
1.0. EXECUTIVE SUMMARY

1.1. Project Background

Myanmar Railway will conduct Feasibility Study (FS) for Muse-Mandalay Railway (MMR) project. MMR is located in both of the Mandalay and Shan Regions. The proposed project will include the length of the railway that starts from Muse to Mandalay. Along the new railway, the project will pass through the Nam Phat Kar, Kuit Kai, Thein Ni, Lashio, Thi Paw, Kyauk Mae, Naung Cho, and Pyin Oo Lwin Townships.

1.1.1. The Need of Resettlement Action Plan (RAP)

Being a long way project, the railway project will use large area of land including agricultural land, forest land and residential areas along the railway. There will also have involuntary resettlement and relocation for local people where the railway passes through the residential areas. So, it is necessary to prepare Resettlement Action Plan (RAP) to proper relocation and resettlement for local people.

1.1.2. The Need of RAP Framework instead of Comprehensive RAP

RAP Framework or Resettlement Political Framework (RPF) is required for projects with subprojects or multiple components that cannot be identified before project approval. This instrument may also be appropriate where there are valid reasons for delaying the implementation of the resettlement, provided that the implementing party provides an appropriate and concrete commitment for its future implementation. The policy framework should be consistent with the principles and objectives of World Bank's OD 4.30. RAP Framework will be the guidelines and roadmap for RAP in project implementation stage. For the proposed project, RAP cannot conduct during FS stage because comprehensive RAP needs accurate alignment for cut-off date declaration, detailed census and socio-economic survey in accurate areas for resettlement and valuation of assets for compensation. So, RAP Framework will prepare during FS stage because if RAP is conducted without exact alignment during FS stage, it will have some social tensions such as higher in land price in unwanted locations and some social problems due to sudden population influx and wrong information to land acquisition (this may cause serious social tension). Moreover, it will be impractical to cut-off date declaration and detailed census and socio-economic survey for inventory resettlement and asset valuation without the exact railway alignment. So, political framework will be conducted instead of comprehensive RAP and this political framework will be similar as RAP exact for some items that cannot be conducted during FS stage as shown in the following table.

Table - The Comparison between RPF Framework and Comprehensive RAP

No.	RAP	RPF	Remark
1.	Identification of project impacts and affected households and populations including household and detailed census and socio-economic survey for PAPs	Identification of project impacts and affected households including socio-economic profile of PAPs	Detailed census survey for PAPs cannot make during in FS stage
2.	Legal framework for land acquisition and compensation;	Legal framework for land acquisition and compensation	No different between RAP and RPF
3.	Compensation framework	Compensation framework	No different between RAP and RPF
4.	Description of resettlement assistance and restoration of livelihood activities	Description of resettlement assistance and restoration of livelihood activities	Not too much difference between RAP and RPF
5.	Detailed budget including land acquisition, housing, fence, trees, well and other assets	Some budget including land use for (agricultural land and residential area) but not including housing, fence, trees, well and other assets	Differences about the budget calculations for housing, fence, trees, well and other assets
6.	Implementation schedule	Implementation schedule	But not tentative time frame in RPF due to indefinite of project approval time
7.	Description of organizational responsibilities	Description of organizational responsibilities	No difference between RAP and RPF
8.	Description of provisions for redress of grievances	Description of provisions for redress of grievances	Not too much different between RAP and RPF
9.	Monitoring, evaluation, and reporting process	Monitoring, evaluation, and reporting process	Not too much difference between RAP and RPF
10.	Public consultation and participation with PAPs	Public consultation and participation with Local Communities	Differences will be public consultation with PAPs for valuation and compensation

According to the above table, the main difference between RPF and RAP will be (i) cut-off date declaration, (ii) detailed census for asset valuation and compensation and (iii) calculation of resettlement budget for all items, and (iv) public consultation process with PAPs for detailed compensation and resettlement. All of these issues cannot be conducted during FS stage. So, Myanmar Railway will prepare Resettlement/Rehabilitation Policy Framework (RPF) or Political Framework for Comprehensive RAP, which serves as a policy document for the valuation and compensation of Project Affected Persons (PAPs).

The RPF ensures that Project Affected Persons (PAP) will not be impoverished due to the adverse social impacts induced by the railway projects and that PAPs will be compensated for loss of assets.

1.2. Summary of Project Description

1.2.1. Project Location

As the railway line is Muse to Mandalay, the power line will also parallel to the railway alignment. The total length of the power transmission line will be more than 400km. The locations of the project is shown in the following figures.



Figure - Muse-Mandalay Railway Alignment and Power Transmission Line in Google Earth (Mandalay to Lashio)



Figure - Muse-Mandalay Railway Alignment and Power Transmission Line in Google Map (Lashio to Muse)

1.2.2. Project Proponent

The followings are the brief of project proponent for the FS of Muse-Mandalay Railway.

Project Developer	
Project Developer	Myanma Railways (MR) under the Ministry of Transport and Communications (MOTC)
Type of Project	Railway for High Speed Train (160 km per hour)
Project Location	Muse-Mandalay railway starts from Muse port of entry at the north, goes south to Mandalay
	1. U Myo Win (General Manager) Upper Myanmar Administration (MR) Upper Myanmar Administration Department, Mandalay Station, Mandalay, Myanmar Tel : +95-2-35172 Fax : +95-2-35829 E-mail: myowingmupper@gmail.com
	2. U Phyto Htet Kyaw [Assistant General Manager Planning] Planning and Administration Department, (MR) Nay Pyi Taw Station Compound, Nay Pyi Taw, Myanmar Tel : +95-6777164(office)/+95-9-43124800(mobile) Fax : +95-67-77164

1.2.3. Construction Services Provider(s)

Although MR is the project developer, MR will not make sure of construction of the Railway and the construction services provider will be selected based on tendering process by international standards and guidelines. So, the construction services provider(s) will not be identified during FS stage and will be considered after the approval of FS study. So, there will be a little arguing how to consider FS based on land acquisition, compensation and resettlement. However, the developer (MR) will be clearly state that the policies, legal requirements, and the need of compensation about the land acquisition during the preparation of tendering process.

1.2.4. RAP Study Team

Ever Green Tech Environmental Services and Training Co., Ltd. was appointed by CREEC to conduct RAP for the proposed bridge and culvert project. The following are the lists of consultants who participate in conducting RAP Framework.

	No.	Name	Degree	Area of Expertise	Report Writing
Our Consultants	1	Dr. Kyaw Swar Tint	Ph.D. (Mining)	Environmental Management and Monitoring	Overall Review
	2	Ms. Nandar Nwe	M.S. in EIA/EMS (YTU), Dip; in Applied Psychology (YU)	Social Impact Assessment (Household Survey)	RAP Framework
	3	Ms. Thazin Htwe	M.S. in EIA/EMS (YTU), Dip; in Applied Psychology(YU)	Social Impact Assessment (Public Consultation and Stakeholder Engagement)	RAP Related Impacts and Identification
Our Consultants	4	Mr. Yaw Ma Nar	B.Sc. (Forestry); Dip in EIA/EMS	Project Coordinator	Baseline Socio-economic Study
	5	Dr. Sao Hone Pha	Ph.D. (Electronics)	GIS and Remote Sensing	GIS and Google Earth Study
	6	Dr. Win Swe	Ph.D. (Geography)	Hydrology and Socio-economic	Budget Estimation and RAP Implementation Process
	7	U Aung Naing Tun	L.L.B; MBA	Legal Requirements	Laws and Regulations Related to RAP

1.2.5. Scope of the RAP Study

This RAP study for the proposed railway power supply system will cover FS for the following:

- (1) 11 traction sub stations; and
- (2) transmission line along the railway.

But the RAP study will not cover the main power generation sources and main power transmission line for traction substations.

1.3. Summary of Legal Framework for Land Acquisition and Compensation

1.3.1. Summary of Legal Framework

Many countries have legislation and policies governing land expropriation and compensation for affected assets. However, policy governing resettlement is often poorly defined, if not altogether lacking. The law that governs the whole procedures of land acquisition and resettlement in a comprehensive manner in Myanmar is Land Acquisition, Resettlement and Rehabilitation Act 2019 replaced by the Land Acquisition Act, enacted in 1894, and it is the legal basis for land acquisition in current Myanmar. The Land Nationalization Act 1953 which was repealed by the Farmland Law 2012, determines nationalization of farmlands and procedures for conversion of farmlands to other purposes. The land acquisition for the proposed project has been mainly done in accordance with the Land Acquisition, Resettlement and Rehabilitation Law 2019 and the Farmland Law 2012. In most of the cases; however, details such as procedures and conditions related to resettlement issues are yet to be determined. The followings are the relevant Myanmar laws and regulations for land acquisition and resettlement which are applicable to upper Myanmar where the proposed project is located.

Laws and Regulations	Year
Constitution of the Republic of the Union of Myanmar (Articles 24,45,349,359)	2008
EIA Procedures (Article 102 to 110, 113, 115, 117)	2015
Vacant, Fallow, Virgin Land Management Law (Law No. 4(d), 5(d),7)	2012
Land Acquisition, Resettlement and rehabilitation Law (Section 39,41,42,46,54(b and c),58)	2019
Pesticide Law Pyidaungsu Hluttaw Law No. 14/2016	2016
Forest Law	1992
Farm Land Law	2012
Farmland Act (Law No.11)	2012
Law of protection of farmer rights and enhancement of their benefits (Law No 32)	2013
Village Regional Development Law (Law No. 39)	2019
National Land Use Policy	2016
The Upper Burma Land and Revenue Regulation (Amendment) Act	1947
The Lower Burma Town and Village Lands Act	1899
The Land Nationalization (Amendment) Act	1953
Railway Transportation Service Law	2016

MR will comply the following laws and regulations related to the proposed railway project during the construction and operation of the project.

Law Name and Section	Legal Commitments
Constitution of the Republic of the Union of Myanmar	
Section 24	Project proponent has to comply with section 24 of Constitution of the Republic of the Union of Myanmar in association with the chance of workers.
Section 45	Project proponent understand and accepts section 45 of Constitution of the Republic of the Union of Myanmar in association with conservation of natural environment.
Section 349	Project proponent understand section 349 of Constitution of the Republic of the Union of Myanmar in association with development of project.
Section 359	Project proponent understand and accept section 359 of Constitution of the Republic of the Union of Myanmar in association with forced to work.
EIA Procedures	
Article 102 to 110	Project proponent has to report the monitoring included in EIA procedure article 102 to 110.
Article 113	Project proponent has to comply with the determination of Ministry if environmental obligations are not being complied by project proponent.
Article 115	Project proponent has to cost all the inspection and monitoring of project according to article 115 of EIA Procedure.
Article 117	Project proponent has to follow the Ministry program described in Article 117 of EIA procedure.
Vacant, Fallow, Virgin Land Management Law , 2012	
Section 4 (d)	Project proponent has to follow the section 4 (d) of Vacant, Fallow, Virgin Land Management Law in association with use of project land use.
Section 5 (d)	Project proponent has to comply with section 5 (d) of Vacant, Fallow, Virgin Land Management Law for the permission of land uses and submission to Central Committee in accordance with the stipulations.
Section 7	Project proponent has to comply with section 7 of Vacant, Fallow, Virgin Land Management Law in association with approval of the Myanmar Investment Commission.
Land Acquisition, Resettlement and Rehabilitation Law , 2019	
Section 39	Project proponent has to comply with section 39 of Land Acquisition, Resettlement and Rehabilitation Law in association with compensation for land acquisition.
Section 41	Project proponent has to comply with section 41 of Land Acquisition, Resettlement and Rehabilitation Law for the complains of affected persons.
Section 42	Project proponent has to follow section 42 of Land Acquisition, Resettlement and Rehabilitation Law for the submission a petition to the relevant court in associated with complains of affected persons.
Section 46	Project proponent has to comply with resettlement or rehabilitation procedures in accordance with section 46 of Land Acquisition, Resettlement and Rehabilitation Law.
Section 54 (b, c)	Project proponent has to comply with central committee in accordance with section 54 of Land Acquisition, Resettlement and Rehabilitation Law for the acquisition of temporary land use.
Section 58	Project proponent has to compensate in accordance with section 58 of Land Acquisition, Resettlement and Rehabilitation Law for the damage of land used for temporary.
Pesticide Law , 2016	
Section 19	Project proponent has to follow with inspection and supervision of Regional or State Chief Officer in association with the handling and use and storage of the pesticide.

Forest Law, 2008	
Section 12	Project proponent has to comply with section 12 of Forest Law for the land use within forest land or forest covered land at the disposal of the Government.
Farm Land Law, 2012	
Section 30	Project proponent has to comply Central Committee related to the use of farmland according to section 30 of Farmland Law.
Law of protection of farmer rights and enhancement of their benefits (Law no 32) , 2013	
Section 9 (d, e)	Project proponent has to comply with section 9(d, e) of Law of protection of farmer rights and enhancement of their benefits for the unfair land acquisition.
Village Regional Development Law (Law No. 39) , 2019	
Section 11	Project proponent has to comply with the right of rural people in accordance with section 11 of Village Regional Development Law.
National Land Use Policy, 2016	
Part (V)	Project proponent has to comply with procedures related to land acquisition, relocation, compensation, rehabilitation and restitution of National Land Use Policy for land acquisition for project development.
The Upper Myanmar Land and Revenue Regulation, 1889	
Section 27	Project proponent has to be liable to the payment of land-revenue to the Government according to section 27 of the Upper Myanmar Land and Revenue Regulation.
The Lower Burma Town and Village Lands Act, 1899	
Section 10	Project proponent has to comply with section 10 of the Lower Burma Town and Village Lands Act, 1899 in association with saving of rights of persons possessing lands included within extended limits of town or village.
The Land Nationalization (Amendment) Act, 1957	
Section 42(1)	Project proponent has to comply with giving out compensation in accordance with the provisions of this section and the Schedule II.
Railway Transportation Service Law, 2016	
Section 14 (b)	The project proponent has to submit the relevant particulars of the land to be acquired in accordance with the existing laws and procedures relating to the land acquisition if the land acquisition is required for the railway in the project
Section 16	The project proponent has to comply with Central Committee for the land use of private owned land according to the Section 16 of the Railway Transport Service Law.
The Land Acquisition Act, 1894	
Section 4	The project proponent has to publish a notification and has to cause public notice of the substance of such notification to be given at convenient places in the said locality.
Section 5	The project proponent has to pay at the time of such entry or tender payment for all necessary damage to be done, and, in case of dispute as to the sufficiency of the amount so paid or tendered, he shall at once refer the dispute to the decision of the Collector or other chief revenue-officer of the district, and such decision shall be final.
Section 5A	The project proponent has to give the objector an opportunity of being heard either in person or by pleader and shall, after hearing all such objections and after making such further inquiry, if any, as he thinks necessary, submit the case for the decision of the President of the Union. The project proponent has complied the decision of the President of the Union on the objections.

1.3.2. Summary of Legal Concepts on Land Ownership

Legal status on different types of Land according to Guidance note on Land use issue Myanmar is shown in the following table.

Table - Summary of Types of Land and Accessibility

Legal status on different types of Land according to Guidance note on Land use issue Myanmar

No.	Land Type	Transferable or Non-transferable
1	Freehold Land (ancestral land)	<ul style="list-style-type: none"> Transferable
2	Grant Land ('Ga-yan')	<ul style="list-style-type: none"> Transferable
3	Agricultural Land	<ul style="list-style-type: none"> Non-transferable (in accordance with 1953 Land Nationalization Act-Article 4) Transferable (La Na 39 – Grand Land)
4	Garden Land	<ul style="list-style-type: none"> Non-transferable
5	Grazing land	<ul style="list-style-type: none"> Transferable (1953 Land Nationalization Act-Article 39)
6	Culturable Land, Fallow Land and Waste Land	<ul style="list-style-type: none"> Myanmar citizens have the right to apply for 5,000 acres at a time 50,000 acres for cultivation of perennial plants If foreigners are involved in a group of applicants, a maximum period of 30 years may be granted to cultivate/utilize the land. (Myanmar Investment Commission)
7	Forest land	<ul style="list-style-type: none"> Forest land may not be re-designated into another category of land unless the Ministry of Forestry de-registers it from their registry.
8	Town Land	<ul style="list-style-type: none"> Transferrable
9	Village Land	<ul style="list-style-type: none"> Transferrable
10	Cantonments	<ul style="list-style-type: none"> exclusively administered by the military
11	Monastery Land	<ul style="list-style-type: none"> The Ministry of Home Affairs may declare an area of land as 'Monastery Land'. Once it has been declared as such, the status of the land remains unchangeable for good.

1.3.3. Summary of Statement of Commitments

The developer has to commit to comply with the followings related to the RAP:

- a) We, Myanma Railway (MR) commit to follow the environmental commitments, mitigation measures, management plans illustrated in the RAP report. We also commit to follow the World Bank Operational Policy on Involuntary Resettlement (OP 4.12).

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- b) Comply with the commitments of the socio-economic development revealed in the RAP report.
 - c) Ensure not to make land confiscation and will make proper compensation and enhancement measures.
 - d) Payment of adequate compensation for loss of farmlands and buildings, income sources according to the relevant rules & regulations and agreement with PAPs.
 - e) Affected persons will be compensated for lost assets as per this RAP Framework and comprehensive RAP.
 - f) Acknowledge and comply the laws, regulations and guidelines associated with the project, included in the report.
 - g) Comply and proceed the alternative methods, mitigation measures and monitoring plans included in the report for the reduction of the negative environmental impacts; and take responsibility for the socio-economic impacts due to non-compliance of the commitment.

1.3.4. Summary of Project's Environmental, Social and Health Policies

Project developer's sustainability model related to the RAP is "To operate in a sustainable manner means to create value for stakeholders, and to use resources so that the needs of future generations will not be compromised, respecting people, the environment and the society as a whole." The main policy and commitment of project developer can be identified in the following points:

- the protection and promotion of human rights, the economic and social development of local communities;
- the compliance with Myanmar laws, regulations and industrial standards regarding the environment, health, safety and hygiene at work in all of our operations
- implementing sustainable development principles in our activities
- seek and achieve continuous improvement in our processes, consistent with our strategic objectives and priorities, by adopting the most advanced systems for environmental protection and energy efficiency.

1.4. Summary of Baseline Study

The socio-economic baseline study will only make the villages around the railway tunnels. According to the baseline socio-economic study, the proposed line mostly passes

through mostly in Shan State and partly in Mandalay Regions. These two regions have different socio-economic conditions. Mandalay region is urban area, and the living standard is relatively high. But the socio-economic conditions in Shan State where the railway alignment will pass is dominated by agriculture and underdeveloped.

1.5. Summary of Identification of Project Impacts and Affected Population

(a) Positive Socio-economic Impacts

Railway power supply system is essential for railway construction especially for mountainous region (Shan State). So, the construction of the railway bridges and culverts will indirectly create subsequent increase and utilization of agricultural inputs and services that will result in increased production (crop and livestock) and, due to lower transport costs and improved and extended market access and opportunities, there will be higher farm gate prices for local produce. In the short and medium term, it will create impacts such as reductions in vehicle operating cost, transport and time costs for public passenger and for freight transports, and for private vehicle users and improvement in the availability of transport facilities and services. In the long term, it will create development impacts and incentive that will bring about socio economic growth and changes and improved quality of life for the people residing in the project area.

(b) Negative Socio-economic Impacts

In addition to the positive impacts there will be a number of negative impacts, such as, loss of productive assets, including strip of farm land & income; loss of housing; spread communicable diseases (Malaria), spread of Sexually Transmitted Disease (STD), Covid and HIV/AIDS, growth of squatters & uncontrolled settlements, and spoil dumping on farm lands and blockage of water sources. The construction could result due to influx of migrant workers and associated induced development. The influx may cause a rise in the consumption of consumer goods in the local area, which will tend to boost up the local economy. Resettlement or/and relocation of buildings and other assets, involving some changes in livelihood of PAPs Loss of income opportunity of some PAPs due to resettlement and shop owners, vendors or farmers to be affected by construction works. The affected population will be local residents near the railway alignment, local people who own the agricultural lands in or near the project area.

1.6. Summary for Valuation and Compensation Framework

In the project corridor, there will be 335 households who may lose their houses and businesses due to the railway construction. Moreover, about 1929662.55 m² for agricultural land including farm land, 1560 and 11007.02 acres of forest plantation will be affected due to railway alignment. MR and/or construction service provider(s) (tender winning company) will have to compensate for PAPs's lost income and also be compensated for their losses.

1.7. Summary of Organization and Institutional Responsibility

The main organization for implementation of RAP will be MR. The construction contractor(s) cannot be identified during FS stage and the contractor(s) will be chosen according to tender process. MR will have to supervise the construction contractor(s) to follow Myanmar's Rule and Regulations about land acquisition and compensation.

