioned on associated risks that it will bring primarily because of increased traffic and influx of outside element that may damage the culture and environment of the area. • For a student representative, present in the meeting, it was difficult to imagine the project impacts. He however, suggested that widening the road uniformly may cause extensive damage and hence it may be reduced a little, considering the topography of the region. Related suggestion from few others was that the widening should be done only outside the village (settlement) peripheries and not within. • Issue of compensation and need for fairness in amount of compensation and award process was raised by few participants. Participants wanted award to be made in cash and the amount to be acceptable to affected households. While few other participants suggested that the government should buy some unaffected private land where affected households can be relocated. • Participants also wanted the R&R policy be designed in view of large number of households that will affected. <p><i>Others</i></p>	<p>The compensation will be made in the replacement cost</p> <p>Appropriate safety measures will be implemented.</p> <p>The degree of widening will be modified depending of geographical conditions and development status of the area.</p> <p>The compensation will be made in the replacement cost. The project will prepare resettlement site, but PAPs can take cash compensation should they choose so.</p> <p>R&R will be developed in consultation with local community.</p>

	<ul style="list-style-type: none"> • Forest department representative also highlighted that the road construction needs to be of good quality and should use stone chips brought from other states as the soil and the rock type in the state is very soft in texture and strength and not suitable for construction. He cited the example one such road constructed by Tantia group in the recent past. He further suggested that adding asphalt to construction materials would add to the strength and life of the road constructed. • An ex MLA expressed his apprehension emanating from corruption that may hit the quality aspects of the project though the project in itself is about the good of people. Similar sentiments were expressed by some other participants as well, mainly identifying state administration for this practice. Participants were visibly unhappy about the road condition in the state especially when compared with the road quality in some of other Indian states. <p>Meeting discussion suggested for over all approval and appreciation for the project. However, corruption and compensation were two major discussion points. Further, concerns around landslide, dumping of excavated soil etc too were raised by the participants. Width of road was another item discussed in the meeting and suggestions made on the necessity of widening it by 12 m uniformly across the length of the road.</p>	
Lawngtlai	<p><i>General: About Project, alignment, components and its significance</i></p> <ul style="list-style-type: none"> • Participants in general shared positive opinion during the discussion. They nonetheless had some concerns about compensation and environmental and health hazard (mentioned below). <p><i>Project Concerns and Issues: On Land Acquisition, R&R processes and Impacts</i></p> <ul style="list-style-type: none"> • One of the major discussion points was around widening of the road within the town area of Lawngtlai. Some of the public representatives shared the opinion that the NH54 may have a diversion from AOC (using MMTP road) and connecting directly to Nalkawn, thereby bypassing the core town area. • Another suggestion in this regard from another participant was that the diversion should be from AOC2, western side of circuit house via power house to tourist lodge. • One of participants also shared his concern around compensation issue and shared the experience from MMTP road constructed in the past. As per him, more than 100 affected families 	<p>A bypass will be constructed to avoid impact in Lawngtlai</p> <p>Compensation will be paid before construction work</p>

	<p>have not received compensation till date and that this project should have system in place to avoid such incidences. Similar delays were also experienced by few families when NH54 was being constructed in the 70's.</p> <ul style="list-style-type: none"> • Another participant (a public representative) while supporting the project mentioned that the implementing agency should assign good public relation officer or grievance cell and should not repeat the mistakes and the practice done the past MMTP & World Bank project. He also suggested for entrusting the revenue department instead of the line department like PWD for compensation and R&R activities. • Queries were made regarding types and extent of help that the state will provide the affected households in R&R. <p>Participants broadly have positive view about the project and its significance. They however have bad experiences regarding compensation award process from similar projects in the past. This was the major discussion point during the meeting.</p>	<p>begins.</p> <p>A dedicated grievance redress mechanism will be established for this project.</p>
Saiha	<p><i>General: About Project, alignment, components and its significance</i></p> <ul style="list-style-type: none"> • Meeting proceedings began with some of the public representatives exhorting all present to extend support to the project. Almost all participants expressed their opinion in support of the project, particularly in view of the poor condition of the existing road. <p><i>Project Concerns and Issues: On Land Acquisition, R&R processes and Impacts</i></p> <ul style="list-style-type: none"> • Expressing his support for the project, a representative from VC, Theiva, shared concern over loss of 55 houses, besides other basic amenities, if road is to be widened as proposed. • Participants from Kawlchaw, too shared similar situation where there are more than 60 houses along the road and a newly constructed church that will be affected because of road widening. • One of the participants wanted to know about the stand of the government if some of the families would not want to relocate. • Participants also shared that some of the households may not have legally recognized document but are actual occupants of the houses. Such families should be provided such legal documents before determining claimant status for compensation award purposes. 	<p>The preliminary ROW drawing (and final ROW to be prepared) tries to minimize the impact as much as possible.</p> <p>Affected households are eligible for assistance irrespective to their land-holding status.</p>

	<ul style="list-style-type: none"> Participants in general requested for implementing agency to provide and construct all basic amenities like water sources etc as part of R&R activities. <p>Overall, the participants had very positive opinion about the project, particularly in view of the bad condition of the existing road.</p>	<p>Basic utilities will be equipped with at the resettlement site.</p>
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Note: The consultation was carried out with hypothetical widening of 15m for both sides (since the 1st round of consultation was carried out without the development of preliminary design), and hence the likely impact of resettlement discussed above tend to be higher than the one associated with the proposed ROW design.

Source: JICA Study Team



Photo 9.1 Selected Picture of Consultation Meetings

CHAPTER 7 RESETTLEMENT POLICY

7.1 Objective of Resettlement Policy Framework

World Bank-funded Regional Transport Connectivity Project, a RAP report targeting State Highway in Lunglei and Lawngtlai districts was prepared in 2014. This RAP was prepared as per World Bank's Safeguard Policy, and as such, broadly in line with the requirements of JICA. The resettlement policy and entitlement matrix proposed in this RAP builds on the RAP for WB-funded project with revisions/updates based on changes/differences in socio-economic conditions and new provisions laid out in LARR 2013.

In this backdrop, the resettlement policy framework aims to:

- Update the resettlement policy that was followed in the previous project in Meghalaya/West Garo Hills in line with provisions of new relevant Acts and Rules, and other projects being implemented with financial support from multilateral funding agencies with safeguard policies comparable to that of JICA;
- Bring together and build upon the previous experiences and good project implementation practices;
- Enhance institutional capacity at the Project level for implementation of RAP and livelihood restoration activities; and
- Establish mechanism and processes for fair grievances redress with respect to land acquisition and compensation and any other matters associated with the RAP

For above objectives, the policy framework builds on following principles:

- Involuntary resettlement shall be avoided to the extent possible or minimized where feasible, exploring all viable alternative project designs and also take due precautions to minimize disturbance to habitations, and places of cultural and religious significance;
- Where displacement is unavoidable, people losing assets, livelihood or other resources shall be assisted in improving or at a minimum regaining their former status of living at no cost to themselves; Ensure that the socio-economic conditions of the Project Affected Persons (PAPs) actually improve after implementation of the project;
- Share information, consult and involve PAPs and local persons from preparation stage in issues of land acquisition, loss of livelihood and in identifying social issues likely to arise during project implementation;
- Ascertain broad community support based on free, prior and informed consultation;
- Pay special attention to marginalized and vulnerable groups and secure their participation;

- Ensure payment of compensation and assistance to PAPs at replacement cost, prior to any displacement or start of civil works;
- The common property resources will be replaced as far as feasible and assistance will be provided at replacement value to the group;
- All land acquisition will be carried out after issuance of notifications for harvesting of crops;
- Ensure that project does not involve any kind of activities involving child labor; and
- Ensure equal opportunities and wage to women/female workers

7.2 Entitlement Matrix

The Entitlement Matrix has been developed in accordance with the principles adopted and analysis of initial identification of project impacts. The Entitlement Matrix recognizes and lists various types of losses associated with the project and provides the basic tools and guidelines for preparation of compensation and resettlement packages.

Table 7.1 Entitlement Matrix

Type of Loss	Occupant of Property	Unit of Entitlement	Entitlement	Details of Entitlement
Agricultural land	Titleholder	Household	Compensation at Replacement value and Assistance	<p>a) Land for land, as much as possible. Or cash compensation for the land at replacement cost, which will be determined by District Collector.</p> <p>b) If the compensation amount is less than the replacement cost mentioned above, the difference amount will be paid as Assistance.</p> <p>c) If the residual land is unviable for agriculture, PAPs shall have the following three options:</p> <ul style="list-style-type: none"> ● Compensation for affected land and continue on the remaining unaffected plot of land; or ● If eligible person surrenders the residual plot, then compensation and assistance given for the entire plot of land; or ● Replacement land, if so wished by eligible persons, subject to availability of land that is at least equally productive <p>d) Resettlement allowance of Rs. 50,000/- will be provided to those who do not get land for land, irrespective of the size of land.</p> <p>e) Subsistence Grant equivalent to Rs. 3000 (MAW: Minimum Agricultural Wage) per month for 6 months.</p> <p>f) In case of severance of cultivable land, an additional grant of 10% shall be paid over and above the amount paid for land acquisition.</p> <p>g) Four (4) months' notice to harvest standing crops shall be given. However, if notice cannot be given then compensation for these crops shall be paid at market value</p>

	Periodic Patta Holder/ Temporary Village Pass Holder		Assistance	<p>a) Land for land, if available; if not, replacement value of land as determined by District Collector shall be given to land owners/holders.</p> <p>b) Resettlement allowance of Rs. 50,000/- will be provided to those who do not get land for land, irrespective of the size of land.</p> <p>c) Subsistence grant equivalent to Rs. 3,000.00 per month (MAW) for 6 months.</p> <p>d) Four (4) months' notice to harvest standing crops shall be given. However, if notice cannot be given then compensation for these crops shall be paid at market value.</p>
Non- agricultural vacant land (Homestead, Commercial and others)	Titleholder	Household	Compensation for structure at Replacement Cost plus assistances	<p>a) Replacement cost for structure at latest Basic Schedule of Rates (BSR) without depreciation with a minimum of Rs. 1,50,000.00</p> <p>b) Two (2) months' notice for removal of structure</p> <p>c) In case of partially affected structures and the remaining structure continues to be viable, in such case an additional assistance equivalent 25% of replacement cost will be paid towards repair/restoration of Structure</p> <p>d) Right to salvage materials from the demolished structure</p> <p>e) For the displaced eligible persons whose remaining structure is unviable, the following shall be payable</p> <ul style="list-style-type: none"> ● Subsistence grant of Rs. 3,000/- per month for a period of twelve (12) months from the date of displacement ● One time resettlement allowance of Rs.50,000/- ● Transportation cost of Rs. 50,000.00 for shifting family, building materials, domesticated animals etc. ● Lumpsum Assistance amount of Rs. 7,500/- for re-establishing other basic facilities such as electricity connection, water supply pipeline ● All fees, taxes and other registration charges incurred for the replacement structure <p>f) Compensation in the form of residential / commercial plot at resettlement site if so opted by 15 or more PAPs on payment and free of cost for vulnerable groups will be provided. The size of the plots will be equal to the area lost or minimum of 35 m² for house and 15 m² for shop.</p>

	Periodic Patta Holder/ Temporary Village Pass Holder			<p>For land</p> <ul style="list-style-type: none"> ● Subsistence grant equivalent to Rs. 3,000.00 per month of MAW for 6 months. ● Four (4) months' notice to harvest standing crops/trees shall be given. However, if notice cannot be given then compensation for these crops shall be paid at market value <p>For structure</p> <ul style="list-style-type: none"> ● Replacement cost for structure at latest Basic Schedule of Rates (BSR) without depreciation with a minimum of Rs. 1,50,000.00 ● Two (2) months' notice for removal of structure ● Right to salvage materials ● Lump sum Transportation cost of Rs.50,000
Loss of Plants/Trees	Owner/Occupant	Household	Compensation	Revenue Department or Special Committee to determine the current cost. For perennial fruit bearing trees such as Pineapples, Jackfruits, etc.), average productivity of such trees will be taken as 20 years.
Loss of Cattle shed, poultry shed or any other shed for domestic animals	Owner/Occupant	Household	Compensation	Rs. 600 per m ² for Thatched roof and Rs. 1000 per m ² for GCI sheet roof (to be paid as per revised/latest available updated basic schedule of rates for buildings). In case of non-revision, 10% premium per year will be added to the latest rate available.
Loss of residence/ commercial unit	Tenant	Household	Assistance	<p>a) The amount of deposit or advance paid by the tenant to the landlord or the remaining amount at the time of expropriation (this will be deducted from the payment to the landlord)</p> <p>b) Subsistence grant of Rs. 3,000/- per month for a period of twelve (12) months from the date of displacement</p> <p>c) Lump sum shifting allowance of Rs. 15000/-</p>
Loss of kiosk	Owner/occupant	Household	Assistance	<p>a) Lump sum shifting allowance of Rs. 7500/-</p> <p>b) Right to salvage materials from the existing structure</p>
Loss of employment	Wage earner	Household	Assistance	<p>a) Economic Rehabilitation Grant equivalent to twenty-five (25) days of Minimum Agricultural Wages (MAW) per month for a period of three months.</p> <p>b) Priority work opportunities in the project construction work</p> <p>c) Rs. 20,000/- towards vocational/skill improvement as per choice.</p>

Loss of Livelihood (losing commercial unit, losing agricultural land and with balance land below MEH)	Titleholder/ Periodic Patta holder/ Village Pass holder	Household	Assistance	a) Priority work opportunities in the project construction works. b) Rs. 20,000/- towards vocational/skill improvement as per choice. The amount will cover daily stipend equivalent to MAW for the duration of training and shall also cover costs towards boarding, lodging, transportation, etc.
Additional support to vulnerable groups	Titleholder/ Periodic Patta holder/ Village Pass holder	Household	Assistance	One time additional financial assistance of Rs. 25,000/- as Economic Rehabilitation Grant towards income generation
Loss of Jhum /Fallow land)	Village	Village	Compensation at 'replacement value'	Replacement value for the common property transferred/acquired shall be paid to Village Council and the amount will be utilized through participatory planning by the villagers within 6 months from date of release of payment. PIU shall monitor its utilization
Loss of Common Property Resources	Village	Village	Enhancement of community resources	Replacement /Restoration or augmentation of existing infrastructure and provision of additional infrastructure facilities based on identified need
Loss of Access	Village	Village	Alternate access	Provision of access path(s), steps, footpaths at identified locations in consultations with community
Temporary and unforeseen impacts.	Affected entity	Household	Mitigation measures in line with principles of resettlement policy framework	Unforeseen and temporary impacts during construction will be documented and dealt with on case by case basis through the GRM in accordance with the principles laid down in the resettlement policy framework

Source: JICA Study Team

7.3 Methods for Assessing Replacement Cost⁸

The methods for assessment of replacement cost and determination of compensation for loss of land, structure, and other assets to be adopted in awarding compensation are discussed below:

- The District Collector, who will be responsible for determining the value of compensation, shall consider recent sales and transfer of title deeds and registration certificates for similar type of land in the village. Unlike other parts of India, however, transfer of land is not common in the project area and thus estimating the market rate based on the recent transfer may prove difficult. For provisional estimate of RAP budget, the official rate plus premium for rural land and 100% solatium has been used as per LARR 2013. In other words, the value of compensation is four times the official rate.
- The official rate in India is typically much lower than the prevailing market rate and thus falls short of replacement cost. The ultimate authority to determine the amount of compensation lies in DC, but PIU shall confirm whether four times the official rate is sufficient or not through market rate survey during the detail design. Again, given the limited number of land transactions in the project area, this will require careful consultation with stakeholders through which deliberation on replacement cost shall be made and agreed upon. As discussed earlier, the gap between the amount as determined by DC and the actual replacement cost shall be paid as assistance.
- The replacement value of the houses, buildings and other immovable assets will be determined as per Basic Schedule Rate (BSR) of the year in which compensation is paid without depreciation. In case of partial impact, if the residual structure is rendered structurally unsafe or unviable, the entire structure shall be considered affected and compensated accordingly. Similarly, for plants and trees the replacement costs will be determined by taking into consideration the BSR of the year when compensation is paid.