Regarding the preparation of RAP for railway projects and its implementation MR is responsible and has the mandate. ECD is directly responsible for the review, monitoring and implementation of Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan. Environmental Management Team (EMT) is also in charge for the identification of adverse impacts on PAPs in cooperation with Project Implementation Unit (PIU).

1.8. Summary of Community Participation and Public Consultation

Public participation and consultation for RAP preparation was made according to the following procedures:

- (a) Identification of PAPs
- (b) Focus group discussion
- (c) Socio-economic Survey
- (d) Public meetings

Public consultation and participation in RPF preparation were conducted as questionnaire in household survey and open discussion section in public meeting about land use and land acquisition. According to the public consultation process, the most public concerns about land acquisition are proper compensation about land use whether the owner has legal right (grant land) or not. They also worried about impact on agricultural land and impact on water resources due to railway construction.

1.9. Summary of Conclusion and Recommendation

Although the proposed railway project need RAP, RAP cannot conduct in FS stage due to the need of exact railway alignment for detailed calculation of compensation for land use. So, Resettlement Policy Framework (RPF) will prepare instead of RAP for FS stage. RPF will be useful as the guidelines and roadmap for RAP in project implementation stage. The permanent land use for the transmission line is overlapped with subgrade land use and it is also included within the 9m of the railway alignment subgrade calculation. So, land acquisition and resettlement due to transmission line is not necessary separately in this RAP report. According to the study, the construction and operation of traction substations (not including transmission line) will not impact on residential area but will impact on agricultural land and forest area.

CHAPTER 2.0. INTRODUCTION

2.1. Background of the Project

The Memorandum of Understanding (MOU) on Feasibility Study for Muse-Mandalay Railway Project between Myanmar Railways (MR), the Ministry of Transport and Communications (MOTC) of the Republic of the Union of Myanmar and China Railway Eryuan Engineering Group Co. Limited (CREEC), China Railway Group Limited, the People's Republic of China signed on October 22, 2018. According to this MOU, CREEC will conduct Feasibility Study (FS) for the new railway line from Mandalay to Muse.

2.2. Objective of the Railway Project

The objective of the project is (1) to smooth transportation system in upper Myanmar, (2) to save time travelling from Muse to Mandalay, (3) to create job opportunities in transportation section and (4) to easy export and import system of Myanmar between China.

2.3. Project Type

The type of the proposed project is linear project. Linear projects having linear patterns of land acquisition. In sparsely populated rural areas, a linear project may have minimal impact on any single landholder. Compensation is characterized by a large number of small payments for the temporary loss of assets such as standing crops. Conversely, in a densely populated urban area, a linear project may require the demolition of structures along the project right-of-way, thereby significantly affecting large numbers of people. Linear resettlement contrasts with site-specific resettlement because of the problems that frequently arise when resettlement actions have to be coordinated across multiple administrative jurisdictions and/or different cultural and linguistic areas. The liner resettlement will have to conduct RAP.

2.4. Objectives and Methodologies of Resettlement Action Plan

The Resettlement Action Plan (RAP) is prepared to address involuntary resettlement impacts due to large scale land acquisition, with a time bound action plan and appropriate budget provisions that would be incorporated as an integral part of the project. The RAP is based on the principle of the World Bank's Guidelines for Environmental and Social Considerations.. Three important elements of involuntary resettlement are: 1) compensation for loss of assets, loss of income sources and livelihood means; 2) assistance for relocation including provision of relocation sites with appropriate facilities and services, and; 3) assistance for rehabilitation to achieve at least the same level of well-being.

2.5. Differences between RAP and RAP Framework

RAP Framework or Political Framework of RAP is required for projects with subprojects or multiple components that cannot be identified before project approval. This instrument may also be appropriate where there are valid reasons for delaying the implementation of the resettlement, provided that the implementing party provides an appropriate and concrete commitment for its future implementation. The policy framework should be consistent with the principles and objectives of World Bank’s OD 4.30. RAP Framework will be the guidelines and roadmap for RAP in project implementation stage.

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5.	Detailed budget including land acquisition, housing, fence, trees, well and other assets	Some budget including land use for (agricultural land and residential area) but not including housing, fence, trees, well and other assets	Differences about the budget calculations for housing, fence, trees, well and other assets
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According to the above table, the main difference between RAP Framework and RAP will be (i) cut-off date declaration, (ii) detailed census for asset valuation and compensation and (iii) calculation of resettlement budget for all items, and (iv) public consultation process with PAPs for detailed compensation and resettlement. All of these issues cannot be conducted during FS stage. So, Myanmar Railway will prepare RAP Framework or Political Framework for Comprehensive RAP, which serves as a policy document for the valuation and compensation of Project Affected Persons (PAPs). The RAP Framework ensures that Project Affected Persons (PAP) will not be impoverished due to the adverse social impacts induced by the railway projects and that PAPs will be compensated for loss of assets.

CHAPTER 3.0. PROJECT DESCRIPTION AND LAND USE

3.1. Project Description

3.1.1. Project Location

The project section except for the new railway line connects from Muse to Mandalay and Meter-gauge connecting line: from Mandalay South to Myitnge. The location of proposed railway line is shown in Figure 3.1 and 3.2



Figure 3.1 Muse-Mandalay Railway Alignment and Power Transmission Line in Google Earth (Mandalay to Lashio)



Figure 3.2 Muse-Mandalay Railway Alignment and Power Transmission Line in Google Map (Lashio to Muse)

3.1.2. Project Proponent

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	1. U Myo Win (General Manager) Upper Myanmar Administration (MR) Upper Myanmar Administration Department, Mandalay Station, Mandalay, Myanmar Tel : +95-2-35172 Fax : +95-2-35829 E-mail: myowingmupper@gmail.com
	2. U Phyto Htet Kyaw [Assistant General Manager Planning] Planning and Administration Department, (MR) Nay Pyi Taw Station Compound, Nay Pyi Taw, Myanmar Tel : +95-6777164(office)/+95-9-43124800(mobile) Fax : +95-67-77164

3.1.3. Construction Services Provider(s)

Although MR is the project developer, MR will not make sure of construction of the Railway and the construction services provider will be selected based on tendering process by international standards and guidelines. So, the construction services provider(s) will not be identified during FS stage and will be considered after the approval of FS study. So, there will be a little arguing how to consider FS based on land acquisition, compensation and resettlement. However, the developer (MR) will be clearly state that the policies, legal requirements, and the need of compensation about the land acquisition during the preparation of tendering process.

3.1.4. RAP Study Team

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	No.	Name	Degree	Area of Expertise	Report Writing
Our Consultants	1	Dr. Kyaw Swar Tint	Ph.D. (Mining)	Environmental Management and Monitoring	Overall Review
	2	Ms. Nandar Nwe	M.S. in EIA/EMS (YTU), Dip; in Applied Psychology (YU)	Social Impact Assessment (Household Survey)	RAP Framework
	3	Ms. Thazin Htwe	M.S. in EIA/EMS (YTU), Dip; in Applied Psychology(YU)	Social Impact Assessment (Public Consultation and Stakeholder Engagement)	RAP Related Impacts and Identification
	4	Mr. Yaw Ma Nar	B.Sc. (Forestry); Dip in EIA/EMS	Project Coordinator	Baseline Socio-economic Study
Our Consultants	5	Dr. Sao Hone Pha	Ph.D. (Electronics)	GIS and Remote Sensing	GIS and Google Earth Study
	6	Dr. Win Swe	Ph.D. (Geography)	Hydrology and Socio-economic	Budget Estimation and RAP Implementation Process
	7	U Aung Naing Tun	L.L.B; MBA	Legal Requirements	Laws and Regulations Related to RAP

3.2. Land Use

3.2.1. Land Use for Traction Substations

The Traction substation structures are approximately 15 feet by 52 feet, with the two units at the end of the line approximately 22 feet by 60 feet. The substations would be sited at easily accessible locations with approximately 10 feet of space around the sub-station building for access and for an underground ground grid. A broader clear area (approximately 40 feet by 80 feet) is typically required around the traction substation.

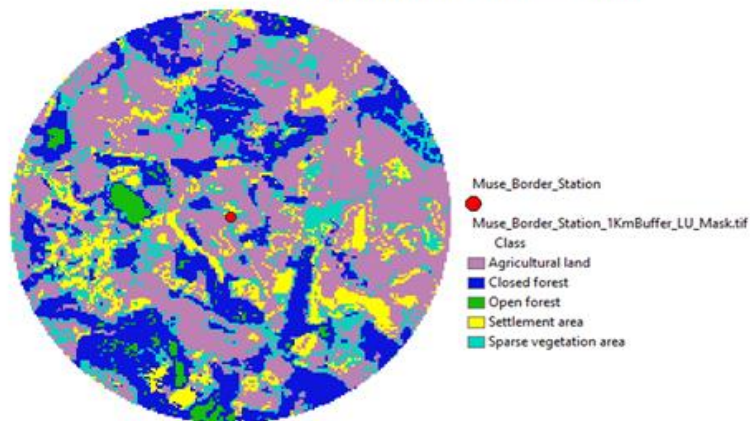
3.2.2. Land Use for Transmission Line

The permanent land use for the transmission line is overlapped with subgrade land use and it is also included within the 9m of the railway alignment subgrade calculation. So, land acquisition and resettlement due to transmission line is not necessary separately in this RAP report.

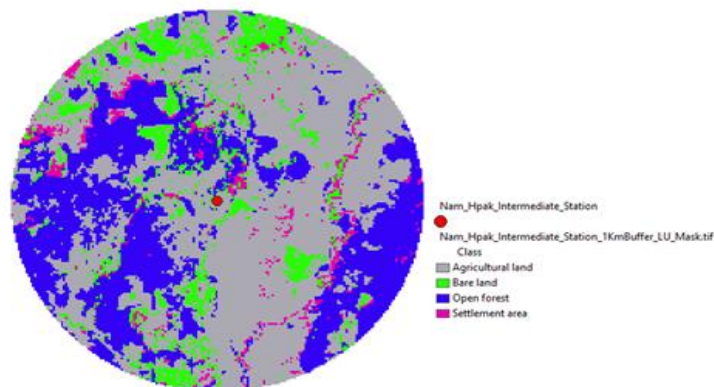
3.3. Land Use within 1km Buffer Zone by GIS Method

According to the GIS study, the land use classes within AOI of 1km around traction substations including switching post are as follow:

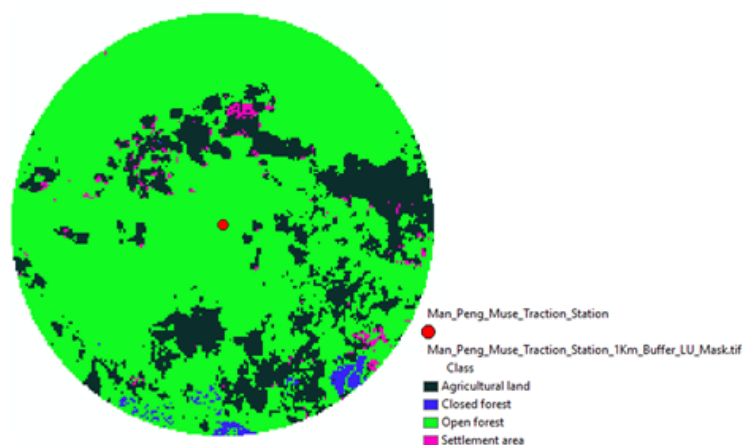
Land Use Land Cover Classes
(1Km Buffer from Muse Border Station Location)



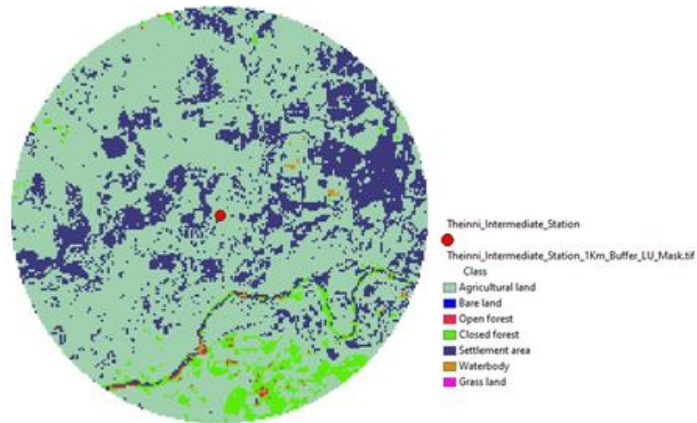
Land Use Land Cover Classes
(1Km Buffer from Nam Hpak Intermediate Station Location)



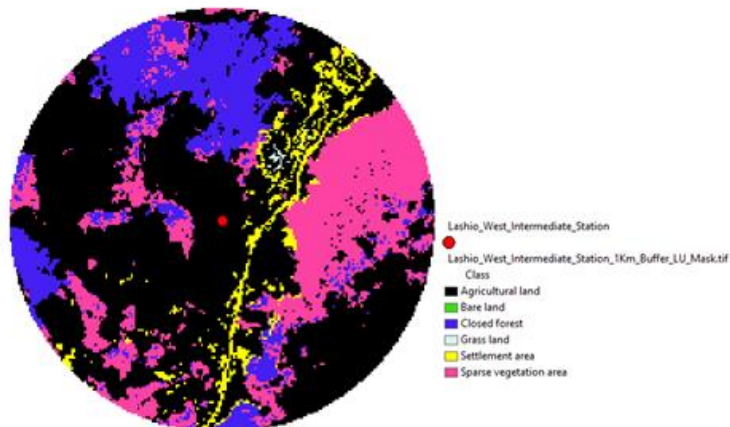
Land Use Land Cover Classes
(1Km Buffer from Man Peng Muse Traction Station Location)



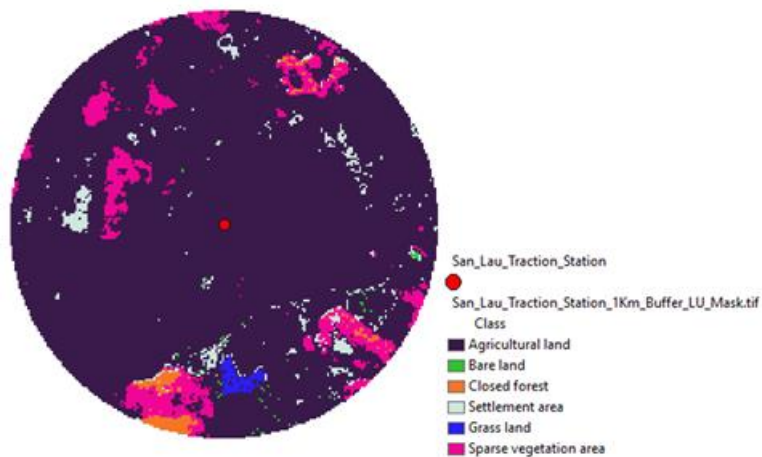
Land Use Land Cover Classes
 (1Km Buffer from Theinni Intermediate Station Location)



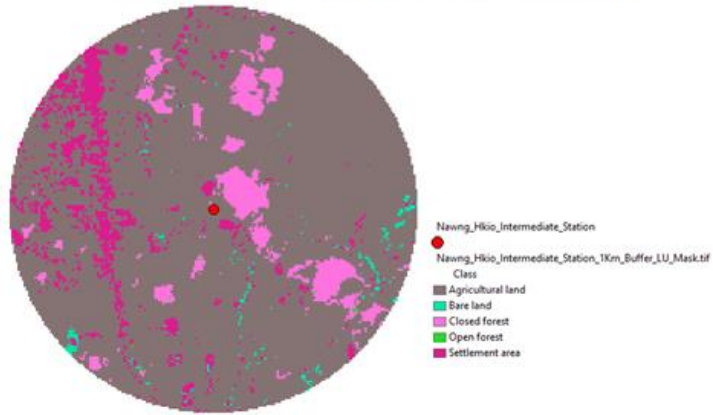
Land Use Land Cover Classes
 (1Km Buffer from Lashio West Intermediate Station Location)



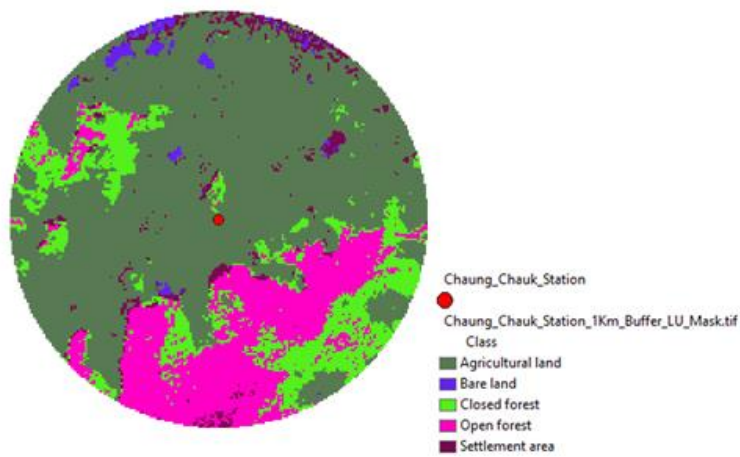
Land Use Land Cover Classes
 (1Km Buffer from San Lau Traction Station Location)



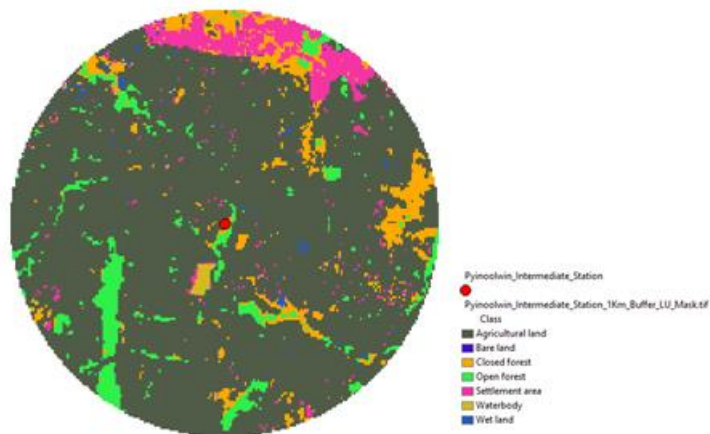
Land Use Land Cover Classes
 (1Km Buffer from Nawng Hkio Intermediate Station Location)



Land Use Land Cover Classes
 (1Km Buffer from Chaung Chauk Station Location)



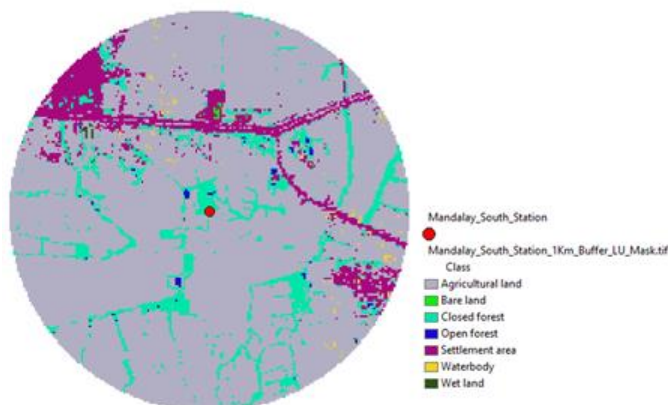
Land Use Land Cover Classes
 (1Km Buffer from Pyinoolwin Intermediate Station Location)



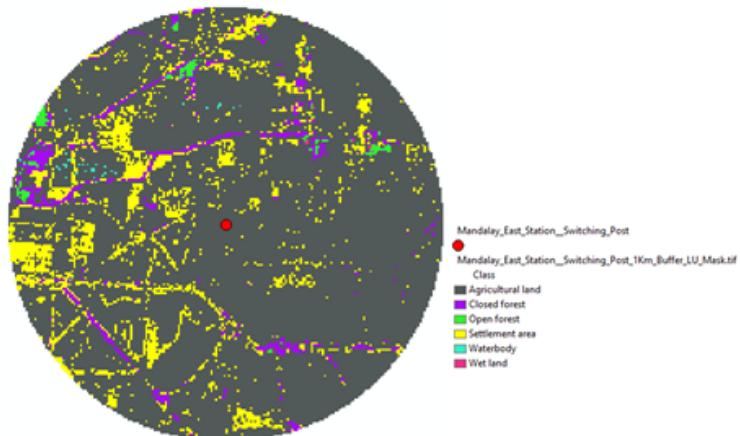
Land Use Land Cover Classes
 (1Km Buffer from CK365 Traction Substation Location)



Land Use Land Cover Classes
 (1Km Buffer from Mandalay South Station Location)



Land Use Land Cover Classes
 (1Km Buffer from Mandalay East Station _Switching Post Station Location)



According to the GIS study, the construction of railway bridges & culverts will use the following land use within 1km buffer from center line of railway alignment by percentage:

No.	Type of Land Use	Percentage (%)
1.	Agricultural Land	52.622
2.	Bare Land	1.185
3.	Open Forest	22.058
4.	Dense Forest	10.769
5.	Settlement Area	5.677
6.	Waterbody	0.384
7.	Grass Land	0.005
8.	Sparse Vegetation Area	7.013

4.0. RELATED LAWS AND INSTITUTIONAL FRAMEWORKS

4.1 Institutional Frameworks

The law that governs the whole procedures of land acquisition and resettlement in a comprehensive manner in Myanmar is Land Acquisition, Resettlement and Rehabilitation Act 2019 replaced by the Land Acquisition Act, enacted in 1894, and it is the legal basis for land acquisition in current Myanmar. The Land Nationalization Act 1953 which was repealed by the Farmland Law 2012, determines nationalization of farmlands and procedures for conversion of farmlands to other purposes.