⁸ With regard to land and structures, "replacement cost" is defined as follows: For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset. Where domestic law does not meet the standard of compensation at full replacement cost, compensation under domestic law is supplemented by additional measures so as to meet the replacement cost standard.

7.4 Grievance Redress Mechanism (GMS)

The Grievance Redress Mechanism (GMS) involves formation of Grievance Redress Committee (GRC). The main objective is to provide a step-by-step process of registering and addressing the grievances with respect to land acquisition. It is expected that this mechanism will ensure redress of disputes through participative process. The mechanism and principles of GMS builds on the provisions laid out in the Right to Information Act, 2005 (see Box 7.1).

Box 7.1 The Right to Information Act, 2005

The Right to Information Act, 2005 provides for setting out the practical regime of right to information for citizens. Under the provisions of the Act, any citizen may request information from a "public authority" (a body of Government or "instrumentality of State") which is required to reply expeditiously or within thirty (30) days.

The Act also requires every public authority to computerize their records for wide dissemination and to proactively publish certain categories of information so that the citizens need minimum recourse to request for information formally. Thus under the Act, citizens have right to seek information from concerned agencies by following the set procedures.

Source: the Right to Information Act, 2005

The first tier of GMS takes place at village/block level and involves physical verification and certification upon receipt of any grievance such as inaccurate measurement of impacted asset, loss of access, damage to structures and/or crops during construction. The verification and certification will be carried out by the RAP implementation agency, Nokma and/or members of Village Council in presence of PAPs who file the grievance, and appropriate documentation would be done. Response would be provided to the concerned PAP within 7-10 days of receipt of grievance. Financial implications of any changes would be presented to the GRC for consideration and approval.

The second tier of resolution will be undertaken by the GRC. A district-level GRC will be formed by the Project Authority within one month from the date of mobilization of RAP implementation agency at site. The GRC will comprise Project Director, NHIDCL; PWD; Deputy Commissioner of West Garo Hills; representatives of the concerned Village Council or his/her authorized representative, PAPs and RAP implementation agency. Grievances of PAPs in writing will be brought to GRC for redress by the RAP implementation agency. The RAP implementation agency will provide necessary assistance to PAPs in presenting his/her case before the GRC. The GRC will respond to the grievance within 7 days. The GRC will meet once in 15 days but may meet more frequently, depending upon the number of such cases. However, after convening the first GRC meeting, it will not hold any meeting

till such time any grievance is brought to the GRC for redressal. Grievances brought to the GRC shall be redressed within a time period of one month (30 days) from the date of receipt of grievance. The decision of the GRC will not be binding to PAPs. In other words, decision of the GRC does not bar PAPs taking recourse to court of law. The flow of grievance redress mechanism is shown below.

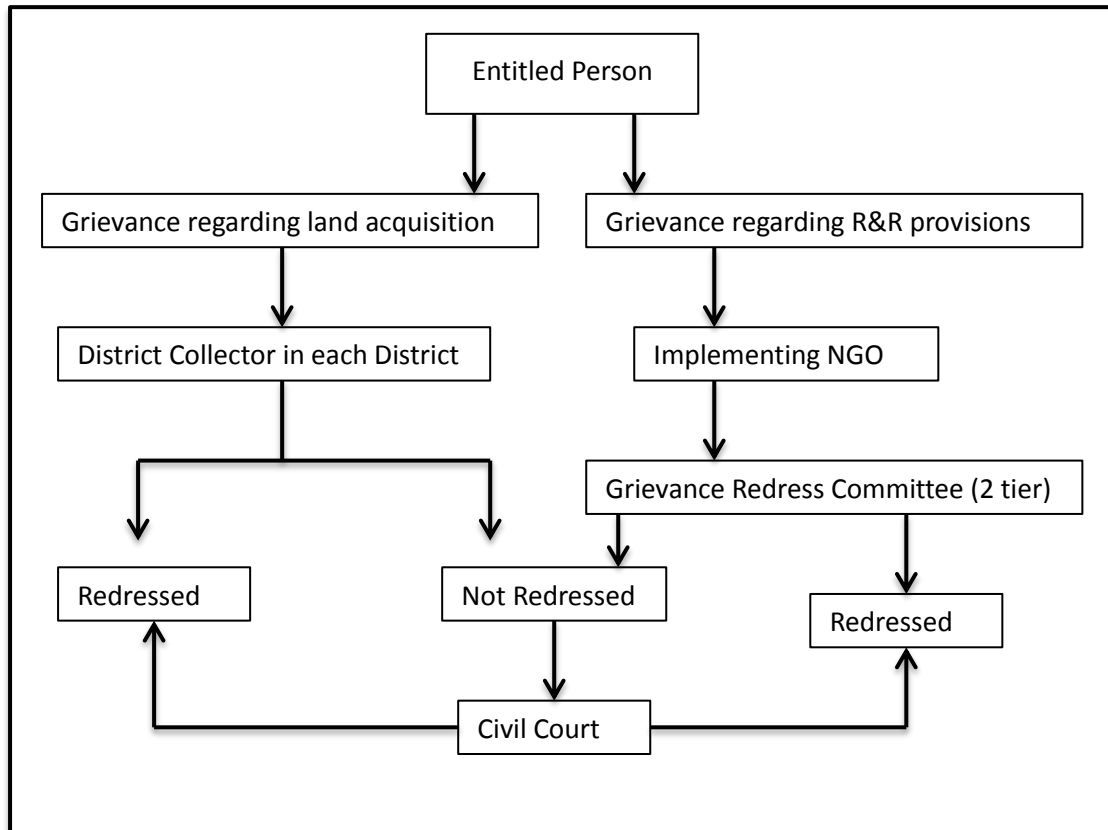


Figure 7.1 Flow of Grievance Redress

CHAPTER 8 INSTITUTIONAL ARRANGEMENT

8.1 Institutional Arrangement

As per Indian regulatory framework, activities related to resettlement and rehabilitation will be carried out by the State Government. Given the autonomous characteristics of Mizoram and its District, however, it is proposed that the district as well as village council and traditional village leaders also play a major role in implementing RAP. At the moment, NHIDCL has regional offices in Guwahati, Assam, and for this project, it is expected that a project office (Project Implementation Unit: PIU) to be set up in Tura. A dedicated NHIDCL staff (or expert hired by NHIDCL) will work closely with State and district/village officials to ensure that implementation of RAP is in line with JICA Guidelines for Environmental and Social Considerations. Institutional arrangement includes provisions to strengthen the capacity of PIU and PWD with regard to land acquisition and implementation of RAP and management of other social issues. The project institutional arrangement is shown below.