The land acquisition for the proposed project has been mainly done in accordance with the Land Acquisition, Resettlement and Rehabilitation Law 2019 and the Farmland Law 2012. In most of the cases; however, details such as procedures and conditions related to resettlement issues are yet to be determined.

In the meantime, Chapter II Section 7 of the Environmental Impact Assessment Procedure (EIA Procedure), issued as Notification No.618/2015 dated 29 December, 2015, under the Environmental Conservation Law enacted on 30 March, 2012, prescribes that “Projects that involve involuntary resettlement shall comply with specific procedures separately issued by the responsible ministries.

Prior to the issuance of any such specific procedures, all such projects shall adhere to international good practices (as accepted by international financial institutions including WB and ADB) on involuntary resettlement”.

4.2. Relevant Laws and Regulations for Land Acquisition and Resettlement

The followings are the relevant Myanmar laws and regulations for land acquisition and resettlement which are applicable to upper Myanmar where the proposed project is located.

Laws and Regulations	Year	Purposes
Constitution of the Republic of the Union of Myanmar (Articles 24,45,349,359)	2008	<ul style="list-style-type: none"> ▪ To conserve the natural environment, ▪ To prevent and upgrade the rights and lives of the workers
EIA Procedures (Article 102 to 110, 113, 115, 117)	2015	<ul style="list-style-type: none"> ▪ To develop the environmental impacts and to draw the environmental management plan;

<p>Vacant, Fallow, Virgin Land Management Law (Law No. 4(d), 5(d),7)</p>	<p>2012</p>	<ul style="list-style-type: none"> ▪ The Central Committee may allow the businesses applied for the right to cultivate or utilize vacant, fallow and virgin lands for making foreign investment with the approval of the Myanmar Investment Commission. ▪ The Central Committee may, when the investors granted under the foreign investment law or organization consisting of the investors granted under the foreign investment law, apply for obtaining the right to cultivate or utilize the vacant, fallow and virgin lands, permit after scrutiny only the businesses which are unable to be carried out by the citizens. ▪ The Vacant, Fallow and Virgin Lands Management Law (VFVLM 2012) governs the allocation and use of virgin land (i.e., land that has never before been cultivated) and vacant or fallow land (which the law characterizes as for any reason “abandoned” by a tenant). The law establishes the Central Committee for the Management of Vacant, Fallow and Virgin Lands (CCVFV), which is responsible for granting and rescinding use rights for such lands. This also outlines the purposes for which the committee may grant use-rights; conditions that land users must observe to maintain their use rights; and restrictions relating to duration and size of holdings. The Central Committee is also empowered (Chapter VII, Section 19) to repossess the land from the legitimate owner, after payment of compensation calculated based on the current value to cover the actual investment cost, for infrastructure and other special projects in the interest of the State. ▪ The Vacant, Fallow and Virgin Lands Management Law was also governs the allocation and use of virgin land and vacant or fallow land. This law provides establishment of the Central Committee for the Management of Vacant, Fallow and Virgin Lands (CCVFV), which is responsible for granting use rights for such lands.
<p>Land Acquisition, Resettlement and rehabilitation Law (Section 39,41,42,46,54(b and c),58)</p>	<p>2019</p>	<ul style="list-style-type: none"> ▪ In this law, it is stipulated that the government holds rights to take over land provided that compensation is made to the original land owner. No private ownership of land is permitted ▪ To prevent potential impacts on environmental and social sectors due to land use for projects
<p>Pesticide Law Pyidaungsu Hluttaw Law No. 14/2016</p>	<p>2016</p>	<ul style="list-style-type: none"> ▪ To direct the Myanmar Agriculture Service to analyze and test pesticides or any active ingredient received as samples as to conformity with the content of ingredient as claimed on the label; and to undertake bio-efficacy trials on crops for determining effectiveness in practical use.
<p>Forest Law</p>	<p>1992</p>	<ul style="list-style-type: none"> ▪ To implement forest policy and environmental conservation policy, to promote public cooperation in implementing these policies, to develop the economy of the State, to prevent destruction of forest and biodiversity, to carry out conservation of natural forests and establishment of forest plantations and to contribute towards the fuel requirement of the country.
<p>Farm Land Law</p>	<p>2012</p>	<ul style="list-style-type: none"> ▪ Establish a system of land registration for farmers including provision of land use certificates (LUCs) that create rights to

		<p>sell, exchange, access credit, inherit and lease the land. Government retains the power to revoke the LUCs if any of the conditions of use are not complied with in full.</p> <ul style="list-style-type: none"> ▪ It affirms that the state is the ultimate owner of all land. It also provides a private use right over farmland that includes the right to sell, exchange, inherit, donate, lease and ‘pawn’ the land. The Farmland Law also covers conditions under which farmers can retain use-rights, the state’s power to rescind such rights, the process for settling land-related disputes, and basic requirements for compensation in the case the state acquires the land for public purposes. ▪ Under the Farmland Law 2012 the State remains the ultimate owner of all land. Both the Farmland law and the VFVLMML result in farmers lacking land tenure security and being required to follow government’s crop prescriptions and production quotas. The main concerns include protection for farmers from losing land to locally approved investment projects. The Constitution identifies that state is owner of all lands as well as all natural resources use of land and water resources. The government recognizes the need for Myanmar to have comprehensive sustainable land use and management policies in order to develop and improve living conditions and incomes in rural communities.
Farmland Act (Law No.11)	2012	<ul style="list-style-type: none"> ▪ To minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses ▪ To assure that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland ▪ The Farmland Act establishes a system of land registration for farmers including provision of land use certificates (LUCs) that create rights to sell, exchange, access credit, inherit and lease the land. Government retains the power to revoke the LUCs if any of the conditions of use are not complied with in full.
Law of protection of farmer rights and enhancement of their benefits (Law No 32)	2013	<ul style="list-style-type: none"> ▪ To support farmers by providing suitable loans and assistance for investment ▪ To manage for providing technology, input and production facility to farmers smoothly to improve production; ▪ To assist farmers for getting reasonable price and market in selling agricultural produces; ▪ To protect the rights of farmers possessing small plot and to enhance their benefits effectively; ▪ To provide aids as much as possible for loss and damage caused by any natural disaster
Village Regional Development Law (Law No. 39)	2019	<ul style="list-style-type: none"> ▪ To narrow the gap between urban social status and rural social status. ▪ To ensure the continuity of the development of rural areas and the social development of the rural population.

		<ul style="list-style-type: none"> ▪ To maximize the efficiency of human resources and finances that can be achieved in rural development activities, including the participation of the people ▪ To improve the lives of people living in rural areas and be able to create civil society protection network for the risk of disaster ▪ Highlight the role of local people in advancing the development of rural areas ▪ To be able to work in harmony with the environment in order to promote the development of rural areas ▪ To ensure that people in rural areas have access to personal hygiene and home pollution prevention activities by working together with the relevant government departments, government agencies, and non-governmental organizations
National Land Use Policy	2016	<ul style="list-style-type: none"> ▪ NLUP sets out principles and objectives for land governance reform (including involuntary resettlement) to guide the preparation of a future Land Law. While generally aspirational in nature, it does call for formation of a National Land Use Council as well as State and District Land Use Committees to commence implementing the objectives of the policy. In relation to involuntary resettlement, the NLUP specifically calls for comprehensive mitigation measures covering resettlement and livelihood restoration; special attention to the needs of landless, women and ethnic minorities; comprehensive consultation and participatory planning; and effective grievance redress procedures. It is unclear what the current status of the NLUP is with respect to other existing instruments and to what extent the provisions of the NLUP will be applied.
The Upper Burma Land and Revenue Regulation (Amendment) Act	1947	<ul style="list-style-type: none"> ▪ To collect land revenue from all cultivable lands
The Lower Burma Town and Village Lands Act	1899	<ul style="list-style-type: none"> ▪ To help assist the government bureaucracy and administrative mechanism, to demarcate the boundaries, to undertake settlement operations to assess revenue, etc, Lower and Upper Burma Act were enacted.
The Land Nationalization (Amendment) Act	1953	<ul style="list-style-type: none"> ▪ The ultimate aim is to abolish the landlordism; the state, as the ultimate owner of all lands, would see to their equitable distribution among the landless peasantry

4.3. Commitments of Laws and Regulations for Land Acquisition and Resettlement

Law Name and Section	Legal Commitments
Constitution of the Republic of the Union of Myanmar	
Section 24	Project proponent has to comply with section 24 of Constitution of the Republic of the Union of Myanmar in association with the chance of workers.
Section 45	Project proponent understand and accepts section 45 of Constitution of the Republic of the Union of Myanmar in association with conservation of natural environment.
Section 349	Project proponent understand section 349 of Constitution of the Republic of the Union of Myanmar in association with development of project.

Section 359	Project proponent understand and accept section 359 of Constitution of the Republic of the Union of Myanmar in association with forced to work.
EIA Procedures	
Article 102 to 110	Project proponent has to report the monitoring included in EIA procedure article 102 to 110.
Article 113	Project proponent has to comply with the determination of Ministry if environmental obligations are not being complied by project proponent.
Article 115	Project proponent has to cost all the inspection and monitoring of project according to article 115 of EIA Procedure.
Article 117	Project proponent has to follow the Ministry program described in Article 117 of EIA procedure.
Vacant, Fallow, Virgin Land Management Law , 2012	
Section 4 (d)	Project proponent has to follow the section 4 (d) of Vacant, Fallow, Virgin Land Management Law in association with use of project land use.
Section 5 (d)	Project proponent has to comply with section 5 (d) of Vacant, Fallow, Virgin Land Management Law for the permission of land uses and submission to Central Committee in accordance with the stipulations.
Section 7	Project proponent has to comply with section 7 of Vacant, Fallow, Virgin Land Management Law in association with approval of the Myanmar Investment Commission.
Land Acquisition, Resettlement and Rehabilitation Law , 2019	
Section 39	Project proponent has to comply with section 39 of Land Acquisition, Resettlement and Rehabilitation Law in association with compensation for land acquisition.
Section 41	Project proponent has to comply with section 41 of Land Acquisition, Resettlement and Rehabilitation Law for the complains of affected persons.
Section 42	Project proponent has to follow section 42 of Land Acquisition, Resettlement and Rehabilitation Law for the submission a petition to the relevant court in associated with complains of affected persons.
Section 46	Project proponent has to comply with resettlement or rehabilitation procedures in accordance with section 46 of Land Acquisition, Resettlement and Rehabilitation Law.
Section 54 (b, c)	Project proponent has to comply with central committee in accordance with section 54 of Land Acquisition, Resettlement and Rehabilitation Law for the acquisition of temporary land use.
Section 58	Project proponent has to compensate in accordance with section 58 of Land Acquisition, Resettlement and Rehabilitation Law for the damage of land used for temporary.
Pesticide Law , 2016	
Section 19	Project proponent has to follow with inspection and supervision of Regional or State Chief Officer in association with the handling and use and storage of the pesticide.
Forest Law, 2008	
Section 12	Project proponent has to comply with section 12 of Forest Law for the land use within forest land or forest covered land at the disposal of the Government.
Farm Land Law, 2012	
Section 30	Project proponent has to comply Central Committee related to the use of farmland according to section 30 of Farmland Law.
Law of protection of farmer rights and enhancement of their benefits (Law no 32) , 2013	
Section 9 (d, e)	Project proponent has to comply with section 9(d, e) of Law of protection of farmer rights and enhancement of their benefits for the unfair land acquisition.
Village Regional Development Law (Law No. 39) , 2019	

Section 11	Project proponent has to comply with the right of rural people in accordance with section 11 of Village Regional Development Law.
National Land Use Policy, 2016	
Part (V)	Project proponent has to comply with procedures related to land acquisition, relocation, compensation, rehabilitation and restitution of National Land Use Policy for land acquisition for project development.
The Upper Myanmar Land and Revenue Regulation, 1889	
Section 27	Project proponent has to be liable to the payment of land-revenue to the Government according to section 27 of the Upper Myanmar Land and Revenue Regulation.
The Lower Burma Town and Village Lands Act, 1899	
Section 10	Project proponent has to comply with section 10 of the Lower Burma Town and Village Lands Act, 1899 in association with saving of rights of persons possessing lands included within extended limits of town or village.
The Land Nationalization (Amendment) Act, 1957	
Section 42(1)	Project proponent has to comply with giving out compensation in accordance with the provisions of this section and the Schedule II.
Railway Transportation Service Law, 2016	
Section 14 (b)	The project proponent has to submit the relevant particulars of the land to be acquired in accordance with the existing laws and procedures relating to the land acquisition if the land acquisition is required for the railway in the project
Section 16	The project proponent has to comply with Central Committee for the land use of private owned land according to the Section 16 of the Railway Transport Service Law.
The Land Acquisition Act, 1894	
Section 4	The project proponent has to publish a notification and has to cause public notice of the substance of such notification to be given at convenient places in the said locality.
Section 5	The project proponent has to pay at the time of such entry or tender payment for all necessary damage to be done, and, in case of dispute as to the sufficiency of the amount so paid or tendered, he shall at once refer the dispute to the decision of the Collector or other chief revenue-officer of the district, and such decision shall be final.
Section 5A	The project proponent has to give the objector an opportunity of being heard either in person or by pleader and shall, after hearing all such objections and after making such further inquiry, if any, as he thinks necessary, submit the case for the decision of the President of the Union. The project proponent has complied the decision of the President of the Union on the objections.

4.4. Legal Concepts on Land Ownership

Legal concepts of land ownership will be as follow:

(a) *Paramount Legal Concept*

Article 18 of the 1974 State Constitution: ‘The State is the ultimate owner of all natural resources above and below the ground, above and beneath the waters and in the atmosphere, and also of all lands’.

Paragraph 25(a) of the Basic Principles laid down by the **National Convention** which will be incorporated into the new State Constitution: ‘The State is the ultimate owner of **all the**

land, and natural resources above and below the ground, above and beneath the waters and in the atmosphere within its territorial boundary’.

On 29 May 2008, Chairman of the State Peace and Development Council announced that the State Constitution of the Republic of the Union of Myanmar has been ratified and promulgated by the National Referendum.

According to the provision of **Section 37, Sub-Section(a)** in Chapter I of the Basic Principles of the Union of the **State Constitution (2008)**; ‘The Union is the ultimate owner of all lands and all natural resources above and below the ground, above and beneath the water and in the atmosphere in the Union’.

(b) Ownership by Non-Citizens

From a legal point of view, ownership of land is something quite different from having possession of or of having access to it. Myanmar citizens may own ‘Freehold Land’ or ‘Grant Land’ and up until 1953, could even own ‘Agricultural Land’. However, legislative changes of 1953 made a very strong impact on the ownership of agricultural land. This is discussed in section 3.2 of Part C below.

Up till 1947, Foreigners (non-citizens) also had the same rights as citizens as regards ownership and (or) disposal/transfer of land. As such ‘*Chettiers*’, people of the Indian origin as they were used to be called, were at that time well known money-lenders cum agricultural land owners in Myanmar. However in 1947 the ‘Transfer of Immovable Property Restriction Act’ was enacted, the effect of which restricts, or rather disqualifies, foreigners from transferring all types of immovable property, including land. This law was replaced in 1987 by a new law bearing the same title but with many of the previous major concepts still intact.

Hence since 1947, foreigners were not able to transfer land and the only type of transfer that is allowed is by way of ‘Lease’ which however shall not exceed a 1 year period at a time. However section 14 of the 1987 law provides that, with the approval of the government, leases may extend for more than 1 year with regards to diplomatic missions, UN agencies or organizations. In practice the Ministry of Foreign Affairs gives such approval.

However there is no legal provision which bars foreigners from transferring immovable property by way of **inheritance**. This led to a spate of questionable adoptions of Myanmar nationals by foreigners, the main intent of which was simply to out-smart the law by actually effecting a **transfer by sale** (of immovable property) while making it appear like a **transfer by inheritance**. The only law on adoption in Myanmar is the 1941 ‘Kittima Adoption Registration Law’ upon which only those of the Buddhist faith can invoke. Hence if a foreigner happens to be a Buddhist by religion, he/she is competent by law to adopt a

Myanmar Buddhist and subsequently pass on immovable property to him. However heavy scrutiny by the authorities has long since obscured this practice.

When a foreigner who owns any type of immovable property dies with no heir apparent or leaves the country for good, the property is nationalized by the State.

There however is no legal provision which bars foreigners/non-citizens from having access to agricultural land or to some other types of land. This is discussed in section 3.11 and 6.3 of Part C below.

4.5. Legal Framework for Land Acquisition and Compensation

The legal framework of a RAP describes all laws, decrees, policies and regulations relevant to the resettlement activities associated with a project. Many countries have legislation and policies governing land expropriation and compensation for affected assets. However, policy governing resettlement is often poorly defined, if not altogether lacking. IFC requires the project sponsor to identify, review, and abide by all laws of the host country that are applicable to land acquisition and involuntary resettlement including:

- the scope of the power of eminent domain and the nature of compensation associated with it, both the procedures for assessing compensation values and the schedule for making compensation payments;
- the legal and administrative procedures applicable, including the appeals process and the normal time for such procedures;
- land titling and registration procedures; and
- laws and regulations relating to the agencies responsible for implementing resettlement and those related to land compensation, consolidation, land use, environment, water use, and social welfare.

4.6. International Practices on Relocation and Resettlement

Most international funding organizations and donors have developed policies and guidelines for environmental social considerations including relocation and resettlement occurring in development projects. In principle, international practices on relocation and resettlement are conducted based on these policies and guidelines. Most applicable policies and guidelines applicable to relocation and resettlement for the proposed project is World Bank (WB) Safeguard Policy: Operational Policy on Involuntary Resettlement (OP 4.12). The World Bank OP 4.12 aims to achieve the following objectives:

- (a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.

- (b) Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- (c) Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

The policy requires the project to prepare a resettlement action plan or a resettlement policy framework that includes measures to ensure that affected people are informed about their options and rights; consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives; and provided prompt and effective compensation at full replacement cost for losses of assets and international valuation standards and principles.

The national legislation regarding compensation for loss of land and assets is similar to the key principle of OP 4.12 requiring compensation for lost assets at replacement cost. However, OP 4.12 is more detailed and includes a number of requirements not found in national legislation, such as preparation of a Resettlement Action Plan, consultations and public disclosure. The policy covers direct economic and social impacts that result from investment projects and are caused by the involuntary taking of land resulting in:

- (i) relocation or loss of shelter;
- (ii) loss of assets or access to assets; or
- (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location.

It applies to all project activities that result in involuntary resettlement, regardless of the source of financing.

4.7. Gap analysis – Myanmar Legislation and World Bank Safeguard Policies

There are some gaps in the national regulatory framework as compared to the Bank's policy on *Involuntary Resettlement* (OP 4.12). The following table analyzes these gaps.