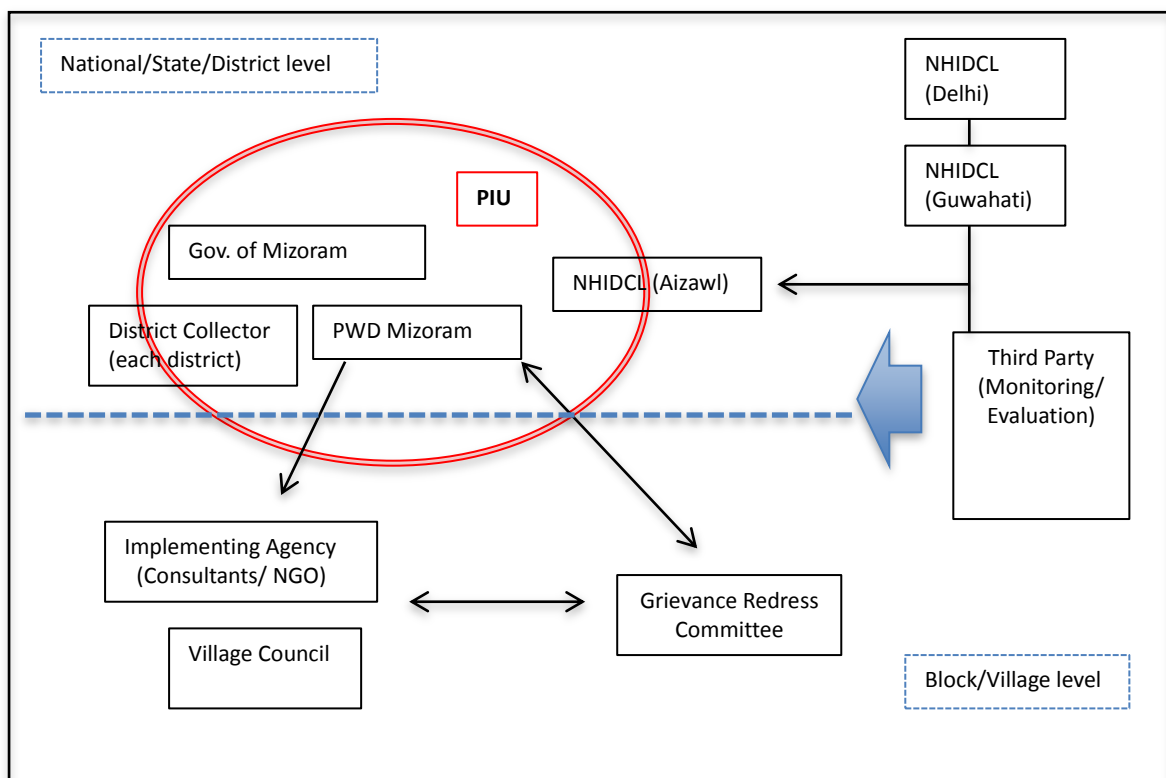


Figure 8.1 Institutional Arrangement for RAP Implementation

8.2 Monitoring and Evaluation

8.2.1 Objective

Monitoring and evaluation are important activities of any infrastructure development project, and even more so for projects involving involuntary resettlement. It helps make suitable changes, if required during the course of RAP implementation and also to resolve problems faced by the PAPs. Monitoring is periodical checking of planned activities and provides midway inputs, facilitates changes, if necessary, and provides feedback to project authority for better management of the project activities. On the other hand, evaluation assesses the resettlement effectiveness, impact and sustainability. In other words, evaluation is an activity aimed at assessing whether the activities have actually achieved their intended goals and purposes. Thus monitoring and evaluation of RAP implementation are critical in order to measure the project performance and fulfillment of project objectives.

8.2.2 Monitoring Indicators

Indicators and benchmarks for achievement of the objectives proposed under the RAP report can be grouped into four categories as follows:

1. Proposed indicators – indicating project inputs, expenditures, staff deployment, etc.
2. Output indicators – indicating results in terms of numbers of project affected persons compensated and resettled, training held, credit disbursed, etc,
3. Impact indicators – related to the longer-term effect of the project on people’s lives.
4. Complaints and Grievances received and resolved

The benchmarks and indicators are limited in number, and combine quantitative and qualitative types of data. The first two types of indicators, related to process and immediate outputs and results, will be monitored to inform project management about progress and results, and to adjust the work program where necessary. Process monitoring would enable the project authority to assess whether the due process are being followed or not, whereas performance monitoring would mainly relate to achievement in measurable terms against the set targets. Monitoring report will also provide necessary guidance and inputs for any changes, if required during the course of the implementation.

8.2.3 Monitoring and Evaluation Activities

In terms of the type of monitoring, the internal monitoring will be carried out by the PIU, PWD with assistance from RAP Implementation Agency. In addition, PIU and PWD will engage an External agency (third party) to undertake monitoring biannually and evaluations at the mid- and end-term for

the project through field visits and all other necessary activities including consultations. Details of specific tasks to be carried out in each type of monitoring activities are discussed below.

I. Internal Monitoring

Objective

The objectives of internal monitoring are:

- ✓ To measure and report progress against the RAP schedule,
- ✓ To verify that agreed entitlements are delivered in full to affected people,
- ✓ To identify any problems, issues or cases of hardship resulting from the resettlement process, and to develop appropriate corrective actions, or where problems are systemic refer them to the management team,
- ✓ To monitor the effectiveness of the grievance system, and
- ✓ To periodically measure the satisfaction of project affected people.

Activities

The RAP identifies the following activities for the internal monitoring teams:

- ✓ Coordinate with the PIU, relevant state and district authorities, NGO and project affected communities to review and report progress against the RAP;
- ✓ Verify that land acquisition and compensation entitlements are being delivered in accordance with the RAP;
- ✓ Verify that agreed measures to restore or enhance livelihood are being implemented;
- ✓ Verify that agreed measures to restore or enhance livelihood are being implemented;
- ✓ Identify any problems, issues, or cases of hardship resulting from the resettlement process;
- ✓ Assess project affected peoples' satisfaction with resettlement outcomes through informal village head and household interviews;
- ✓ Collect records of grievances, follow-up that appropriate corrective actions have been undertaken and that outcomes are satisfactory;
- ✓ When required, assist with verification activities to support the expert panel; and
- ✓ Prepare brief quarterly progress and compliance reports for BTC Management and the Expert RAP Monitoring Panel.

Implementation

Internal monitoring teams activities might involve 30 percent of time in the office and 70 percent of time in the field. Typical office review activities will entail:

- ✓ Liaison with District Collector to collate up-to-date information on land acquisition progress

such as agreement signing, compensation disbursement, RAP Funds milestones and disbursement, land areas under construction, land areas reinstated and the like;

- ✓ Review of grievance register and basic analysis of grievance types, numbers, and closures; and
- ✓ Report preparation.

Fieldwork activities will entail:

- ✓ Liaison with the village/block level representatives to gather information about progress, incidents, grievances and issues;
- ✓ Spot checking on complainants who had lodged grievances to verify outcomes of corrective actions;
- ✓ Conduct semi-structured interviews with a cross-section of affected households including vulnerable groups to verify receipt of entitlements, review effectiveness of measures, assess satisfaction with outcomes; and
- ✓ Conduct interviews with other key informants

II. External Monitoring Panel

Objective

- ✓ To assess overall compliance with the RAP;
- ✓ To verify that measures to restore or enhance project affected peoples' quality of life and livelihood are being implemented and to gauge their effectiveness; and
- ✓ To assess the extent to which the quality of life and livelihoods of affected communities have been restored.

Activities

- ✓ Review of internal monitoring procedures and reporting to ascertain whether these are being undertaken in compliance with the RAP;
- ✓ Review internal monitoring records as a basis for identifying any areas of non-compliance, any recurrent problems, or potentially disadvantaged groups or households;
- ✓ Review grievance records for evidence of significant non-compliance or recurrent poor performance in resettlement implementation;
- ✓ Discussions with NGO, DC, PIU and others involved in land acquisition, compensation disbursement or livelihood restoration to review progress and identify critical issues;
- ✓ Survey affected households and enterprises to gauge the extent to which project affected people's standards of living and livelihood have been restored or enhanced as a result of the

project;

- ✓ Assess overall compliance with the RAP requirements and JICA Guidelines; and
- ✓ Prepare a summary compliance report for NHIDCL on resettlement progress, any issues arising and any necessary corrective actions.

Implementation

- ✓ The Expert Monitoring Panel would initially convene by teleconference or in person and discuss the review agenda, overall and district-by-district.
- ✓ Each Expert Monitoring Panel member would then travel to project site.
- ✓ In-site, a panel member would:
 - ✓ spend 3-4 days in the project office reviewing internal monitoring reports, grievance registers, interviewing internal monitoring team members, project / government officers, NGOs as necessary to assess functioning of monitoring and grievance systems, assess progress against the RAP and identify issues arising;
 - ✓ Brief/ prepare terms of reference for livelihood restoration verification surveys, when required; and
 - ✓ Spend 7-10 days in field interviews with affected people, key informants, project field staff and the like.
- ✓ All panel members would then convene for 4-5 days to run through overall and district-level findings and develop key conclusions and recommendations.
- ✓ Panel members would return to home offices to draft and finalize the six monthly external monitoring report.

Based on the above, the assignment period for each expert monitoring panel member would be 30 days.

III. RAP Completion Audit

Objective

A key objective of the RAP is that resettlement actions and mitigation measures should lead to sustainable restoration or enhancement of affected peoples' pre-project living standards and income levels. At such time as affected peoples' quality of life and livelihood can be demonstrated to have been sustainably restored, the resettlement process can be deemed "complete".