Table 4.1. Gap Analysis between Myanmar Legislation and World Bank Safeguard Policies

Subjects	RoUM	OP 4.12	Gap
Land Property			
Policy Objectives	EIA Procedures (2015) Section 102(b): - The Project Proponent shall bear full legal and financial responsibility for: PAPs until they have achieved socio- economic stability at a level not lower than that in effect prior to the commencement of the Project, and shall support programs for livelihood restoration and resettlement in consultation with the PAPs, related government agencies, and organizations and other concerned persons for all Adverse Impacts.	PAPs (Project Affected Persons) should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher	OP 4.12 Policy Procedures will be applied - Compensation at replacement cost for land, structures and other assets on the land will be provided. If the affected properties can be replaced in the market, cash compensation will be equal to the market value of the property plus transaction costs. If an affected structure has to be rebuilt, the compensation will be calculated without deduction for depreciation or salvageable materials. Additional compensation or assistance will be provided to as necessary to restore incomes for shop owners and street vendors and also to cover moving costs. Provisions of OP 4.12 will complement RoUM legal framework.
<i>Support for affected households who have no recognizable legal right or claim to the land they are occupying</i>	National Land Use Policy (2016) Chapter 3, Section 16: In carrying out land information management: -Legitimate land tenure rights recognized by the local community, including individual, household, collective and communal, whether or not they have been registered, recorded and mapped, shall be recognized, protected, and registered in accordance with laws. National Land Use Policy (2016) Part VIII, Section 66: When preparing and revising customary land use maps and records of ethnic nationalities, the	Compensation for the loss of structures and other assets on the land, plus resettlement assistance to all project affected persons to achieve the policy objective (to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher)	Persons who have no recognizable legal right or claim to the land they are occupying will be entitled to (i) compensation for the loss of assets other than land and (ii) resettlement assistance (such as place to occupy, other assets, cash, employment, and so on) to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. Vulnerable PAPs will receive special assistance.

	<p>responsible government departments and organizations shall do the following: -Formally recognize and protect the customary land tenure rights and related local customary land management practices of ethnic groups, whether or not existing land use is registered, recorded or mapped.</p>		<p>A moving allowance will be provided based on structure types, family size and distance to the relocation site. OP 4.12 Policy Procedures will be applied.</p>
Compensation			
<p><i>Methods for determining compensation rates</i></p>	<p>Land Acquisition Act (1894), Section 23: In determining the amount of compensation to be awarded for land acquired under this Act, the Court shall take into consideration: -the market value of the land at the date of the publication of the notification under section 4, sub-section (1); - the damage sustained by the person interested by reason of the taking of any standing crops or trees which may be on the land at the time of the Collector's taking possession thereof; - the damage (if any) sustained by the person interested, at the time of the Collector's taking possession of the land, by reason of severing such land from his other land; - the damage (if any) sustained by the person interested, at the time of the Collector's taking possession of the land, by reason of the acquisition injuriously affecting his other property, moveable or immovable, in any other manner, or his earnings; and - if in consequence of the acquisition of the land by the Collector the person interested is compelled to change his residence or place of</p>	<p>Compensation for lost land and other assets should be paid at full replacement cost</p>	<p>An independent appraiser will calculate the value of all types of assets affected in order to establish the compensation rate. The compensation for properties that can be replaced in the market will be equal to its market value (as determined by an independent appraiser) plus transaction costs. The value of structures that need to be rebuilt will be calculated without taking depreciation into account. OP 4.12 Policy Procedures will be applied.</p>

	<p>business, the reasonable expenses (if any) incidental to such change. National Land Use Policy (2016) Part V, Section 40: When amending or newly enacting relevant laws, rules and procedures, they shall be in conformity with National Land Law and based on the following: -Shall describe effective, consistent and fair valuation system when providing compensation and relocation for people affected by land acquisitions.</p>		
<p><i>Support for persons who lose income sources or means of livelihood</i></p>	<p>The government has no clear policy in this regard. However, income restoration is included in the EIA Procedures (2015) Section 102(b): -The Project Proponent shall bear full legal and financial responsibility for: PAPs until they have achieved socio- economic stability at a level not lower than that in effect prior to the commencement of the Project, and shall support programs for livelihood restoration and resettlement in consultation with the PAPs, related government agencies, and organizations and other concerned persons for all Adverse Impacts. Land Acquisition Act (1894), Section 23: In determining the amount of compensation to be awarded for land acquired under this Act, the Court shall take into consideration: the damage (if any) sustained by the person interested, at the time of the Collector's taking possession of the land, by reason of the acquisition injuriously affecting his other property, moveable or immovable, in any other manner, or his earnings;</p>	<p>Persons who lose income sources or means of livelihood should be offered support after displacement for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living. The support should be offered whether or not the affected persons must move to another location.</p>	

	<p>.... if in consequence of the acquisition of the land by the Collector the person interested is compelled to change his residence or place of business, the reasonable expenses (if any) incidental to such change.</p> <p>The Vacant, Fallow and Virgin Lands Management Law (2012), Chapter VII, Section 20:</p> <p>For resuming the area required in the authorized land in accordance with the Section19, the Central Committee will have to be undertaken in coordination with the department, organization concerned for getting the compensation within the prescribed period, calculated by current value to cover the actual investment cost of the legitimate owner, with the agreement of the Cabinet of the Union Government.</p>		
<p>Consultation and disclosure</p>	<p>EIA Procedures (2015) Article 13: The Project Proponent shall: a) arrange for appropriate public consultation through all phases of the IEE and EIA process as required by Articles 34, 50, and 61; and [SEP] b) disclose to the public in a timely manner all relevant Project-related information in accordance with this Procedure except that which may relate to National Security concerns as informed by the Ministry.</p> <p>EIA Procedures (2015) Article 34: The Project Proponent shall undertake the following public consultation process in regard to an IEE Type Project:</p> <p><i>2.5. Consultation and disclosure</i> <i>Participation in planning and implementation, specially confirming the eligibility criteria for</i></p>	<p>Participation in planning and implementation, specially confirming the eligibility criteria for compensation and assistance, and access to Grievances Redress Mechanisms</p>	<p>Extensive consultation and participation will be conducted at every stage of the project. OP 4.12 Policy Procedures will be applied.</p>

	<p><i>compensation and assistance, and access to Grievances Redress Mechanisms</i></p> <p>a) Immediately upon commencement of the IEE, disclose relevant information about the proposed Project to the public and civil society through the Project or Project Proponent’s website(s) and local media, including by means of the prominent posting of legible sign boards at the Project site which are visible to the public, and comply with technical guidelines issued by the Ministry; and</p> <p>b) arrange the required complement of consultation meetings as advised by the Ministry, with local communities, potential PAPs, local authorities, community based organizations, and civil society, and provide appropriate and timely explanations in press conferences and media interviews.</p> <p>EIA Procedures (2015) Article 50: As part of the [EIA] Scoping, the Project Proponent shall ensure that the following public consultation and participation process is carried out:</p> <p>a) disclose information about the proposed Project to the public and civil society through posting on the Project or Project Proponent’s website(s) and local media, including by means of the prominent posting of legible sign boards and advertising boards at the Project site which are visible to the public; and</p> <p>b) arrange the required complement of consultation meetings as advised by the Ministry, with local communities, potential PAPs, local authorities, community based organizations, and civil society, and provide appropriate and timely</p>		
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	<p>explanations in press conferences and media interviews.</p> <p>National Land Use Policy (2014) Article 37: Fair environmental and social impact assessments:</p> <ul style="list-style-type: none"> - When drawing and implementing the project for land allocation and resettlement, the persons to be relocated shall be consulted systematically and shall be able to participate in person. 		
Grievance Redress Mechanism			
<i>Procedures for recording and processing grievances</i>	<p>The RoUM has taken actions recently to provide non-judicial grievance mechanisms to the public however it is of limited applicability.</p>	<i>Grievance redress mechanism should be under Government Officials Responsibilities for handling grievances with clear procedures for recording and processing grievances</i>	<p>Grievances from PAP and PAHs in connection with the implementation of the RPF will be handled through negotiation with the aim of achieving consensus. Complaints will go through three stages before they may be elevated to a court of law as a last resort.</p> <p>OP 4.12 Policy Procedures will be applied.</p>
Monitoring & Evaluation			
	<p>Not included</p>	<i>internal and external independent monitoring are required</i>	<p>The Project Secretariat will conduct internal monitoring on land acquisition and reporting requirements for the ESMMP implementation. The monitoring will include progress reports, status of land acquisition, information on location and numbers of people affected, and assistance provided to PAHs. The report of monitoring results will be prepared and submitted on a quarterly basis.</p> <p>OP 4.12 Policy Procedures will be implemented.</p>

Source: SEA DRM Project – Myanmar Resettlement Policy Framework

4.8. Policies on Relocation and Resettlement

Based on WB policies on resettlement and relocation, the following guidelines are proposed to MR. MR is a part of project developer and the proposed project developer is chosen by tendering system. Therefore, MR have to know the policies on relocation and resettlement and, the polices on resettlement proposed by MR is described below.

- (a) Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives;
- (b) When, population displacement is unavoidable, effective measures to minimize the impact and to compensate for losses will be taken;
- (c) Compensation must be based on the full replacement cost as much as possible and losses will be sufficiently compensated and supported by corporation with local authorities and related Government agencies;
- (d) Compensation and other kinds of assistance will be provided prior to displacement or relocation;
- (e) Effective and meaningful public consultation meeting with all key stakeholders will be made whenever necessary before any project improvement;
- (f) Appropriate and accessible grievance mechanisms will be established for the affected people and their communities in each township where there will need relocation of local people;

Table 4.2. Comparison between Laws in Myanmar and Proposed Policies

No	MR's Policies	Existing Laws in Myanmar	Actions Need to be Taken by Proposed Policies on Resettlement and Relocation
1.	Involuntary resettlement will be avoided when feasible.	No law and regulations for avoidance of involuntary resettlement	Alternative analysis will be made for avoidance of resettlement before the implementation phase
2.	When relocation is necessary, reasonable compensation will be made for all losses	Compensation or indemnity is provided for farmland acquisition for the interest of the State or public. (Farmland Law (2012) Art. 26, Farmland Rules (2012) Art. 64) Damages to standing crops /trees, lands, movable/ immovable properties,	Providing resonable investment resources to enable the persons displaced

		relocation cost, economic activities are requested to compensate. (Land Acquisition Act (1894) Art. 23, Farmland Rules (2012) Art. 67)	
4	Compensation must be based on the reasonable cost as much as possible for land and crops.	Land: Market-value compensation (Land Acquisition Act (1894) Art.9, 23 (1) and 23(2)) Crops: Compensation at three times of the value calculated based on the average production of crops in the current market price of that area is provided. (Farmland Rules (2012) Art. 67)	Provided prompt and effective compensation at full replacement cost for losses of assets.
5	Compensation and other kinds of assistance will be provided prior to displacement.	When compensation is not paid on or before land acquisition, compensation amount awarded with interest rate must be paid.	Compensation will be made meaningful consultation with all PAPs and made before any displacement.
8	Effective and meaningful public consultation meeting with all key stakeholders will be made whenever necessary before any project improvement	Not applicable; Closely related with Myanmar EIA Procedure, 2015 and Draft Public Participation Procedure	Meaningful consultation participating of all key stakeholders will be made whenever necessary according to the public participation process in RAP
10	Accessible grievance mechanism will be developed in all township where the railway will passthrough	1) Notice of compensation amount to PAPs directly: appeal to the court within 6 weeks from the date of compensation award 2) Notice of compensation amount to representatives of PAPs: i) within 6 weeks of receipt of compensation notice, or ii) within 6 months from the date of compensation award, whichever period shall be first expired (Land Acquisition Act (1894) Art. 18)	Conduct grievance mechanism procedures described in RPF and RAP
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	A notification of land acquisition or public purposes is published in the Gazette, which is also published at the convenient place in the concerned municipality. (Land Acquisition Act (1894) Article 4)	Census was initially conducted at the preliminary delineated boundary in April 2013, and COD was declared on April 4th, 2013. Supplemental survey was conducted to the final boundary in May 2014 to

	socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advantage of such benefits. (WB OP4.12 Annex A Para.6)		September 2015 for identifying number of affected households as well as their socio-economic condition. Also, additional survey has being undertaken to identify new landowners who are not listed in the SLRD list.
12	Eligibility of benefits includes, 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. (WB OP4.12 Para.15)	Occupiers/stakeholders of lands to be acquired are explained about acquisition and claims to compensations. (Land Acquisition Act (1894) Article 9)	The project establishes eligibility for assistance to all households whose income sources or assets are confirmed as affected due to project implementation.
13	Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. (WB OP4.12 Para.11)	Not Applicable	The possibility of land-for-land compensation was explored by YRG which concluded the option not viable.
14	Provide support for the transition period(between displacement and livelihood restoration).	Not Applicable	Support for the transition period is provided through IRP and other related activities.
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. (WB OP4.12 Para.8)	Not Applicable	Additional support for the vulnerable groups is provided.

4.9. Statement of Commitments

4.9.1. Commitments of Project's Developer

We, Myanma Railway (MR) commit to follow the environmental commitments, mitigation measures, management plans illustrated in the RAP report. We also commit to follow the World Bank Operational Policy on Involuntary Resettlement (OP 4.12).

-
- (a) Comply with the commitments of the socio-economic development revealed in the RAP report.
 - (b) Ensure not to make land confiscation and will make proper compensation and enhancement measures.
 - (c) Payment of adequate compensation for loss of farmlands and buildings, income sources according to the relevant rules & regulations and agreement with PAPs.
 - (d) Affected persons will be compensated for lost assets as per this RAP Framework and comprehensive RAP.
 - (e) Acknowledge and comply the laws, regulations and guidelines associated with the project, included in the report.
 - (f) Comply and proceed the alternative methods, mitigation measures and monitoring plans included in the report for the reduction of the negative socio-economic impacts; and take responsibility for the socio-economic impacts due to non-compliance of the commitment.

(Signature)

Name -

Occupation -

4.9.2. Commitments of the Environmental Assessment Practitioner

This RAP report was written by Ever Green Tech Environmental Services and Training Co., and EIAs in this report were designed by the following criteria;

- (a) The designed RAP complied with the National Constitution, Environmental Conservation Law, and World Bank
- (b) This EIA also complied with the existing or future Labor laws, Occupational Health and Safety Laws, Rules and Procedures.
- (c) These environmental impact protection procedures are designed of incident avoiding, mitigation and replacing for the project proponent who commits to follow the environmental impact protection procedure.
- (d) This report is systematically designed for social welfare programs.
- (e) All facts including in this report are systematically surveyed without bias. As a third party, we commit and take full responsibility for all facts in this report.

(Signature)

Name -

Occupation -

CHAPTER 5.0. IDENTIFICATION OF PROJECT IMPACTS AND PROJECT AFFECTED PERSONS (PAPs)

Land acquisition and asset loss are grouped into two broad types according to the management responsibility of the structures (Government or communities), scale of impacts, ability of affected people to determine the scope of investments and their impact, and whether or not affected people would directly and tangibly benefit from the investments. Potential impacts would include minor losses of private land and the limited loss of pre-existing private assets including trees, structures and fences along the railway as a result of the railway construction and the construction of access roads.

The first task in planning resettlement is to identify a project's adverse impacts and the populations that will be affected. The followings are the potential project impacts and identification of PAPs process.

5.1. Project Related Potential Impacts and Risks Related

The RAP must identify all people affected by the project and all adverse impacts on their livelihoods associated with the project's land acquisition. So, the planning and design of the railway alignment have to consider the potential socio-economic impacts and issues to avoid and/or minimize the damages to be caused.

The key potential adverse impacts related to RAP will be land acquisition, resettlement and relocation. Adverse impact about land acquisition during construction period will be temporary or permanent land used and compensation for tree cutting and buildings within the land use boundary more than 30m from railway centerline will be demolished and relocated. Normally, no fiscal compensation is required for this temporary use expect from the case of compensation for tree cutting and buildings within the land use boundary which is more than 30m from railway centerline and within 30m of the railway centerline when the land use boundary is less than 30m from the railway centerline shall be demolished and relocated. However, proper compensation is required for permanent land use for railway line, culverts, railway stations, power supply system and tunnel facilities. The following are the potential socio-economic impacts due to railway alignment construction.

5.1.1. Impact on Land Acquisition

The land taking by the railway alignment is expected to result in loss of farm lands, perennial and annual crops, and plantation or naturally growing trees or other vegetation cover. The land requirement for the railway construction works may entail permanent and temporary loss of farmlands located in the project corridor. However, the project may not require relocation of farmers since it will only take strips of farm land and which may also less than 10% of their

holding size and asset. It will also affect small section of irrigation canal; various types of perennial crops and different types of timber trees, such as eucalyptus trees and other types of timber trees grown along its route.

Mitigation Measures for Land Acquisition Impacts

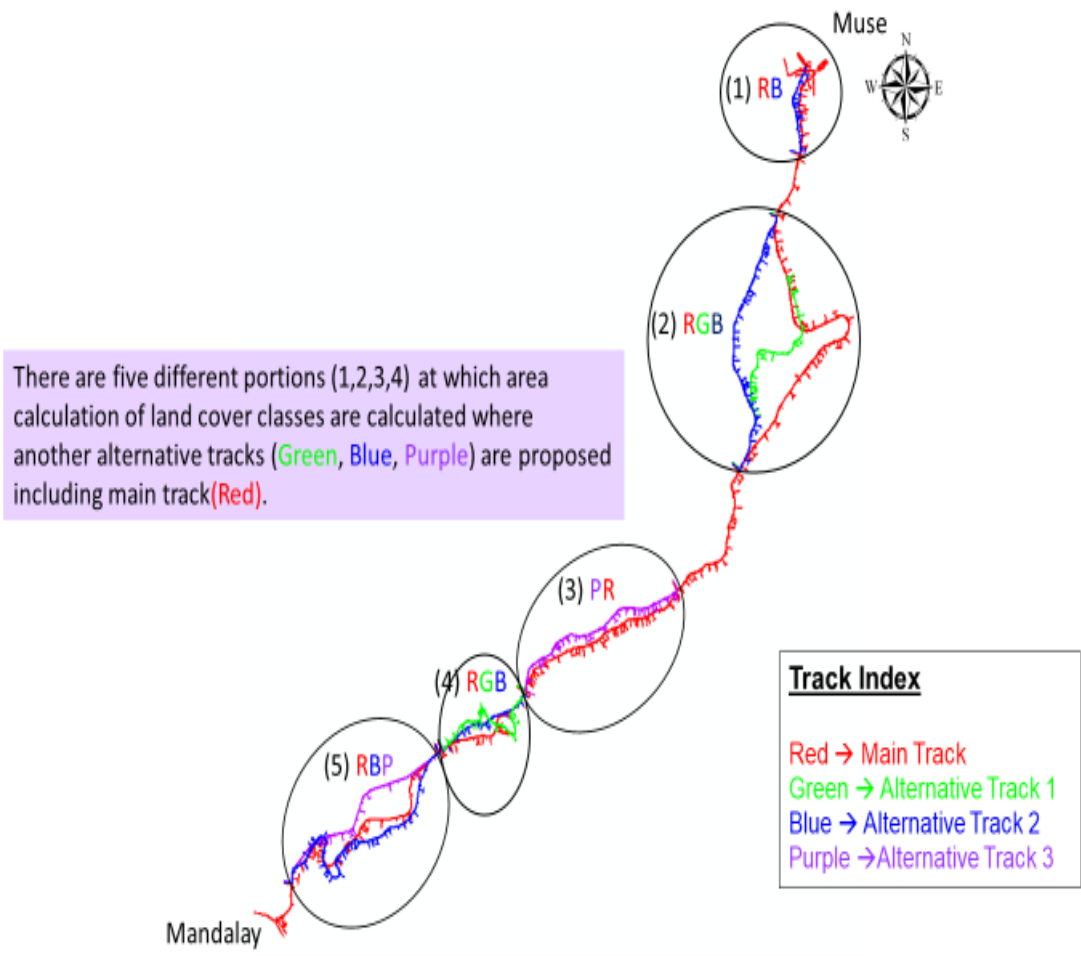
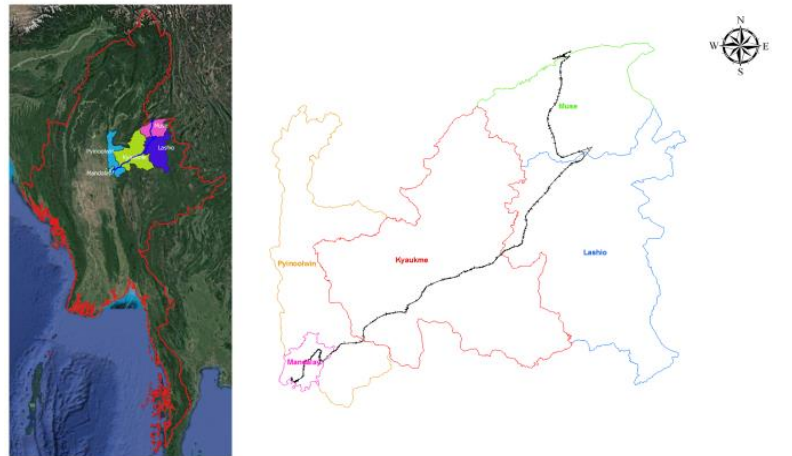
Impacts on land use and the associated social effects can be minimized through:

- Limiting the width of railway
- Limiting land taking and earthmoving activities to the area absolutely necessary for the railway works;
- Applying half-way construction method particularly for sections passing through sensitive areas like agricultural lands, dense plantation trees, settlement areas in order to reduce the impacts related to construction of railway;
- Avoiding side-tipping of excavated materials onto adjacent agricultural lands, grazing lands or on areas having vegetation/trees cover;
- Avoiding designing and construction of culverts and side-drains in such a way that they would release runoff or flood water onto agricultural lands;
- Restoration of areas affected due to temporary activities like detours and access roads to material sources and site facilities to productive state by removal of existing pavement materials, loosening of compacted soils and spreading of the topsoil preserved for this purpose;
- Payment of adequate compensation for loss of farmlands and buildings, income sources according to the relevant rules & regulations and agreement with PAPs.
- Affected persons shall be compensated for lost assets as per this RPF and comprehensive RAP.

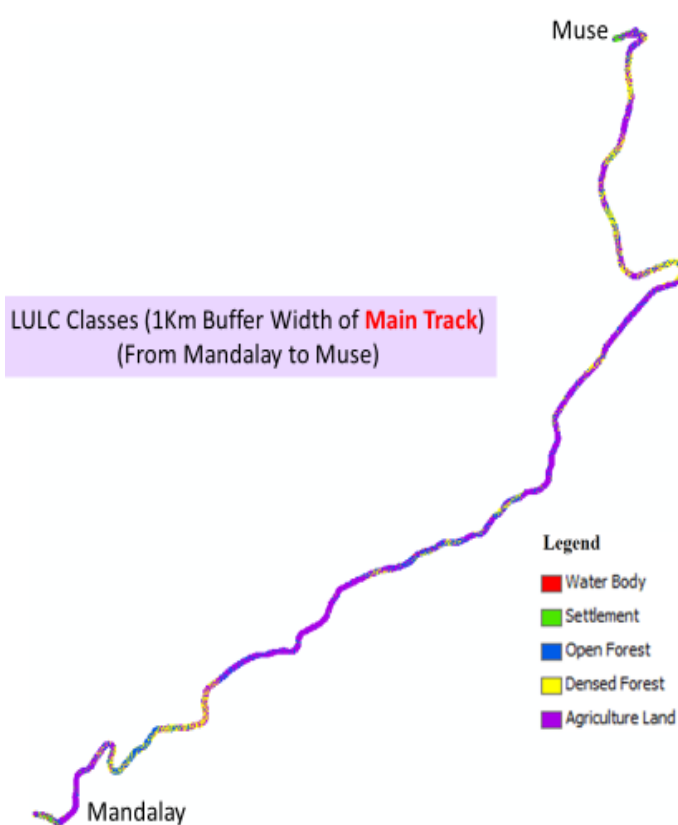
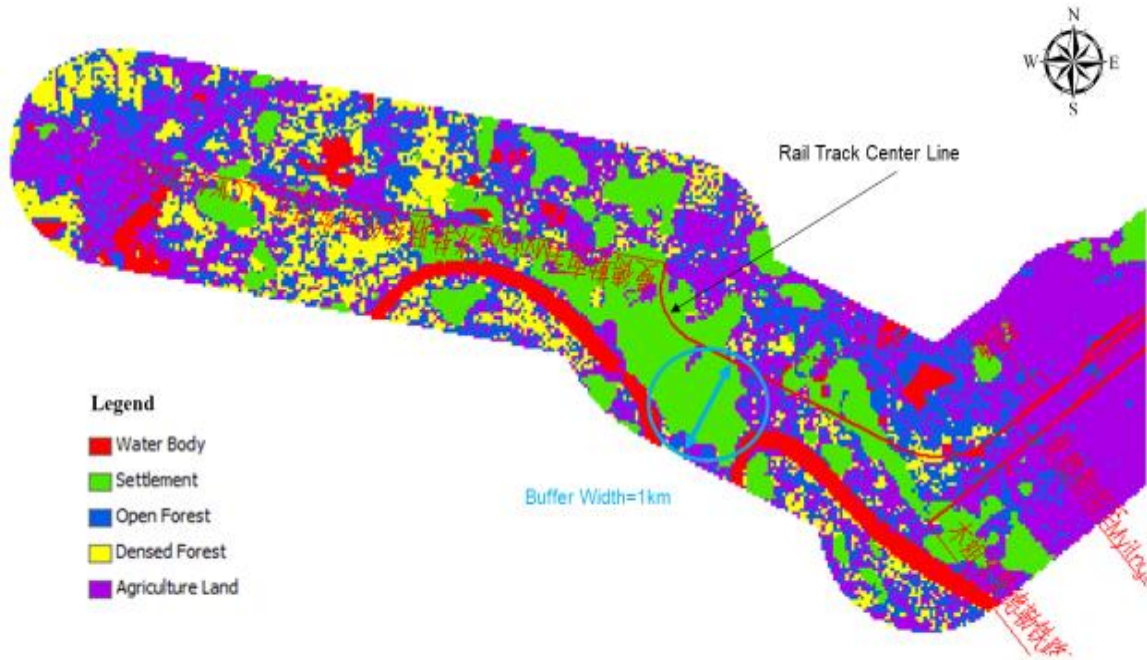
Moreover, land acquisition and involuntary resettlement can be avoided by using alternative analysis for railway alignment. Alternative analysis for railway alignment can be used for railway power supply system because railway transmission line are located on both side of the railway alignment and location of power supply system will be changed based on location of railway alignment. The alternative analysis will be based on socially sensitive areas such as residential area and agricultural land and all of the alternative analysis was done within 1km beside the proposed alignment. Firstly, alternative analysis for alignment will be based on the type of land use that the railway will pass or the use for other facilities. The land use type will be studied by GIS and Remote Sensing Method as follow:

Alternative Analysis for Railway Power Supply System Based on Socio-economic Considerations

There are five different portions (1(RB),2(RGB),3(PR),4(RGB),5(RBP)) to be considered as alternative from Muse to Mandalay. Red line is main line and blue line is alternative line. The parameters to be considered are residential area, agricultural land, water body and forest area. The following figures show the alternative analysis for railway alignment by GIS Study.



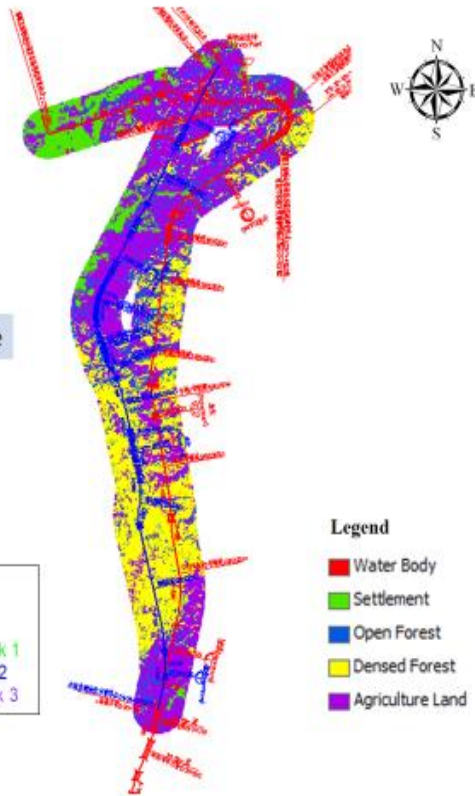
Area calculation of classified LULC classes are based on **buffer width 1 Km** around rail track centerline



LULC Classes (1Km Buffer Width of **Main Track**)
 (From Mandalay to Muse)

Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.4881	104.4952	0.467103
2	Agriculture Land	57.7331		55.249523
3	Dense Forest	22.8244		21.842534
4	Open Forest	21.7868		20.84957
5	Residential Area	1.6628		1.591269

(1) RB



(1) RB Composite

Track Index

- Red → Main Track
- Green → Alternative Track 1
- Blue → Alternative Track 2
- Purple → Alternative Track 3

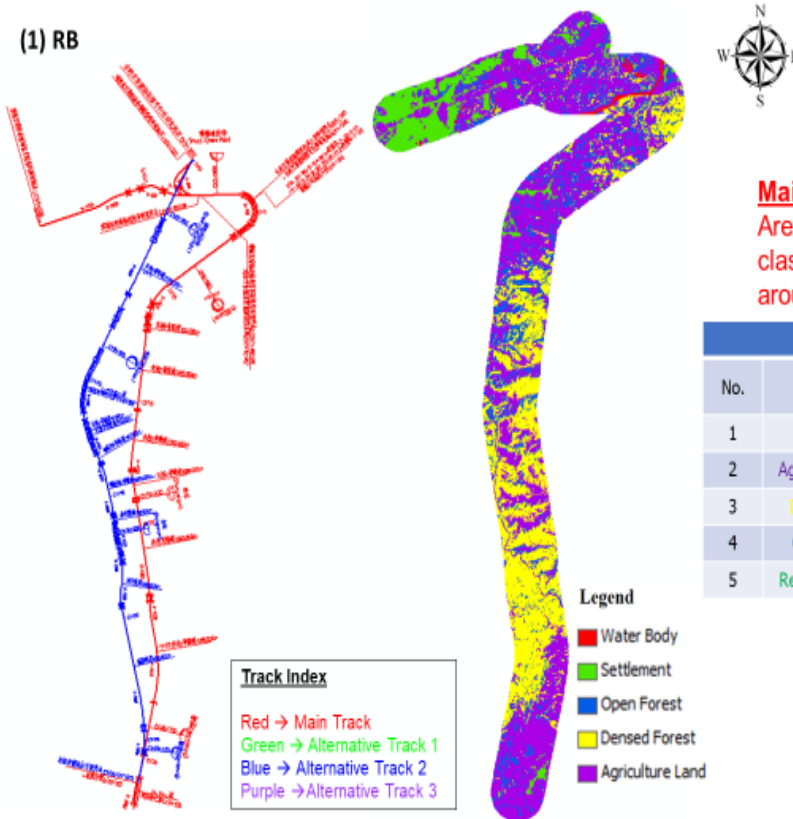
Legend

- Water Body
- Settlement
- Open Forest
- Densed Forest
- Agriculture Land

Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0691	9.4603	0.730421
2	Agriculture Land	4.3237		45.703625
3	Dense Forest	2.658		28.096361
4	Open Forest	1.5663		16.556557
5	Residential Area	0.8432		8.913037

Blue				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0347	6.9234	0.501199
2	Agriculture Land	3.2922		47.551781
3	Dense Forest	2.2543		32.560592
4	Open Forest	0.9947		14.367218
5	Residential Area	0.3475		5.01921

(1) RB



Track Index

- Red → Main Track
- Green → Alternative Track 1
- Blue → Alternative Track 2
- Purple → Alternative Track 3

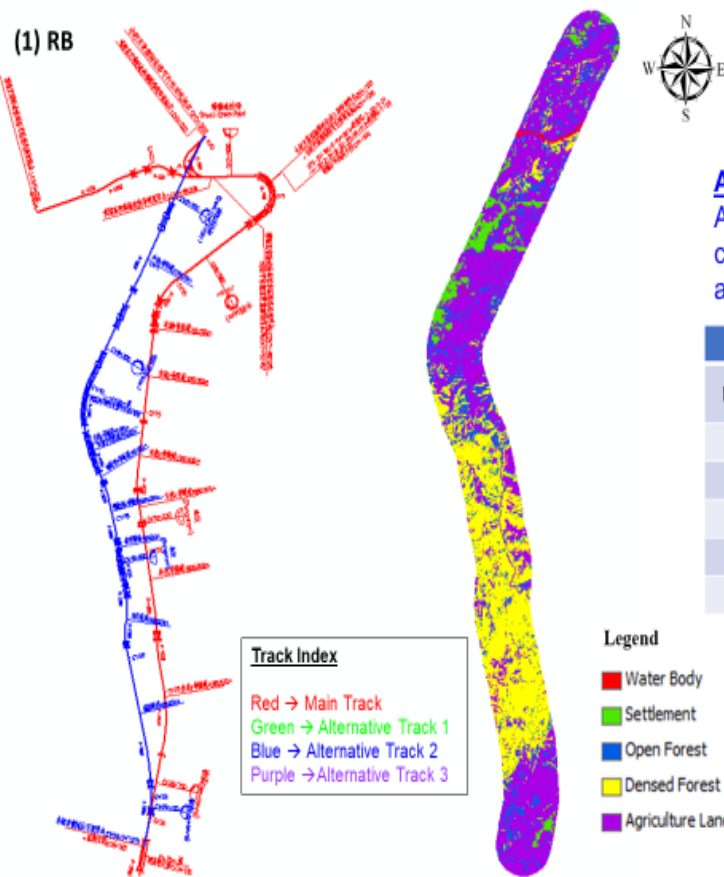
Legend

- Water Body
- Settlement
- Open Forest
- Densed Forest
- Agriculture Land

Main Track

Area calculation of classified LULC classes are based on buffer width 1 Km around rail track centerline

Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0691	9.4603	0.730421
2	Agriculture Land	4.3237		45.703625
3	Dense Forest	2.658		28.096361
4	Open Forest	1.5663		16.556557
5	Residential Area	0.8432		8.913037



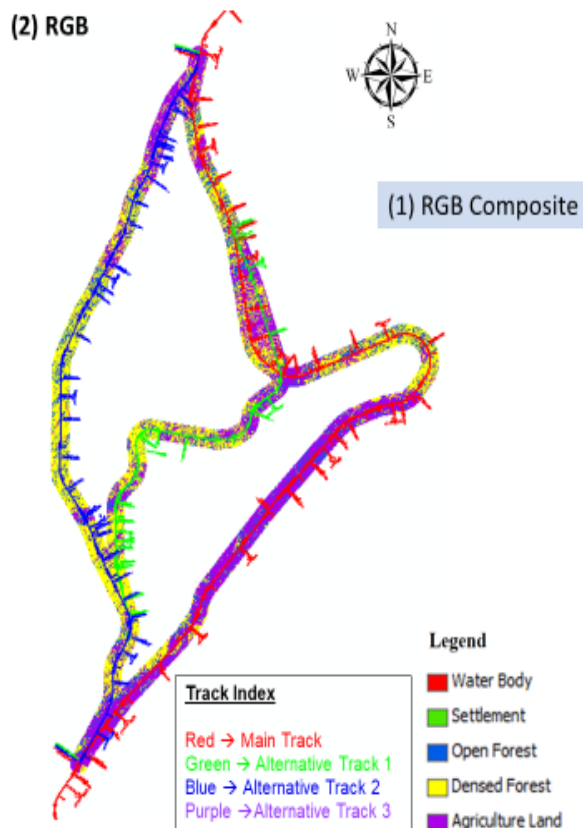
Alternative Track2

Area calculation of classified LULC classes are based on buffer width 1 Km around rail track centerline

Blue				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0347	6.9234	0.501199
2	Agriculture Land	3.2922		47.551781
3	Dense Forest	2.2543		32.560592
4	Open Forest	0.9947		14.367218
5	Residential Area	0.3475		5.01921

Legend

- Water Body
- Settlement
- Open Forest
- Densed Forest
- Agriculture Land



(1) RGB Composite

Legend

- Water Body
- Settlement
- Open Forest
- Densed Forest
- Agriculture Land

Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0117	27.8405	0.042025
2	Agriculture Land	14.6961		52.786767
3	Dense Forest	8.1701		29.346097
4	Open Forest	4.9142		17.651263
5	Residential Area	0.0484		0.173847

Green				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0125	27.0976	0.0461295
2	Agriculture Land	8.9109		32.884462
3	Dense Forest	14.3329		52.893614
4	Open Forest	3.8378		14.162878
5	Residential Area	0.0035		0.0129163

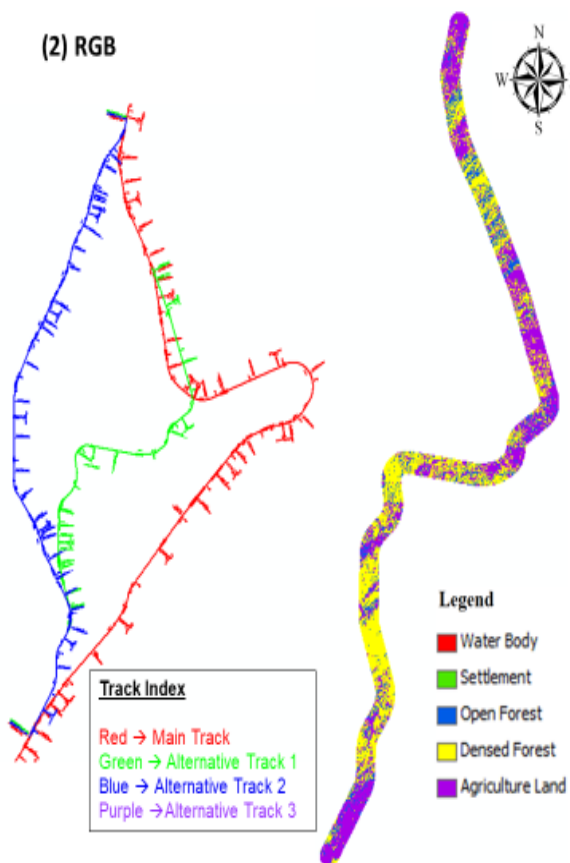
Blue				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.3828	68.9235	0.555398376
2	Agriculture Land	7.7967		11.3121069
3	Dense Forest	46.6977		67.75294348
4	Open Forest	14.0463		20.37955124
5	Residential Area	-		-



Main Track

Area calculation of classified LULC classes are based on buffer width 1 Km around rail track centerline

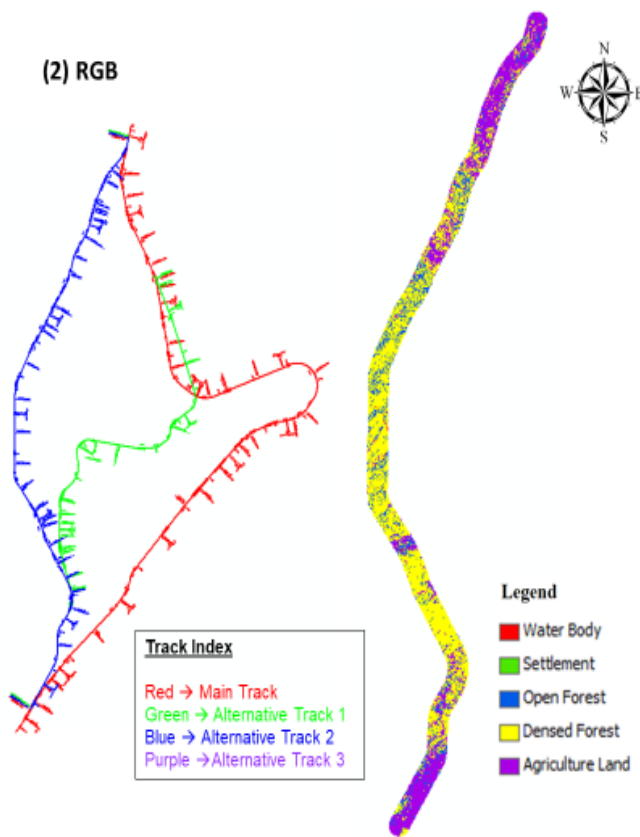
Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0117	27.8405	0.042025
2	Agriculture Land	14.6961		52.786767
3	Dense Forest	8.1701		29.346097
4	Open Forest	4.9142		17.651263
5	Residential Area	0.0484		0.173847



Alternative Track1

Area calculation of classified LULC classes are based on buffer width 1 Km around rail track centerline

Green				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0125	27.0976	0.0461295
2	Agriculture Land	8.9109		32.884462
3	Dense Forest	14.3329		52.893614
4	Open Forest	3.8378		14.162878
5	Residential Area	0.0035		0.0129163