Resettlement planning for the projects assumes that livelihood restoration of affected landowners will be complete when the productivity of agricultural land affected by construction has been fully

restored, compensatory forestation for loss of forest is carried out, and community and social investment programs are well established. It is proposed that the resettlement completion audit be conducted by the Expert RAP Monitoring Panel 36 months following relocation or at such time as the Expert RAP Monitoring Panel determines affected peoples' living standards and income levels have been fully restored, whichever occurs earlier.

The summary of various monitoring and evaluation activities to be carried out on course of project implementation is summarized in Table 8.1 below, and the proposed monitoring form is included in Appendix D.

Table 8.1 Summary of Monitoring Activity

Type	Frequency	Prepared by	For	Report Contents
Internal RAP Monitoring	Quarterly	PIU	NHIDCL/ State Government	10-15 page report (plus supporting documentation) summarizing progress against the RAP; outline of any issues and agreed related actions; summary schedule of grievance status; minutes of any stakeholder or affected people consultations or meetings
External Monitoring	Half-yearly	Expert Panel	NHIDCL/ State Government	25-35 page report (plus supporting documentation) summarizing assessment of progress towards living standard restoration, livelihood restoration; compliance of JICA Guidelines; discussions of any RAP issues of concern; identification of any areas of non-compliance and agreed corrective actions; and summary or resettlement status.
Completion Audit	One-off	Expert Panel	NHIDCL/ State Government	RAP Completion Audit to verify NHIDCL has complied with undertakings defined by the RAP and that land acquisition and compensation has been completed in accordance with JICA Guidelines

Source: JICA Study Team

CHAPTER 9 REHABILITATION PLAN

9.1 Options for Rehabilitation/Income Restoration

The socio-economic survey of the PAPs (see details in chapter 4) indicates that the main sources of income in the project influence area are agriculture and small business enterprises. The population has limited capacity to benefit from the livelihood opportunities created under the development projects or any government sponsored program. One of the key principle of the RAP is to ensure that the livelihood of PAPs will be improved, or at least restored compared with pre-project level. The project will provide income restoration opportunities by way of skill development training and linkage with the on-going government schemes for this purpose. The Rehabilitation Plan will therefore aim to support PAPs to regain their previous living standards by creating income generation opportunities as well as improving PAPs capacity to benefit from the various economic opportunities developed by the project. The Rehabilitation Plan will be developed and implemented by State Government in the course of this project, and the detail of the plan should be tailored with inputs from stakeholders in a later stage of the project. Keeping JICA and World Bank policies in perspective, however, following options and principle are proposed for inclusion to the Rehabilitation Plan.

(1) Shared market place

While the road widening and improvement proposed under the project are expected to facilitate trade across borders, these roads also may have the potential to boost local level trade and improving linkages of the villages in the interiors with the local and regional markets. At the same time, relocation is likely to cause negative impact on households along the road who have benefited from the roadside location suitable for business. It is recommended that project creates benefit sharing arrangements with communities along the project roads and build capacity for increasing the production and trade potential, for example, through construction of common market place in a convenient location along the road where community members can buy and sell agricultural goods and engage in small businesses.

(2) Backyard Poultry

Many households rear chicken for their own consumption but rarely doing it commercially. Small marketing effort may work to the benefit of the producer.

(3) Support for expanding plantation

Insufficient supply of saplings is a barrier for initiative towards better methods of farming. Productivity of cashew, rubber and other plantations along NH54 can be enhanced through supply of

quality saplings.

Proposed TOR for NGO/Consultants/University to be involved in the implementation of R&R activities, including development and finalization of Rehabilitation Plan is included in Appendix E. Implementing Agency with support from PIU will assist PAPs in making a choice for feasible income generation activities. Market feasibility study and training need assessment shall be undertaken by the Implementing Agency to devise feasible and practical Rehabilitation Plan that matches to PAPs needs and local context.

9.2 Identification and Development of Resettlement Site

Being hilly state, vacant land suitable for relocation is limited in Mizoram, and hence, cash compensation is not likely to lead long-term solution. The baseline survey found that the affected people prefer land-for-land compensation, particularly land in the same village, which in many cases, does not exist today. From the social point of view, relocation within the same village is also desirable, as it will avoid fragmentation of the community. In this background, it is proposed that resettlement site with basic utilities such as water and electricity to be developed in villages where available land will not be sufficient to accommodate affected households. The exact location of such site shall be elaborated during detailed design stage with village/district officials in consultation with community, but it is envisaged that 1km (on average) of new access road deviating from NH54 per village will suffice for this purpose. The provisional cost for developing such land is included in the budget estimate. The map of 48 villages and potential resettlement site are shown below.

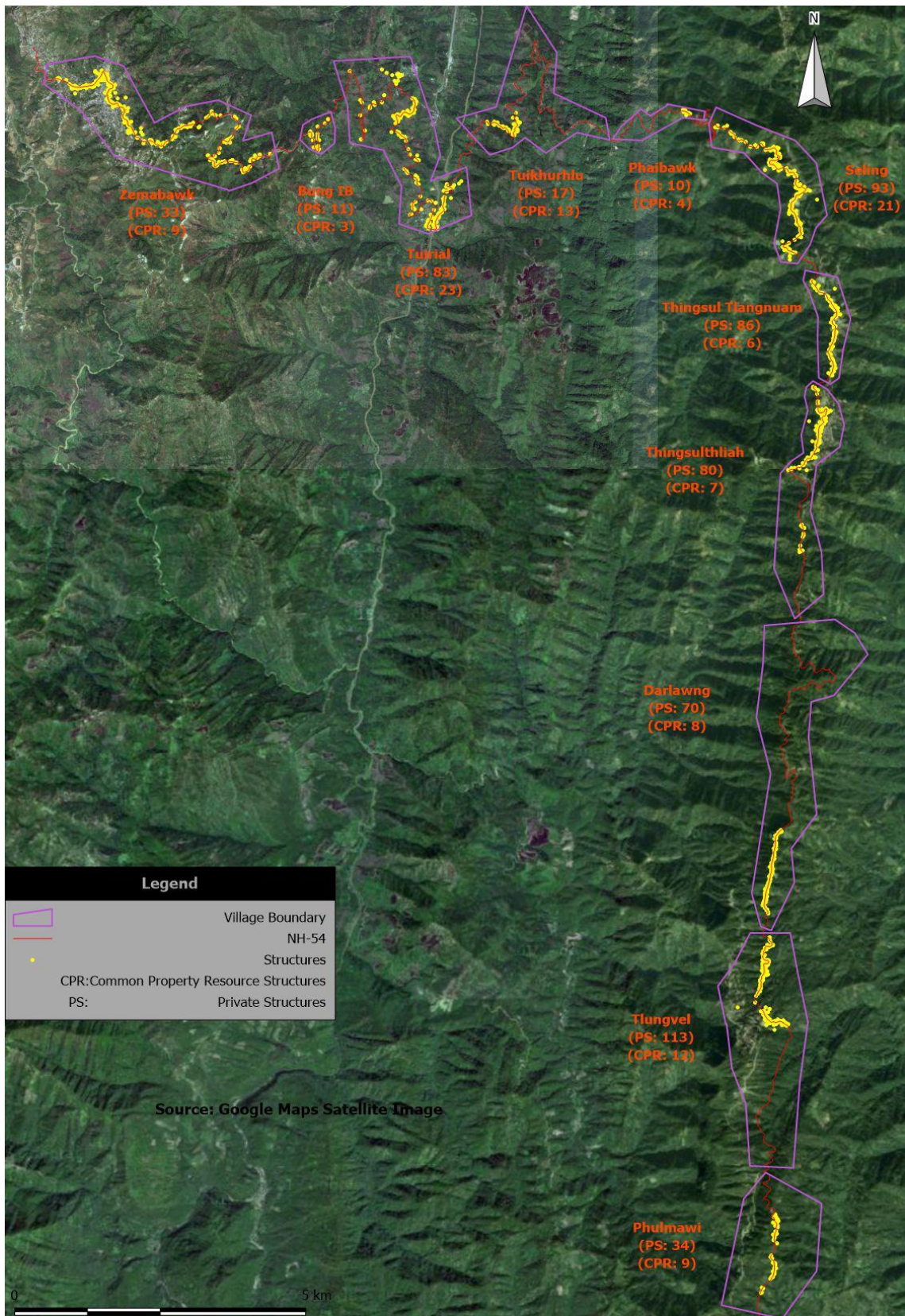


Figure 9.1 Map of Village along NH54: Aizawl District

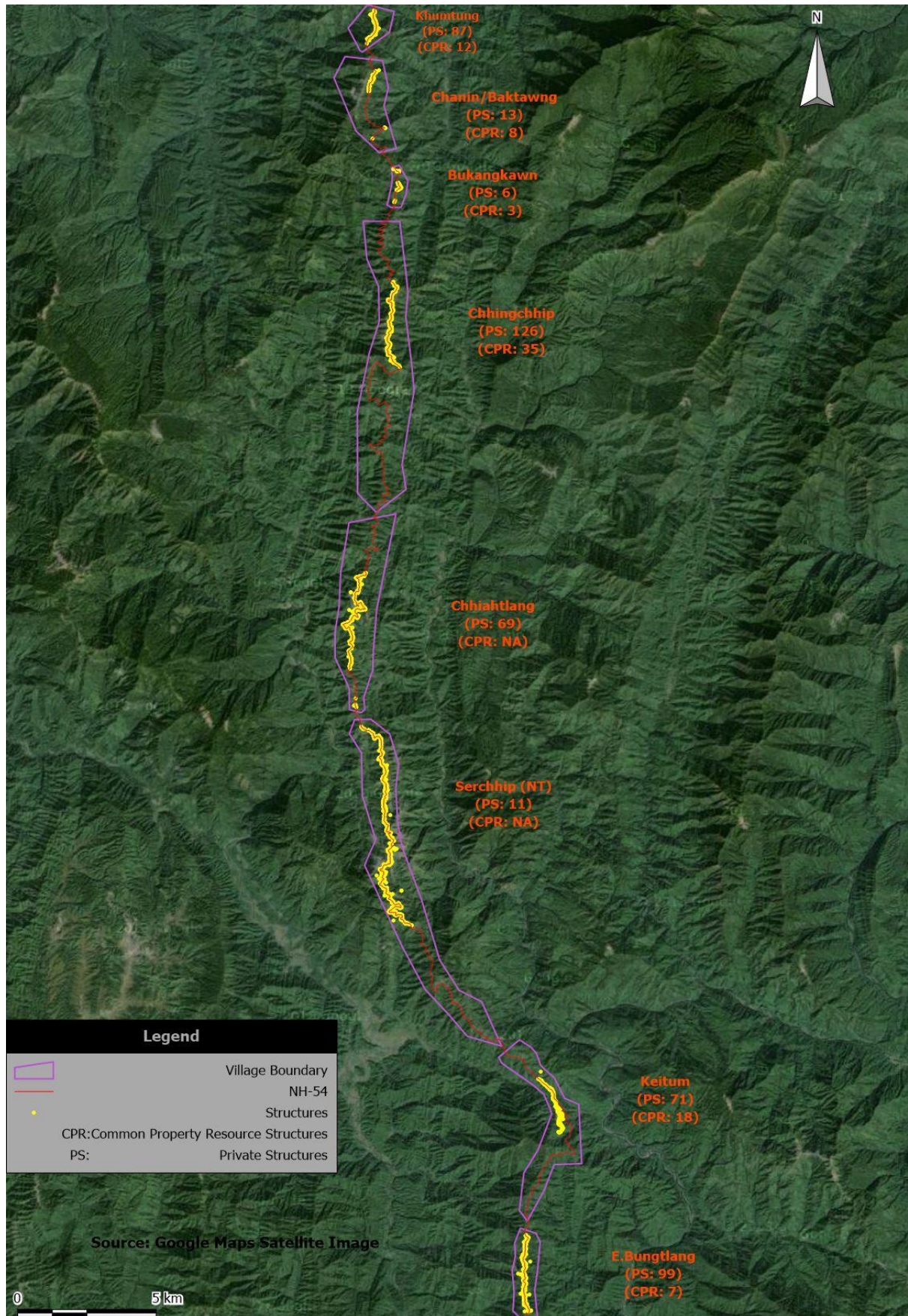


Figure 9.2 Map of Village along NH54: Serchhip District

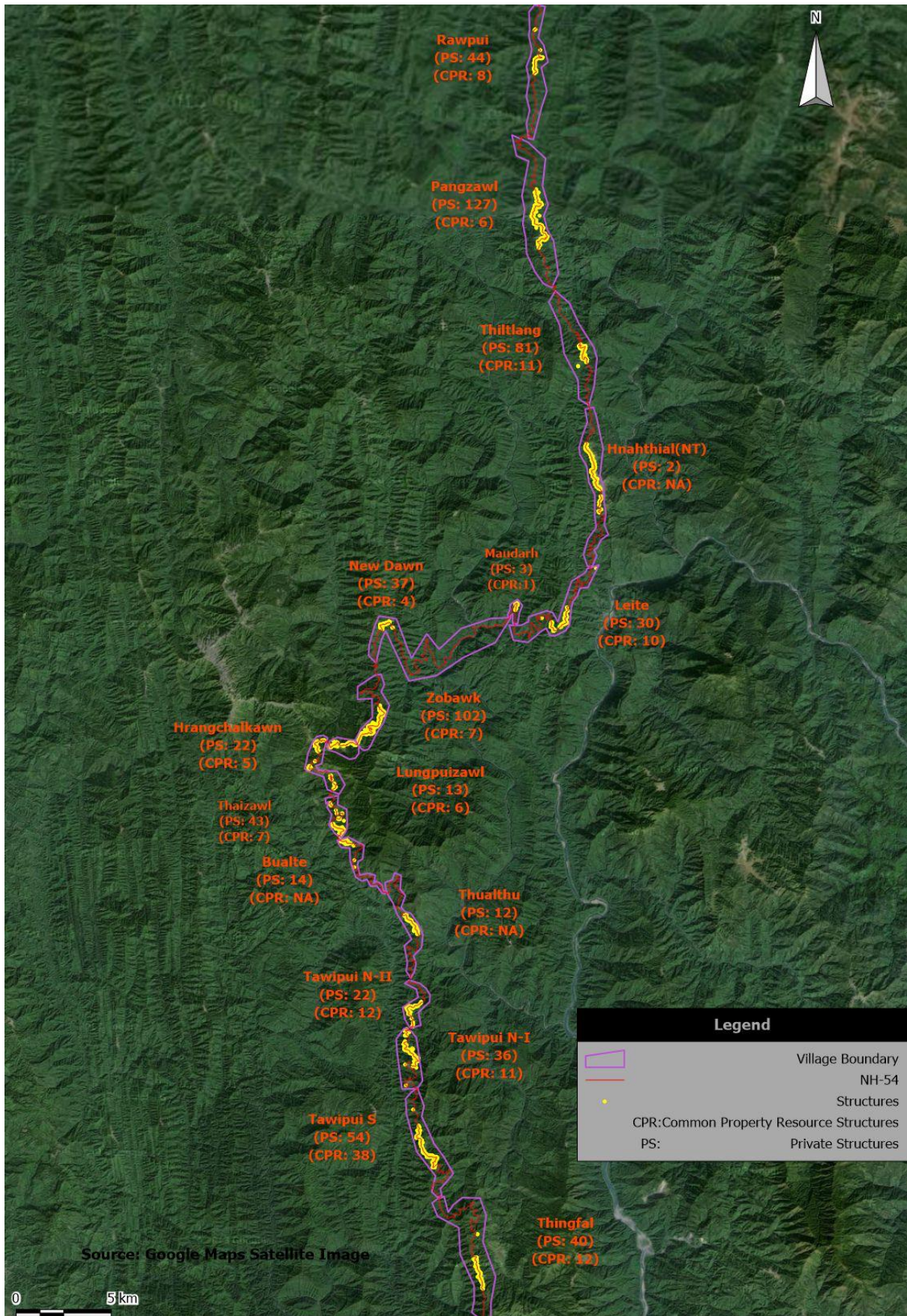


Figure 9.3 Map of Village along NH54: Lunglei District

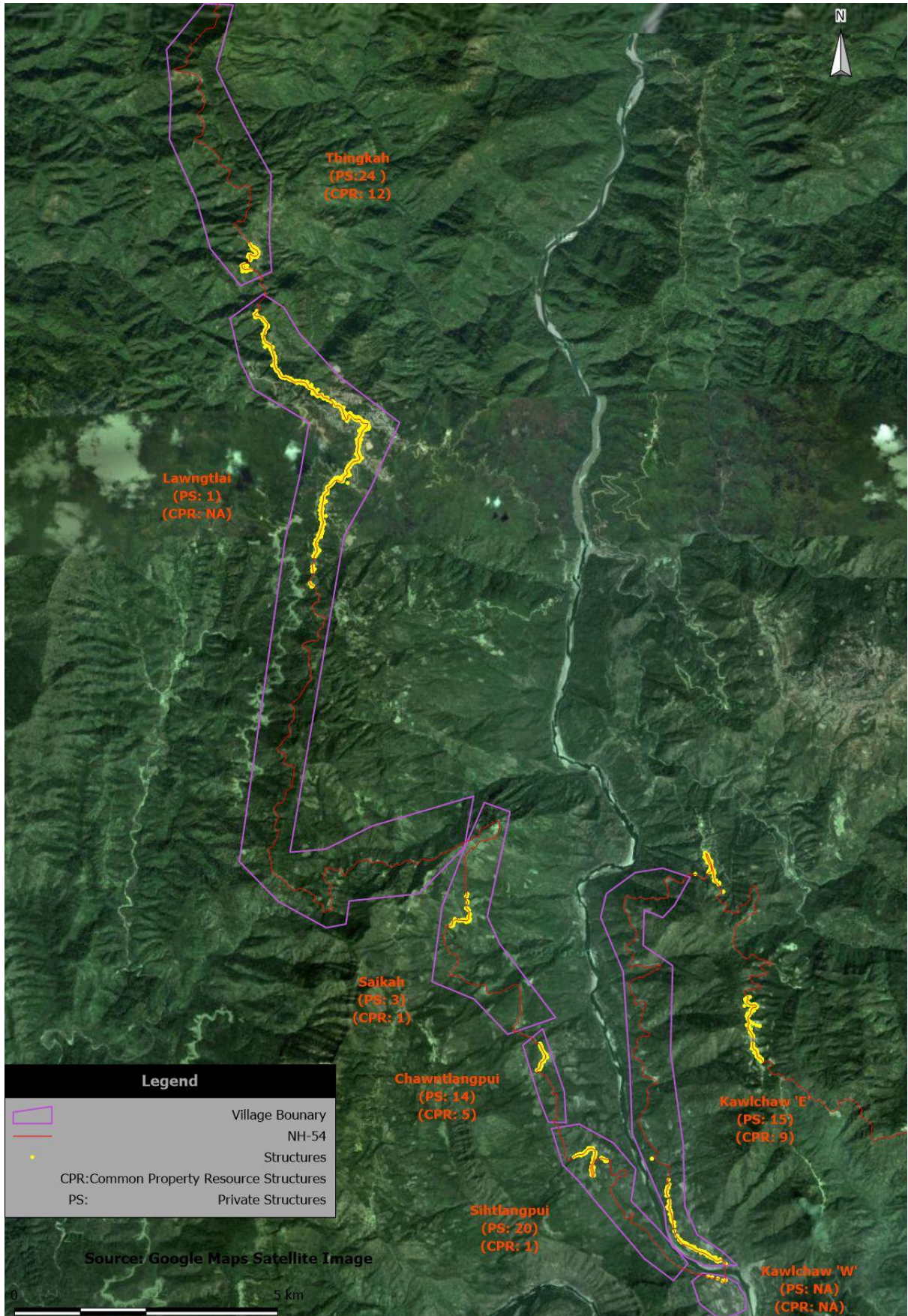


Figure 9.4 Map of Village along NH54: Lawngtlai District

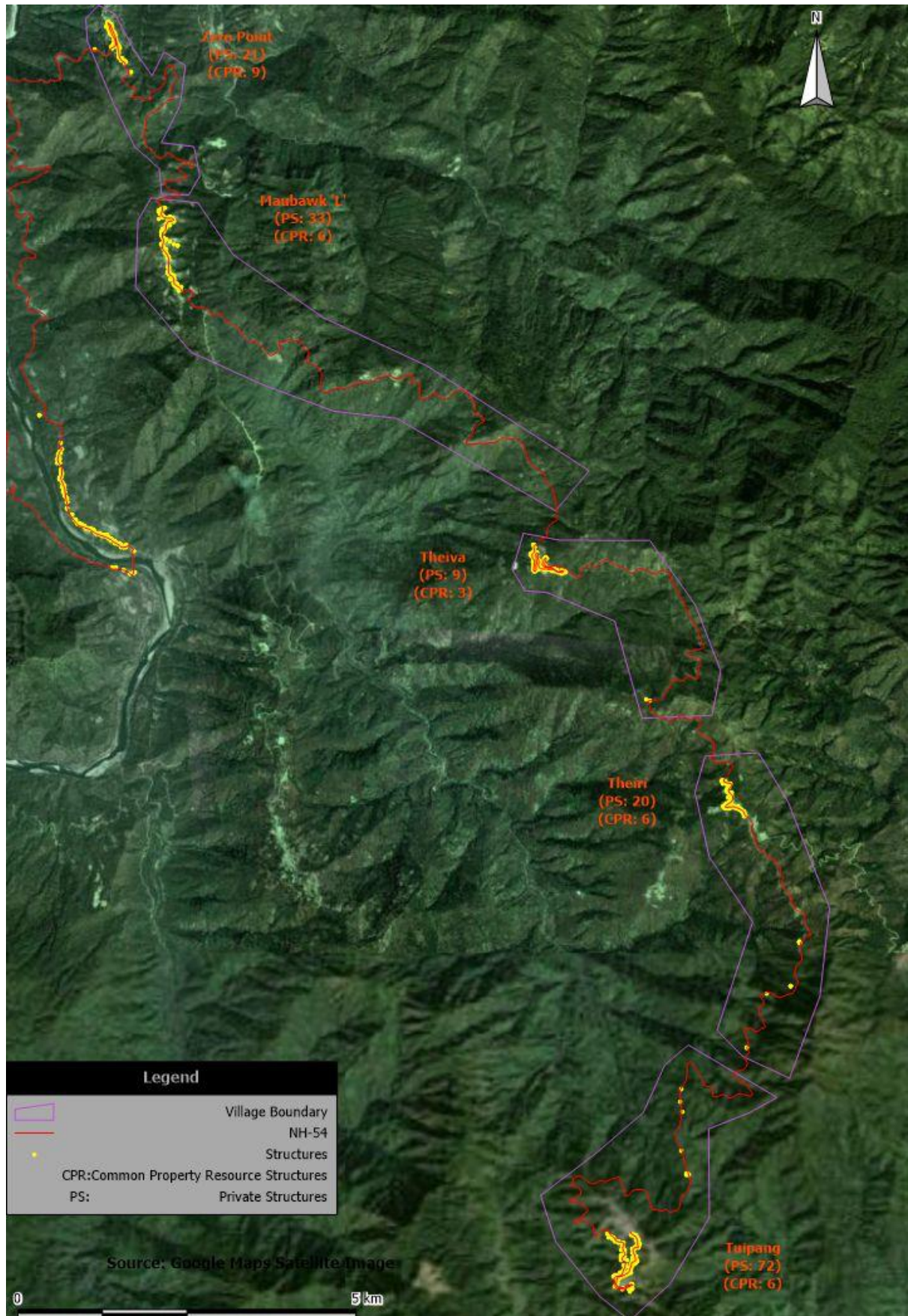


Figure 9.5 Map of Village along NH54: Saiha District

CHAPTER 10 GENDER

10.1 Potential Project Impacts on Women

Notwithstanding the social and economic changes such as urbanization, globalization and education that have permeated the societies of the region in last few decades, tribal and non-tribal women in North East States enjoy a relatively higher position in the society than what their non-tribal counterparts do. In tribal Garo community, in particular, land really belongs to the wife of the nokma or traditional village chief or headman of a Garo village⁹. Traditionally, a nokma is always looked upon as the owner of the lands of his village, who derived his rights through his wife. The literacy rate in West Garo Hills District is 93% for men and 90% for women. The gender gap is significantly small compared to national average (men: 82.1% and women: 65.5%, according to 2011 Census).