Alternative Track2

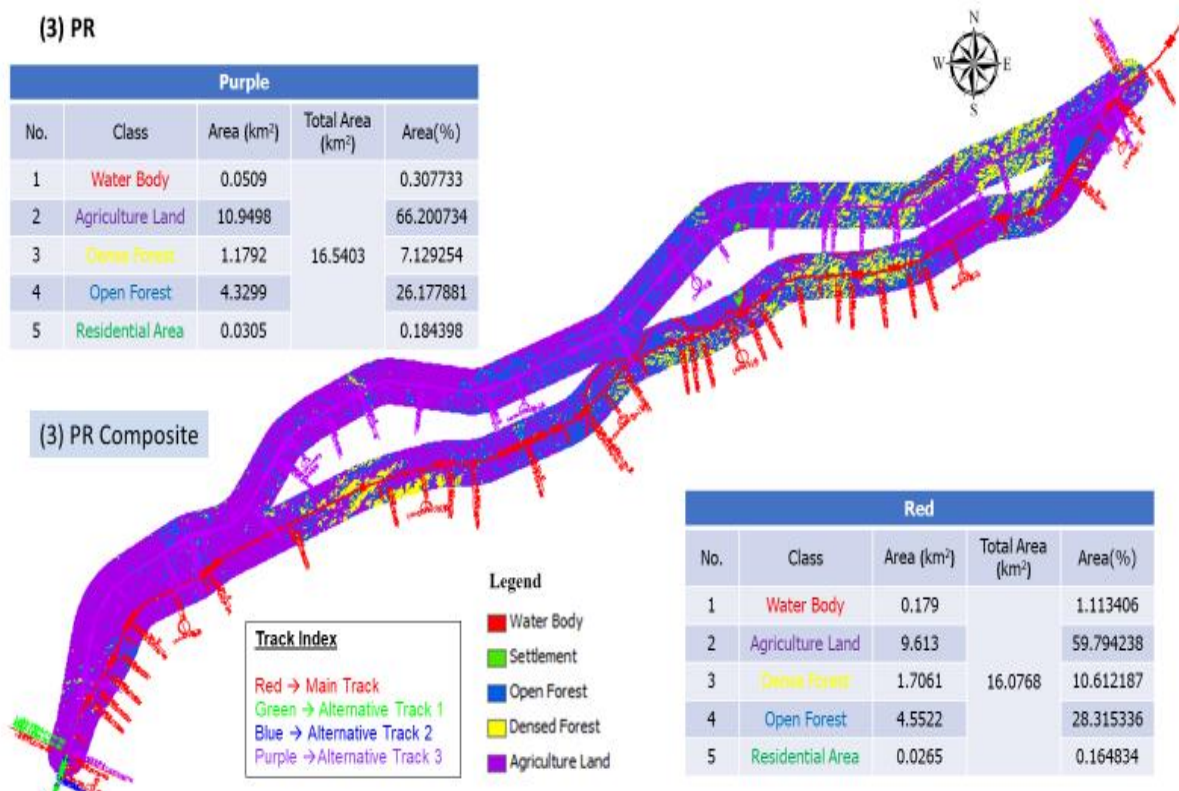
Area calculation of classified LULC classes are based on buffer width 1 Km around rail track centerline

Blue				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.3828	68.9235	0.555398376
2	Agriculture Land	7.7967		11.3121069
3	Dense Forest	46.6977		67.75294348
4	Open Forest	14.0463		20.37955124
5	Residential Area	-		-

(3) PR

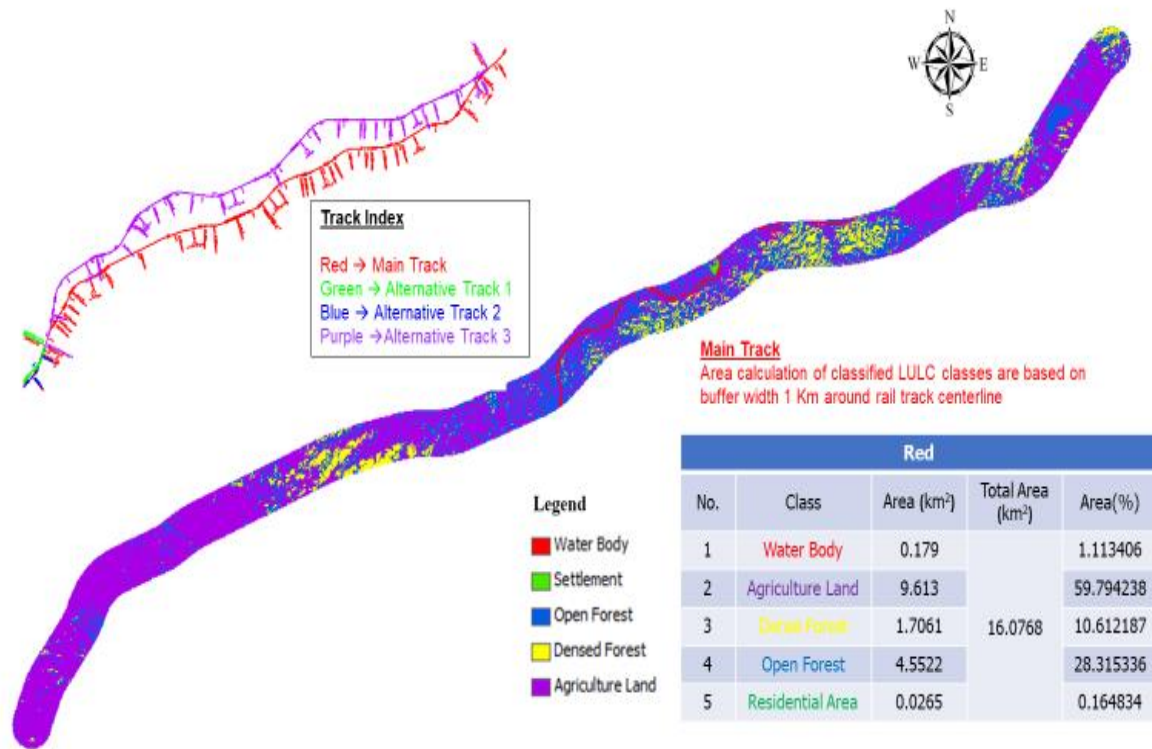
Purple				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0509	16.5403	0.307733
2	Agriculture Land	10.9498		66.200734
3	Dense Forest	1.1792		7.129254
4	Open Forest	4.3299		26.177881
5	Residential Area	0.0305		0.184398

(3) PR Composite

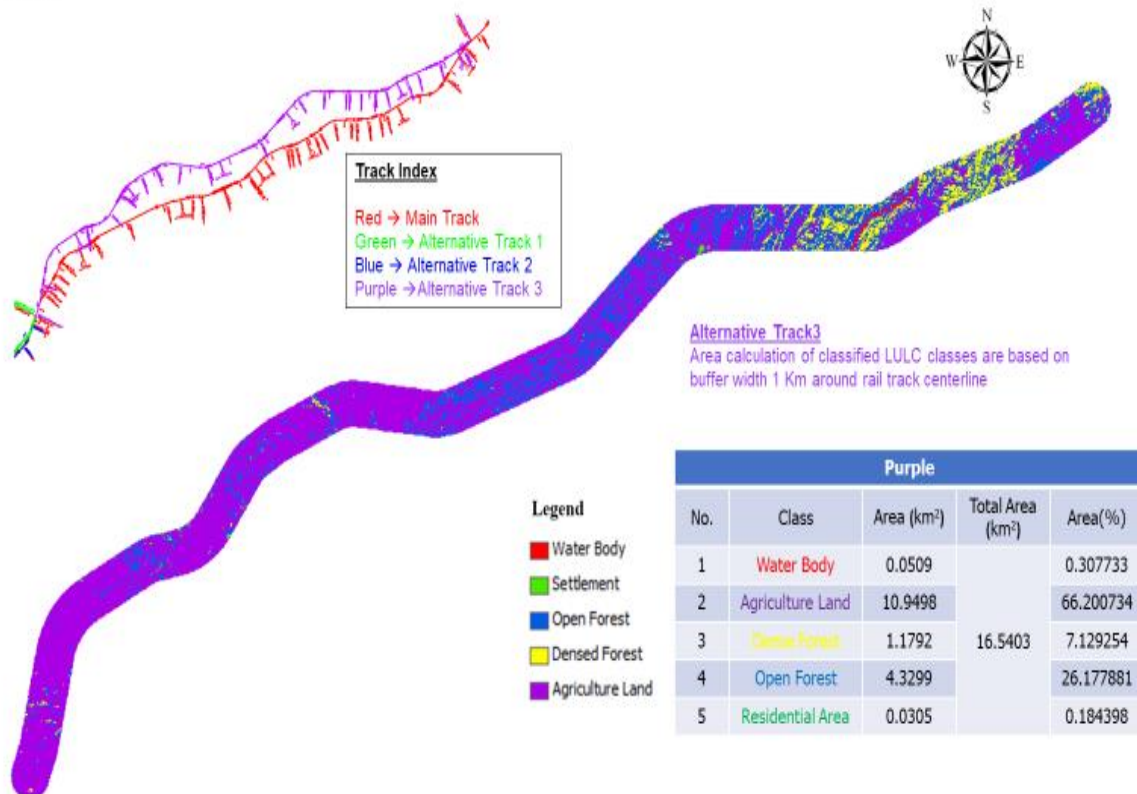


Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.179	16.0768	1.113406
2	Agriculture Land	9.613		59.794238
3	Dense Forest	1.7061		10.612187
4	Open Forest	4.5522		28.315336
5	Residential Area	0.0265		0.164834

(3) PR



(3) PR

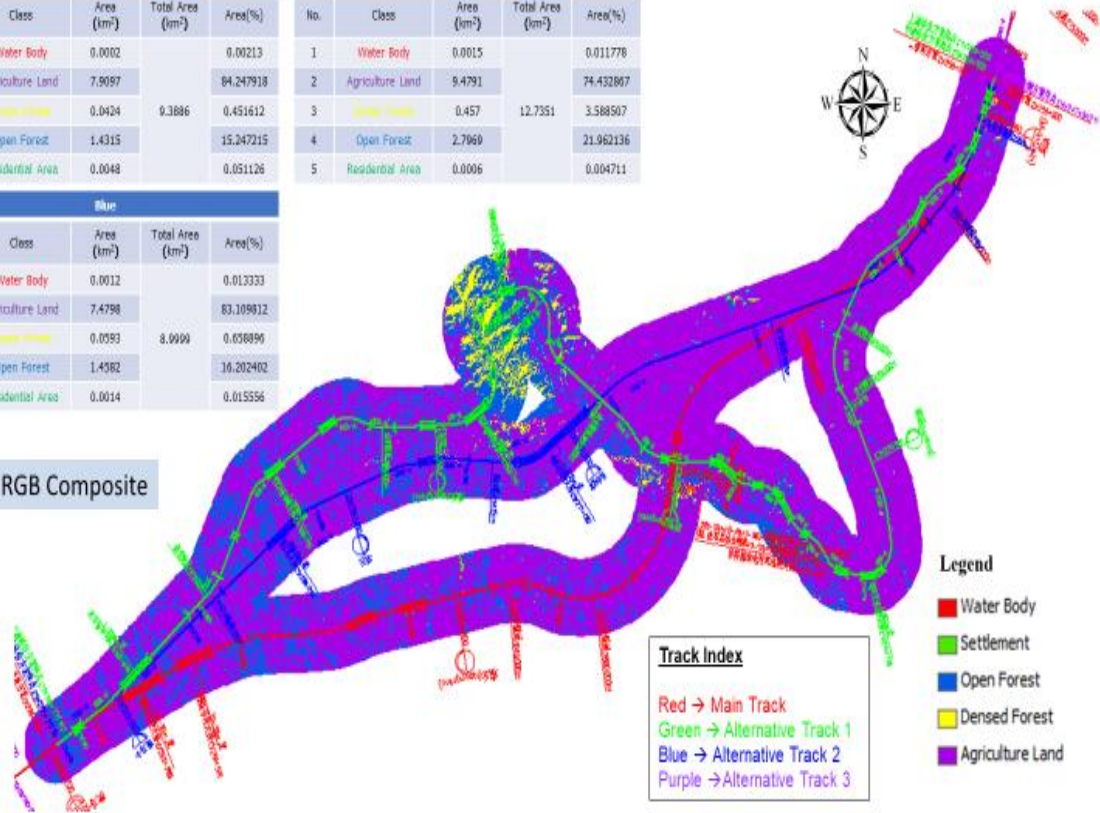


(4) RGB

Red					Green				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)	No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0002		0.00213	1	Water Body	0.0015		0.01178
2	Agriculture Land	7.9097	84.247918	84.247918	2	Agriculture Land	9.4791	74.432867	74.432867
3	Dense Forest	0.0424	9.3886	0.451612	3	Dense Forest	0.457	12.7351	3.588507
4	Open Forest	1.4315	15.247215	15.247215	4	Open Forest	2.7960	21.962136	21.962136
5	Residential Area	0.0048	0.051126	0.051126	5	Residential Area	0.0006	0.004711	0.004711

Blue				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0012		0.013333
2	Agriculture Land	7.4798	83.109812	83.109812
3	Dense Forest	0.0593	8.6999	0.658899
4	Open Forest	1.4382	16.202402	16.202402
5	Residential Area	0.0014	0.015596	0.015596

(4) RGB Composite



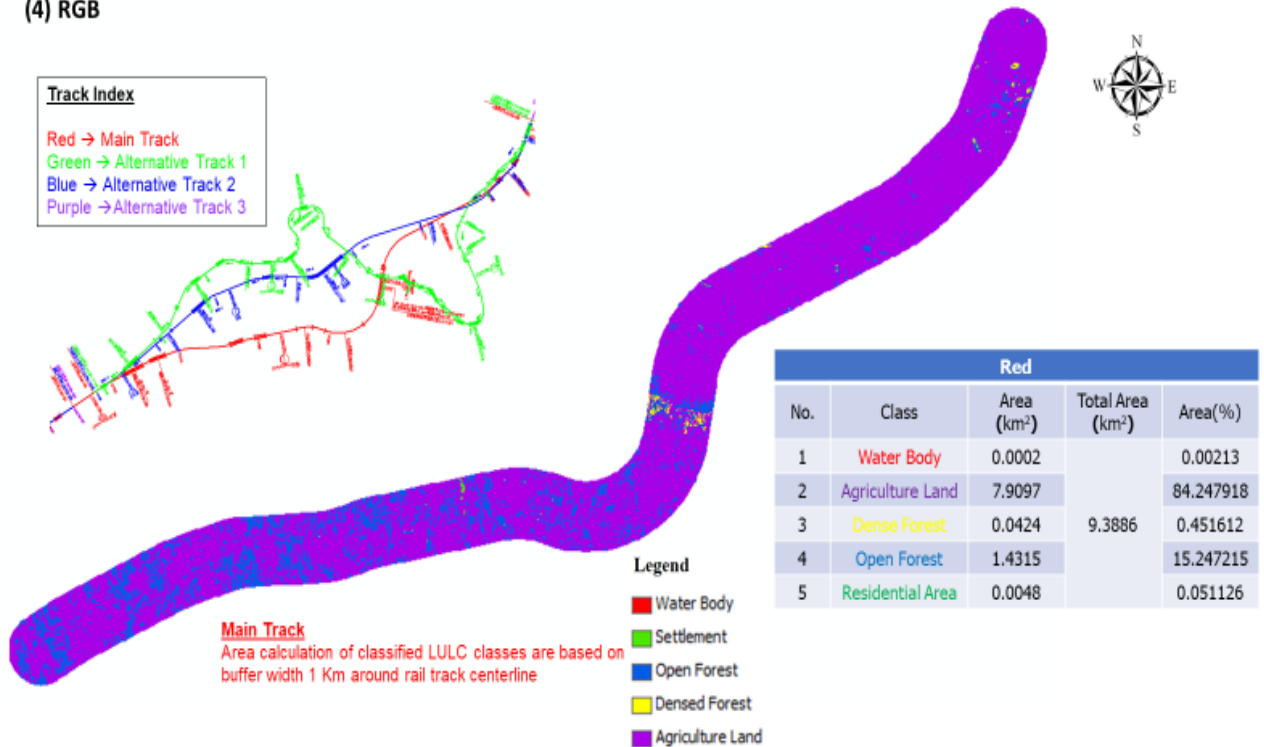
Track Index

Red → Main Track
 Green → Alternative Track 1
 Blue → Alternative Track 2
 Purple → Alternative Track 3

Legend

- Water Body
- Settlement
- Open Forest
- Dense Forest
- Agriculture Land

(4) RGB



Track Index

Red → Main Track
 Green → Alternative Track 1
 Blue → Alternative Track 2
 Purple → Alternative Track 3

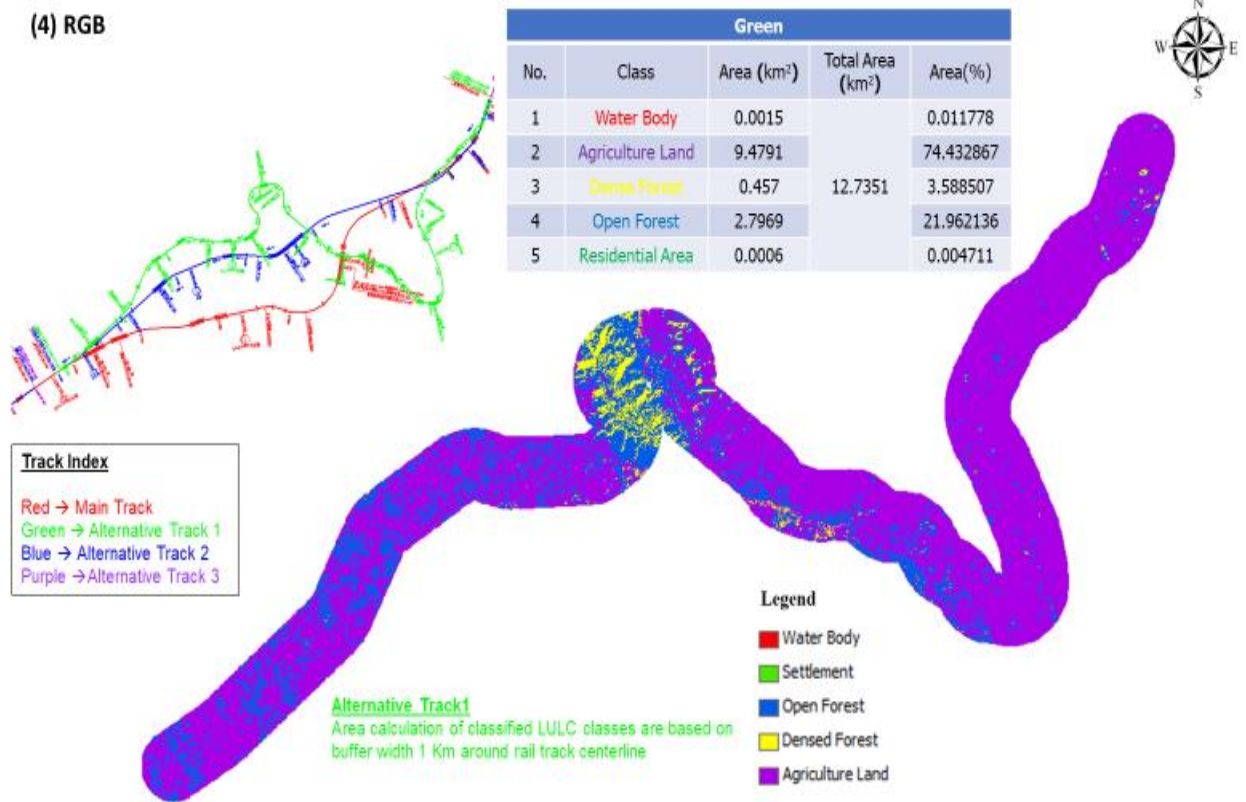
Red				
No.	Class	Area (km ²)	Total Area (km ²)	Area(%)
1	Water Body	0.0002		0.00213
2	Agriculture Land	7.9097	84.247918	84.247918
3	Dense Forest	0.0424	9.3886	0.451612
4	Open Forest	1.4315	15.247215	15.247215
5	Residential Area	0.0048	0.051126	0.051126

Main Track
 Area calculation of classified LULC classes are based on buffer width 1 Km around rail track centerline