Garo women are largely involved in household work, collection of forest produce, firewood collection, cultivation and other agricultural activities. They use the road for their routine activities and economic activities such as agriculture and marketing horticulture products. Hence the positive benefits ensuing from the availability of all weather roads shall be safer connectivity and better transport services, which will ease the burden of their routine water and firewood collection. Enhanced mobility will also bring about positive impacts in terms of better access to social services, higher levels of schooling and better health facility.

On the other hand, this project is likely to have different impact on women and other vulnerable groups. For example, changes caused by relocation would not have equal implications for members of both sexes and may result in greater inconvenience to women. Due to disturbance in production systems, reduction in assets like land and livestock, women and marginalized and vulnerable groups may have to face additional challenge of running a household on limited income and resources. This may force women as well as children to participate in involuntary work to supplement household income, which may also lead to deteriorate social network of women and men alike hence making them more vulnerable to both social and environmental hazards. Given high share of women-headed households in the affected community, it is of great importance to assess potential impacts on women and accordingly, design an appropriate strategy.

⁹ Nongkynrih, D., *Land Relations in the Tribal Societies of Meghalaya: Changing Patterns of Land Use and Ownership*, Social Change and Development, vol. XI No.2, 2014.

10.2 Women Involvement in Project Preparation and Implementation

Participation of women has been expected in various stages of the project, specifically in the following areas:

- Each field team of the RAP & Rehabilitation Plan Implementation Agency will include at least one women investigator/facilitator
- The project implementation unit ensures that the women are consulted and invited to participate in activities to ensure that they have equal access and control over the resource as part of the RAP
- The RAP Implementation Agency will make sure that women are actually taking part in issuance of identity cards, opening accounts in the bank, receiving compensation amounts in their name.
- Assistancess would be provided to women as a vulnerable group in creating alternative livelihood for them to ensure their sustainable socio-economic improvement. This include support to existing women self-help organization in the project area.
- During monitoring and evaluation, women would be encouraged to evaluate the project outputs from their point of view and their useful suggestions would be noted for taking necessary actions.

10.3 Involvement of Women in Construction Activities

The requirement of unskilled labor forces will be met from the project area during construction work. Employment in road construction works will be taken by both men and women, and majority of them will be commuting from their home. In case women members of the skilled and semi-skilled laborers will be staying in the construction camps, necessary provisions should be made to avoid sexual violence and harassment and ensure the welfare of women and their children.

10.4 Measures for Controlling STD and HIV/AIDS

One of the unintended consequences of any road construction project is that it also provides ample opportunities for a closer inter-phase of mobile population with the local community as most transport and infrastructure projects attract migrant and unskilled labor to project sites. These road construction workers, mostly men, are separated from their partners and families for prolonged periods of time, increasing their susceptibility to engage in risk behaviors. This could potentially lead to interactions between the existing groups practicing high-risk behaviors and the road sector workforce.

In addition, there are also probability that the construction work could potentially increases risk of HIV among road sector workers and communities along the roadways. Local organizations including

Truck Owners Associations shall be involved in generating awareness among workers and communities along the roadways to intervene early and prevent further spread of STD and HIV/AIDS in the area.

CHAPTER 11 RESETTLEMENT BUDGET

The resettlement budget comprise estimated value of compensation for land, structures, trees, various resettlement assistances, cost of CPRs, institutional cost, contingency, hiring of RAP implementation agency, HIV/AIDS awareness generation, capacity building, external monitoring and evaluation consultant, among others. The total resettlement cost for the project road is estimated at about Rs. 3,889,710,000.

The resettlement and rehabilitation budget has been estimated based on the information, data collected from field and other secondary sources. The budget shall be updated and adjusted as per the market rate of various items as the project continues. The compensation amount for assets shall be determined by the land acquisition officer of the project to be hired for the implementation of RAP. The breakdown of budget for different components is provided in Table 11.1 below.

Table 11.1 Resettlement Budget

Item	Unit	Unit Cost	Quantity	Total (Rs)
I. Compensation				
Land (construction)	ha.	700,000	435	304,500,000
Land (surplus soil)	ha.	500,000	160.3	80,150,000
Land (resettlement site)	ha.	-	-	Included in III
Rural area multiplier	*the land price will be double for compensation of rural area land			384,650,000
Structure	Sq. m	7,500	20,000	150,000,000
Public toilet, water point	No.	50,000	20	1,000,000
Crops	No.			90,000,000
Solatium	*100% of compensation as per LARR 2013			940,300,000
Sub-Total (I)				1,880,600,000
II. Allowance				
Moving allowance	Household	50,000	1500	75,000,000
Subsistence allowance	Household	18,000	2000	36,000,000
Assistance to vulnerable	Household	20,000	1000	20,000,000
Training	Household	20,000	2000	40,000,000
Sub-Total (II)				171,000,000
III. Resettlement Site				
Sub-total (III)	Village	30,000,000	48	1,440,000,000
IV. Implementation				
Expert fees	Lump sum			20,000,000
Staff training	Lump sum			3,000,000
External monitoring	Lump sum			5,000,000
Information disclosure	Lump sum			1,500,000
Livelihood restoration	Lump sum			15,000,000
Sub-Total (IV)				44,500,000
Sub-Total (I+II+III+IV)				3,536,100,000
Contingency (10%)				353,610,000
Total				3,889,710,000

Source: JICA Study Team

CHAPTER 12 RESETTLEMENT SCHEDULE

The implementation of RAP consists of following major activities:

- Deployment of required staffs (at PIU and village/block level);
- Information dissemination activities by holding consultations, distributing leaflets containing salient features of resettlement policy and entitlement matrix in Garo language;
- Verify and update the list of PAPs and their status through Detailed Measurement Survey (DMS), list and measure all property and assets affected and their estimation;
- Preparation of micro plan (RAP implementation at village/block level);
- Disburse of R&R assistance to PAPs, which may include preparation and distribution of identity card and opening of bank account;
- Relocation and rehabilitation of CPRs; and
- Preparation for relocation of PAPs

Considering the long rainy season prevalent in the project area and whole state, approximately a period of 5-6 months (May - October) is not available for construction works. The RAP implementation period is proposed to be 24 months, but this needs to be scheduled in a manner so that initial activities such as verification, measurement etc. can be completed during the dry period. The other activities such as preparation of micro plan, approval, disbursement and other necessary documentation can be completed during the rainy season. RAP implementation activities to be carried and respective agencies likely to be involved for each activity are presented in Table 12.1.

Table 12.1 Resettlement Schedule

Year	1				2				3			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4
Preparation												
Completion of ROW drawings		▲										
Hiring NGO for RAP implementation	■											
Verification and update RAP	■	■	■	■								
Preparation of Rehabilitation Plan		■	■	■								
Submission of revised RAP to JICA				▲								
RAP budget approval from Central Government				▲								
Disclosure of revised RAP				▲	■	■	■	■	■	■	■	■
Establish Grievance Redress Mechanism				▲	■	■	■	■	■	■	■	■
Declaration of cut-off data (LA notification)				▲								
Preparation of resettlement sites				■	■	■	■	■				
Implementation												
Rehabilitation				■	■	■	■	■	■	■	■	■
Disbursement of compensation and assistance				■	■	■	■	■				
Physical displacement					■	■	■	■	■	■	■	■
Taking possession of acquired land					■	■	■	■	■	■	■	■
Handover of acquired land to contractor					■	■	■	■	■	■	■	■
Monitoring												
Half-yearly report		▲			▲				▲			
Completion report										▲		
Road Construction Civil Works												
									■	■	■	■

Source: JICA Stud