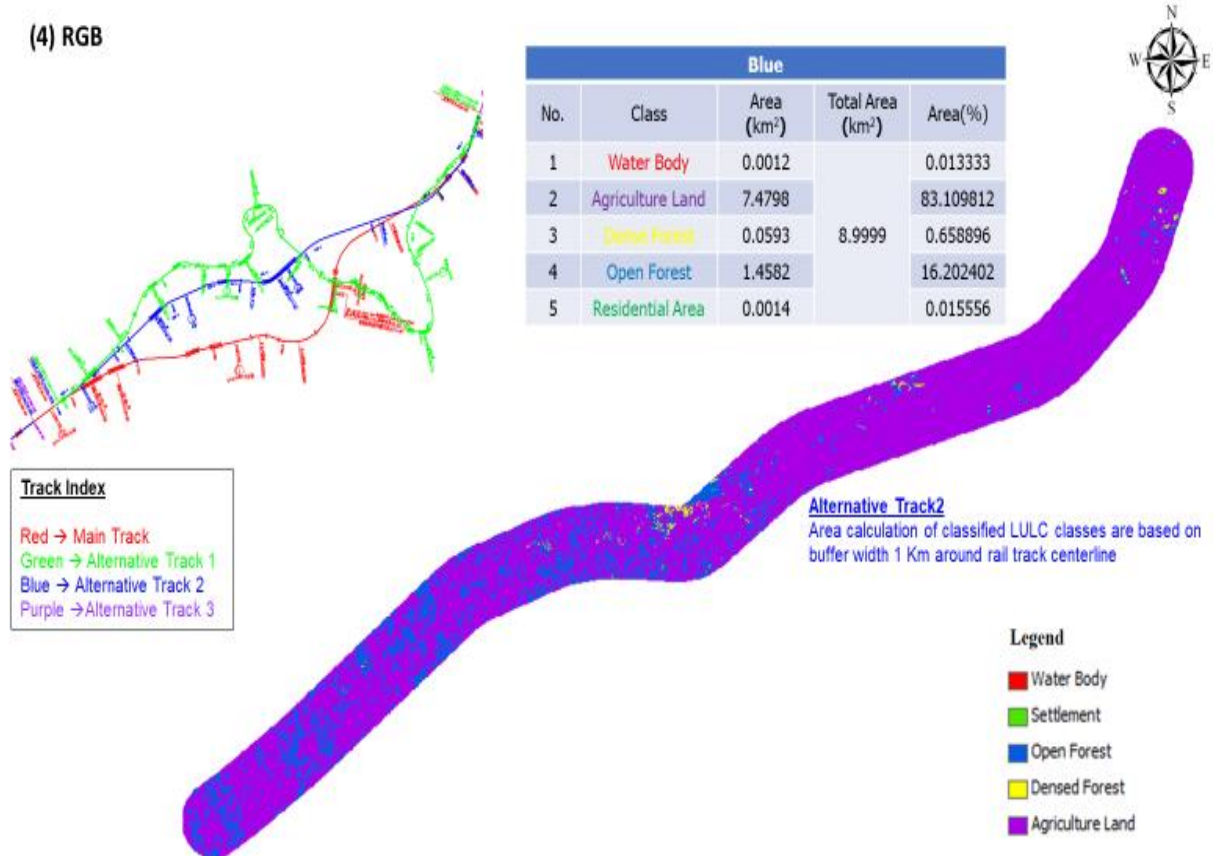
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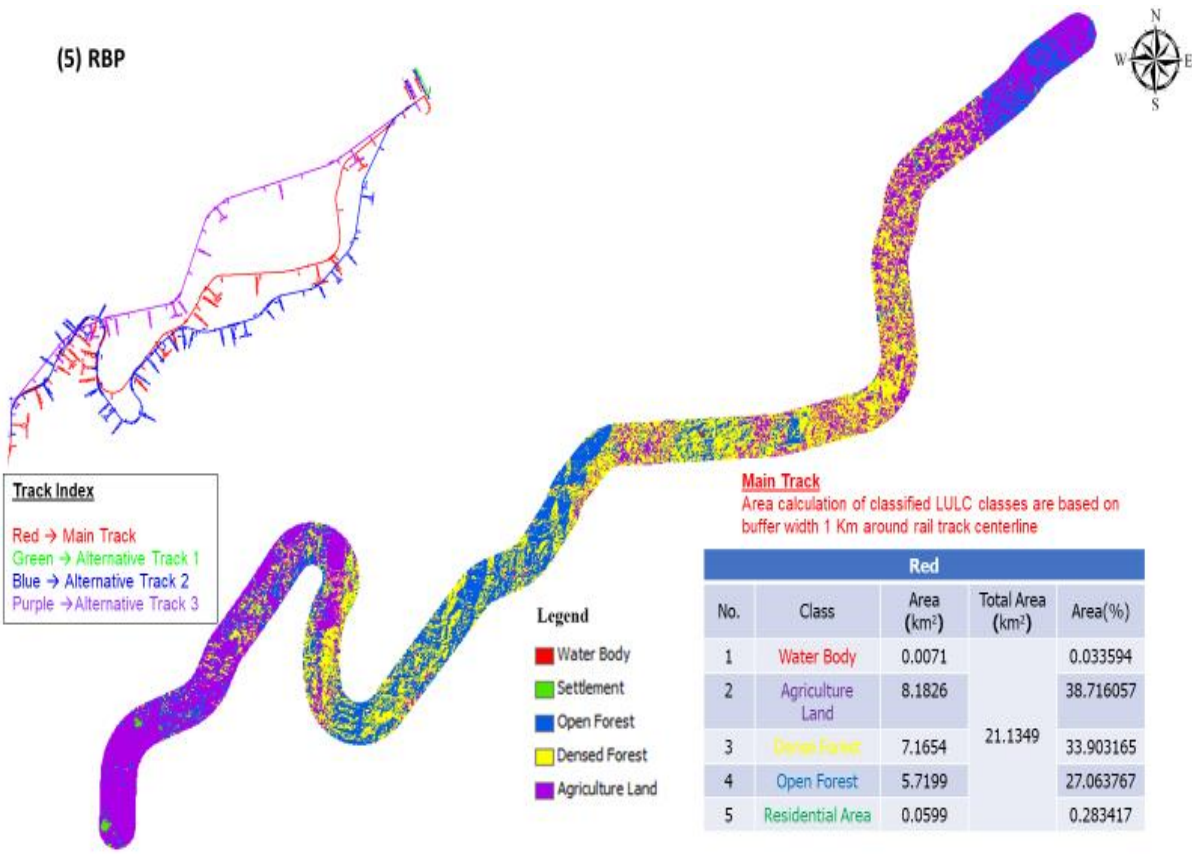
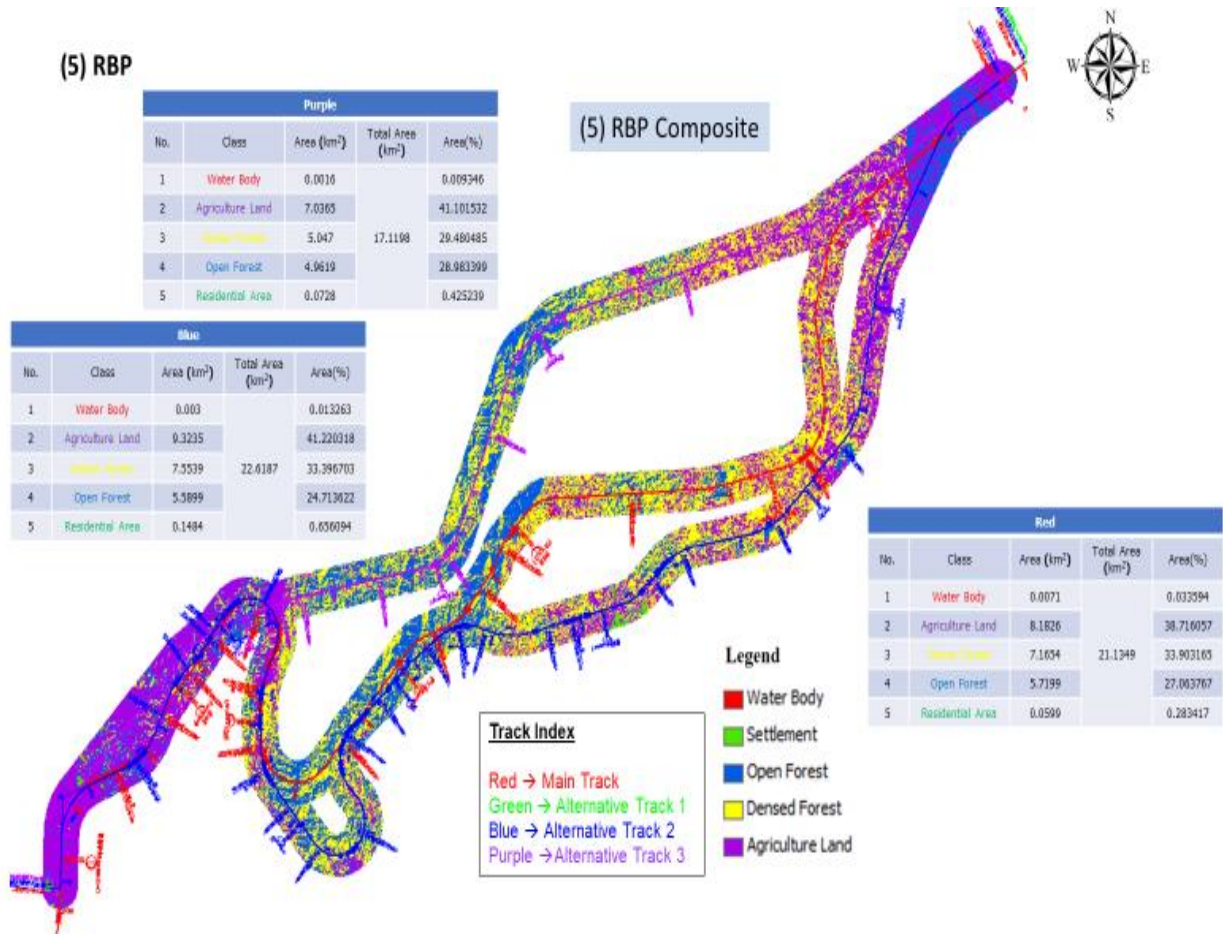
- Water Body
- Settlement
- Open Forest
- Dense Forest
- Agriculture Land

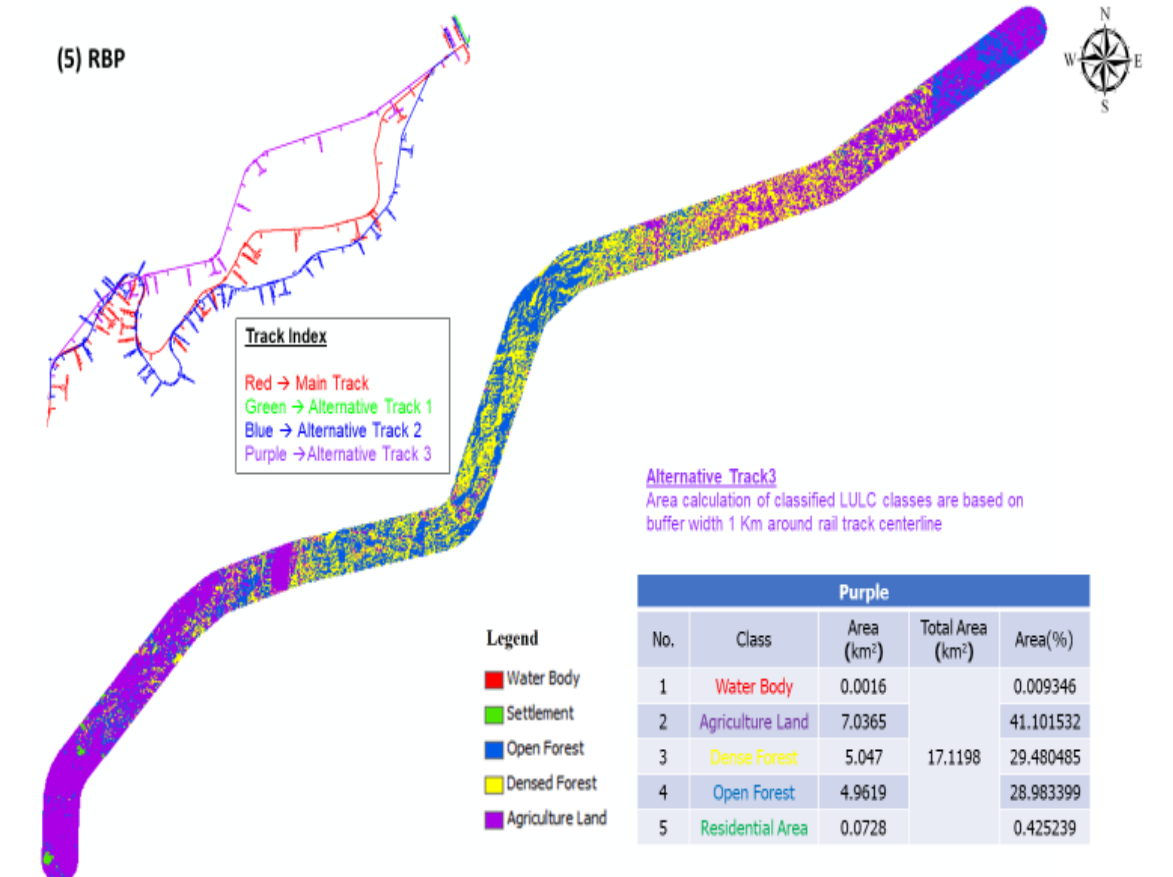
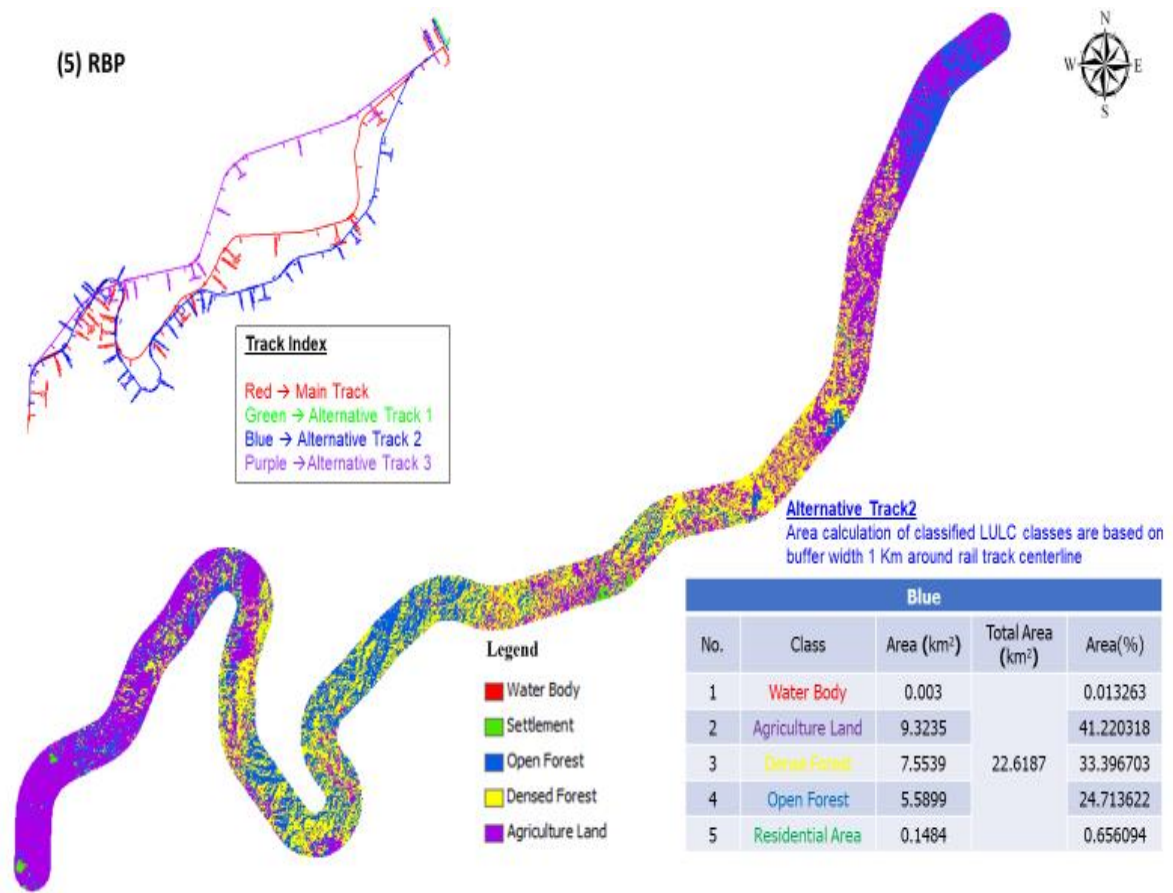
(4) RGB



(4) RGB







The alternative analysis by using LULC of the above GIS study can be summarized as the following tables.

(1) RB Section

No	Alignment	Residential Area (%)	Agricultural Land (%)	Dense Forest (%)	Open Forest (%)	Water Body (%)	Total Weighting Marks
1.	Main Alignment	8.91	45.7	28.09	16.55	0.73	708.59
2.	Alternative Alignment 2	5.01	47.55	32.56	14.36	0.50	693.07

(2) RGB (1) Section

No	Alignment	Residential Area (%)	Agricultural Land (%)	Dense Forest (%)	Open Forest (%)	Water Body (%)	Total Weighting Marks
1.	Main Alignment	0.17	52.78	29.34	17.65	0.04	705.84
2.	Alternative Alignment 1	0.013	32.88	52.89	14.16	0.05	558.687
3.	Alternative Alignment 2	-	11.31	67.75	20.38	0.55	421.55

(3) PR Section

No	Alignment	Residential Area (%)	Agricultural Land (%)	Dense Forest (%)	Open Forest (%)	Water Body (%)	Total Weighting Marks
1.	Main Alignment	0.16	57.79	10.61	28.31	1.11	759.38
2.	Alternative Alignment 3	0.18	66.2	7.12	26.18	0.31	817.74

(4) RGB (2) Section

No	Alignment	Residential Area (%)	Agricultural Land (%)	Dense Forest (%)	Open Forest (%)	Water Body (%)	Total Weighting Marks
1.	Main Alignment	0.05	84.24	0.45	15.24	0.002	920.812
2.	Alternative Alignment 1	0.004	74.43	3.59	21.96	0.012	864.978
3.	Alternative Alignment 2	0.015	83.12	0.66	16.20	0.013	914.393

(5) RBP Section

No	Alignment	Residential Area (%)	Agricultural Land (%)	Dense Forest (%)	Open Forest (%)	Water Body (%)	Total Weighting Marks
1.	Main Alignment	0.28	38.71	33.90	27.06	0.03	626.8
2.	Alternative Alignment 2	0.65	41.22	33.39	24.71	0.01	641.78
3.	Alternative Alignment 3	0.42	41.10	29.48	28.98	0.009	648.17

Weighting Method for Alternative Analysis for Alignment

All of the weighted are based on public concerns and potential to impact to environmental and socio-economic. Weighted values are based on socially sensitive areas and most public concerns. Local PAPs are worried about land confiscation and so.

Agricultural Area	- 10 Marks
Residential Area	- 9 Marks
Water Body	- 6 Marks
Open Forest	- 5 Marks
Dense Forest	- 3 Marks

Colouring in Table

Household – 0-25% (green colour),
26-50% (gray colour),
50-75% (orange colour),
75-100% (red colour)

According to the above alternative analysis in each section, main alignment is more suitable in PR section and RPB section than others. The alternative alignment 2 is also more suitable in RB section and RGB (1) section than others. The alternative alignment 1 is more suitable in RGB (2) section than others. All the calculation was done by weighting method with the marking system, and therefore the best suitable alternative alignment will be changed based on marking system.

5.1.2. Impact on Vulnerable and Disadvantaged Groups

The construction of the project road causes impact on vulnerable and disadvantaged groups, such as, Female headed households, the very poor, children below 18 years of age, disabled persons, and the elderly. These vulnerable and disadvantaged groups could be among the Project Affected Population. If there are vulnerable and disadvantaged groups among the list of PAPS, their impact will be more and increased during the railway construction works. It also brings more difficulties if the vulnerable and disadvantaged groups are going to lose their income sources, assets, and land and housing structures. Vulnerable and disadvantaged groups require special support and attention because of their cultural and socio economic positions especially in Shan Region.

Mitigation Measures for Vulnerable and Disadvantaged Groups

The impacts on vulnerable and disadvantaged groups can be minimized and mitigated by adopting the following measures.

- If the vulnerable and disadvantaged groups are affected due to the project construction works, they require close consultation and careful data collection during relocation/or resettlement planning. For example, households with very small incomes may lose their viability after land acquisition and require full income restoration, whereas a household with medium to large land holdings may require compensation only. In such cases a special fund will be established to help the very poor.
- PAPs who are elderly persons if relocated will be provided with special support and care because of the nature of their illness, age and physical weaknesses they may be facing.
- Even though it may be difficult to quantify the support provided to vulnerable groups in monetary terms, these supports are to be considered as one form of “social support and care”.
- At the time of implementing the resettlement action plan and compensation payment, special attention and support will be given to female headed households. The support will be made in rebuilding their houses, transferring and transporting their household items and materials to the newly constructed residential houses or for those houses used for business purpose.
- Female Household Head (FHH) will be given special attention and support for the same benefits as their male counterparts. The special support to FHH is because they lack resources, educational qualifications, skills, or work experience compared to men.

5.2. Identification of Project Affected Persons (PAPs)

Resettlement planning involves more than simple cadastral surveys or inventories of affected assets. The ultimate goal of a RAP is to enable those displaced by a project to improve their standard of living - a goal that requires an examination of social, environmental, and economic conditions beyond simple physical inventories.

According to the GIS study as described in Section 4 (land use section), the construction of railway bridges & culverts will use the following land use within 1km buffer from center line of railway alignment by percentage:

No.	Type of Land Use	Percentage (%)
1.	Agricultural Land	52.622
2.	Bare Land	1.185
3.	Open Forest	22.058
4.	Dense Forest	10.769
5.	Settlement Area	5.677
6.	Waterbody	0.384
7.	Grass Land	0.005
8.	Sparse Vegetation Area	7.013

According to the above table, the proposed project will use agricultural land (52.622%) forest area (32.81%) and very little on settlement area (5.677%) within 1km buffer zone of traction substations and switching post.

5.2.1. Identification of PAPs by Google Earth Study

For the traction substation, a border clear area (approximately 40 feet by 80 feet) is typically required for the site clearing activities and is often surrounded by fencing and vegetation for added security and/or aesthetics. For more land use detailed, Google Earth Study will be used to consider the land use type within 40 feet by 80 feet which is the minimum requirement of construction for railway substations. Aerial photo by using Google Earth (aerial photo by drone cannot make during the study in remote areas) will also make for agricultural land and forest area within 40 feet by 80 feet. The land use for the transmission line will include in the subgrade land use for railway alignment and no need to consider separately.

The following table shows the villages that owned the agricultural land use. The table will mainly describe the land use of traction substation for agricultural land and forest area.

Table 5.1. Villages that Owned Agricultural Land

Traction Substation	Township	Villages	Agricultural land (Acre)	Forest Plantation (Acre)
Mandalay South Traction Substation	Mandalay (Amarapura)	War Yone Pin	0.073	-
Mandalay East Switching Post	Mandalay (Patheingyi)	Thamma Taw	0.073	-
CK 365 Traction Substation		Lain Pin	-	0.073
Pyinoolwin Central Substation	Pyin Oo Lwin	Pin Lain	0.073	-
Nwang Hkio Traction Substation	Nwang Hkio	Nwang Hkio	0.073	-
Chaung Chauk Central Substation	Kyaukse	Hwang Heng	0.073	-
San Lau Traction Substation	Lashio	Kun Htaik	0.073	-

Lashio West Central Substation		Nwang Lain	0.073	-
Theinni Traction Substation	Theinni	Wane Hlaine	0.073	-
Mang Peng Traction Substation	Kutkai	Par Gyo	-	0.073
Nam Phat Kha Central Substation		Nam Phat Kha	-	0.073
Muse Traction Substation	Muse	Nam Pang	0.073	-

According to the above PAPs who will lose their assets will be shown in the following table.

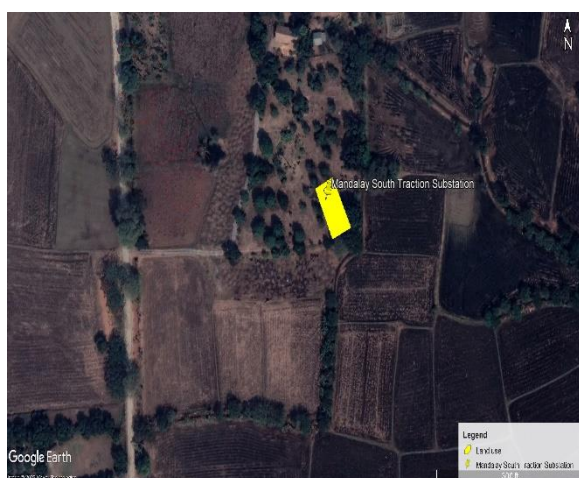
Table 5.2 – Matrix Table for Consideration of PAPs

No.	Villages	Agricultural land (Acre)	Forest Plantation (Acre)
1	War Yone Pin	√	-
2	Thamma Taw	√	-
3	Pin Lain	√	-
4	Nwang Hkio	√	-
5	Hwang Heng	√	-
6	Kun Htaik	√	-
7	Nwang Lain	√	-
8	Wane Hlaine	√	-
9	Nam Pang	√	-

According to the above table, the construction of traction substations will only use agricultural lands and no land use for resettlement and relocation of local people.

5.2.1.1. Agricultural Land Use for Construction of Traction Substations

The land use for agricultural land within 40 feet by 80feet which is the minimum requirement for construction of traction substation will be as follow:



War Yone Pin Village



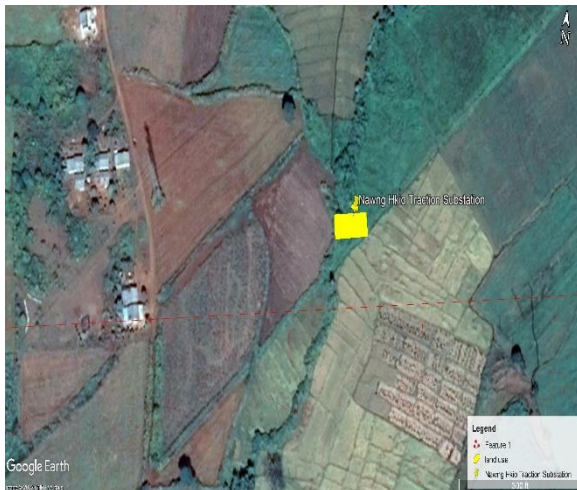
Thamma Taw Village



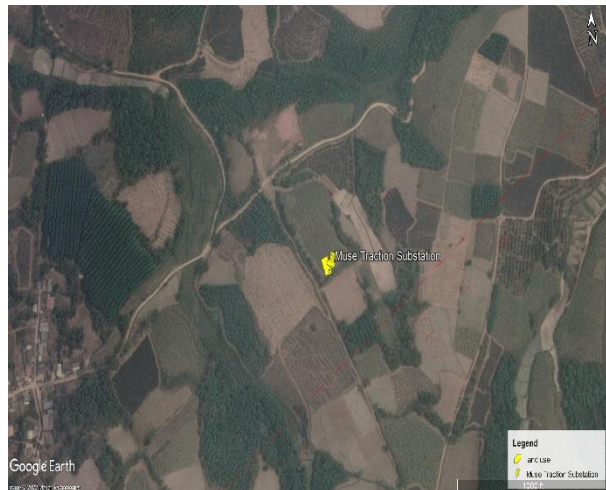
Pin Lain Village



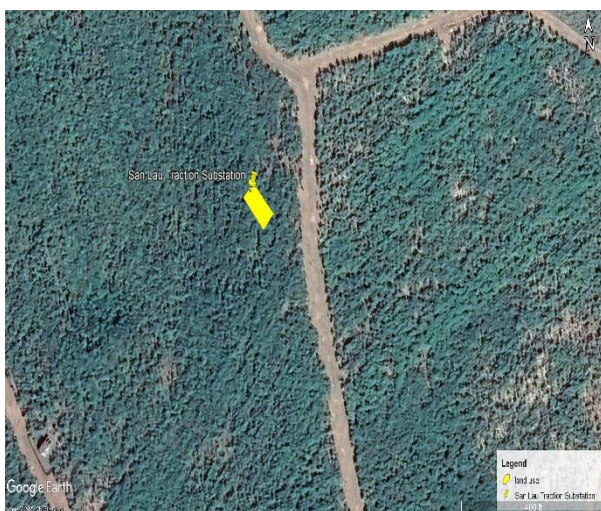
Nwang Lain Village



Nwang Hkio Village



Nam Pang Village



Kun Htiak Village



Hawng Heng Village



Wane Hlaine Village

Table 5.3 – Agricultural Land Use of Traction Substation (within 40 feet by 80 feet)

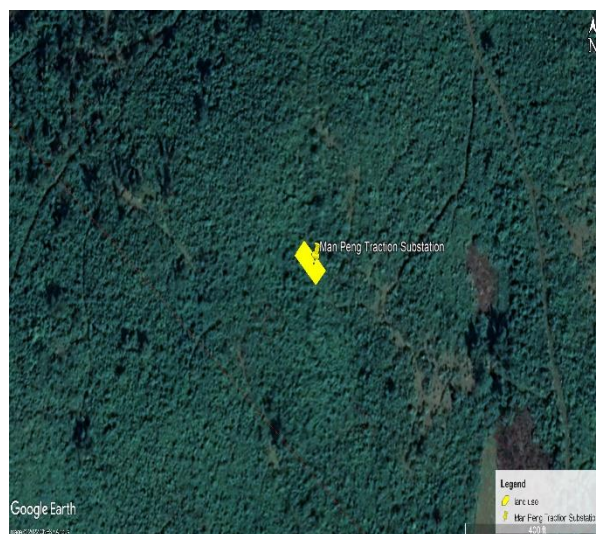
Traction Substations	Village	Agricultural land (Acre)	Type of land	Type of plantation
Mandalay East Station	War Yone Pin	0.073	farmland	Paddy (Summer & Monsoon)
Mandalay East Switching Post	Thamma Taw	0.073	farmland	Paddy (Summer & Monsoon)
Pyin Oo Lwin Central Station	Pin Lain	0.073	crop land	Paddy (Monsoon), Onion, Flower
Lashio West Central Substation	Nwang Lain	0.073	Crop land	Paddy (Monsoon), Corn
Nwang Hkio Traction Substation	Nwang Hkio	0.073	Farmland	Paddy (Monsoon), Corn, Wheat, Pea, Sugarcane
San Lau Traction Substation	Kun Htaik	0.073	Crop land	Paddy (Monsoon), Corn
Chaung Chauk Central Substation	Hwang Heng	0.073	Crop land	Paddy (Monsoon), Corn, Sugarcane, Wheat, Soybean
Theinni Traction Substation	Wane Hlaine	0.073	Crop land	Paddy (Monsoon), Wheat, Corn, Sugarcane
Muse Traction Substation	Nam Pang	0.073	Crop land	Sugarcane, Corn, Paddy (Monsoon)
Total		0.657		

5.2.1.2. Forest Land Use for Construction of Traction Substations

The land use for forest plantation within 40 feet by 80feet which is the minimum requirement for construction of traction substation will be as follow:



Lain Pin Village



Par Gyo Village



Nam Phat Ka Village

Table 5.4. Forest Land Use of Traction Substation (within 40 feet by 80 feet)

Traction Substations	Village	Forest Plantation (Acre)
CK 365 Traction Substation	Lain Pin	0.073
Mang Peng Traction Substation	Par Gyo	0.073
Nam Phat Kha Central Substation	Nam Phat Kha	0.073
Total		0.219

5.3. Socio-economic Profile of PAPs by Census and Socio-economic Survey

The proposed railway project will entail displacement of considerable number of households from their current dwellings and loss of farmland and trees. The extent of disruption and

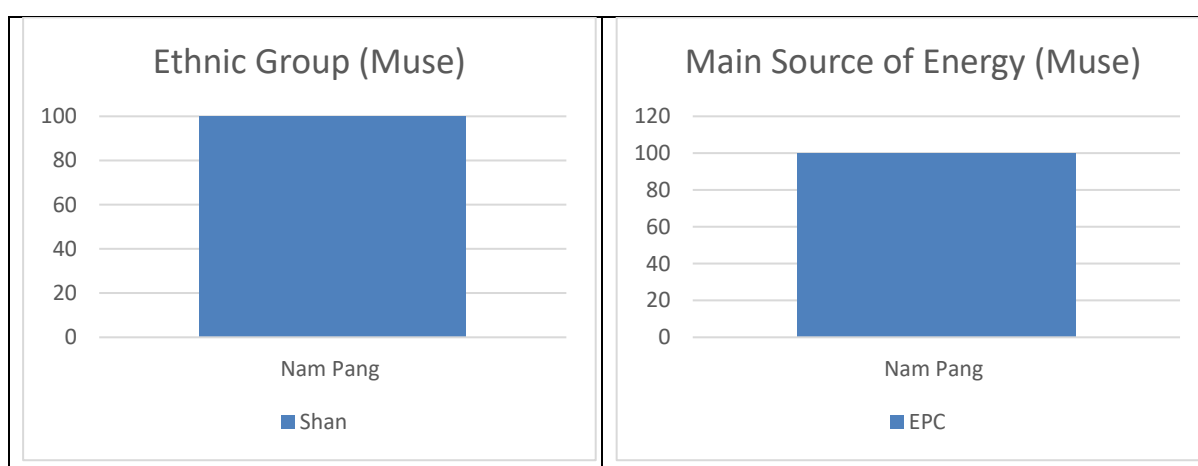
damage to the socio economic is minimal in the project route. It is, therefore, important to identify the socio-economic components that are likely to be affected by the project.

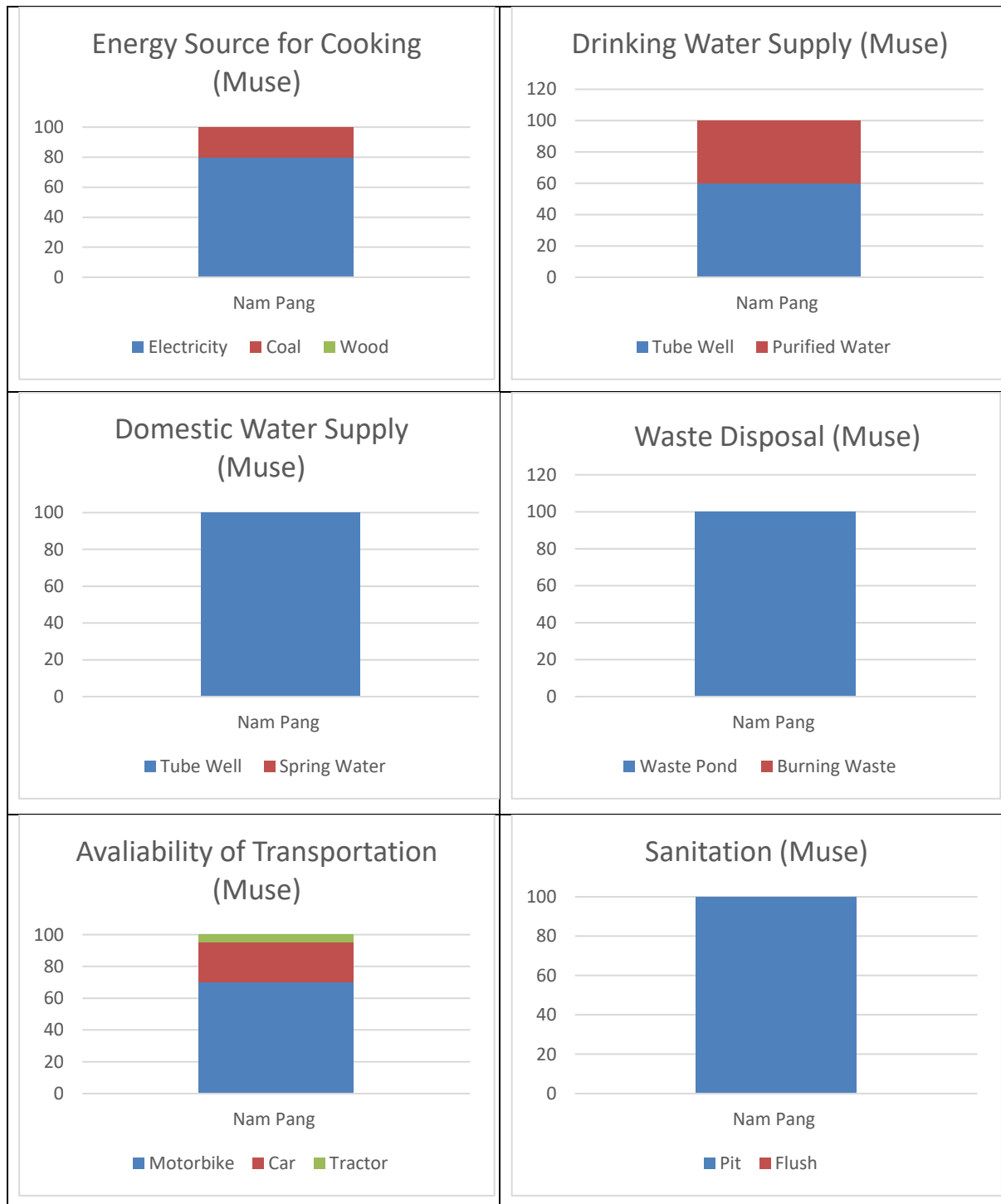
The census and a socio-economic survey were carried out to provide requisite details on the PAUs to assess the magnitude of likely impacts and to identify measures for mitigation of adverse impacts. The Census & SES covered affected Project Affected People (PAPs). The survey collected a wide range of data, for example, demography, age/sex distribution, education, occupation, income/poverty data, and types of businesses.

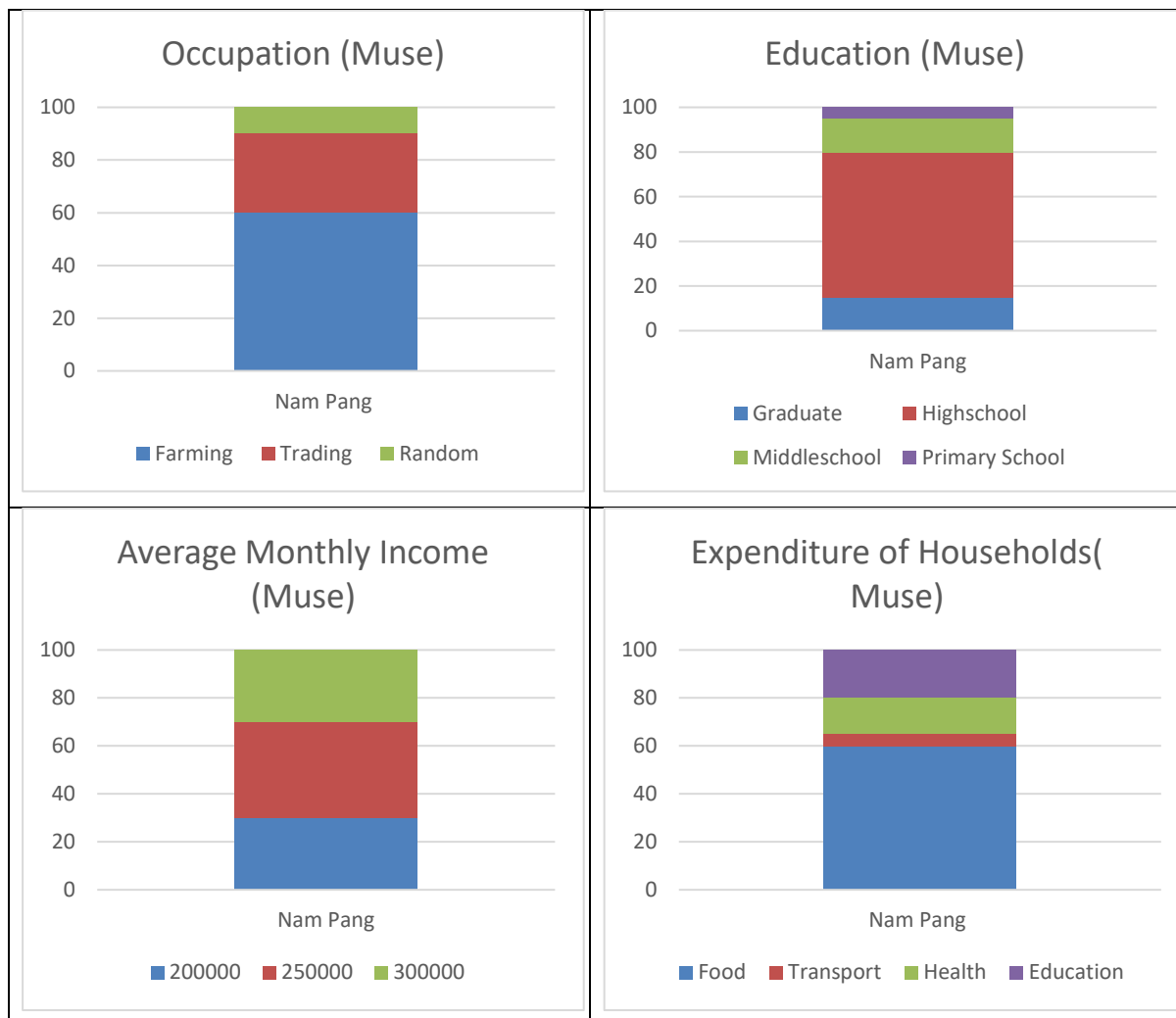
Most of the socio-economic data are collected from the household surveys during SIA Study and some are collected from the “2014 Census Township Profile Myanmar”. Social Assessment (SA) conducted during the project preparation found that the majority of them are ethnic Burma in Mandalay Region and Shan in Shan Region. Special attention will be paid to such ethnic minority populations and female-headed smallholder families.

(a) Socio-economic and Census Profile of PAPs in Muse Township

There is only one village in Muse Township which will be affected by the project. According to the household data collection, Shan are the major ethnic groups within the Muse Township. The dominant religion of the people in Muse Township is Buddhist. Most of the households in this Township obtained their domestic water from tube well and spring water and drinking water obtained from tube well and bottled water. Primary data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC). In this Township, the main sources of income are from framing, trading and other.

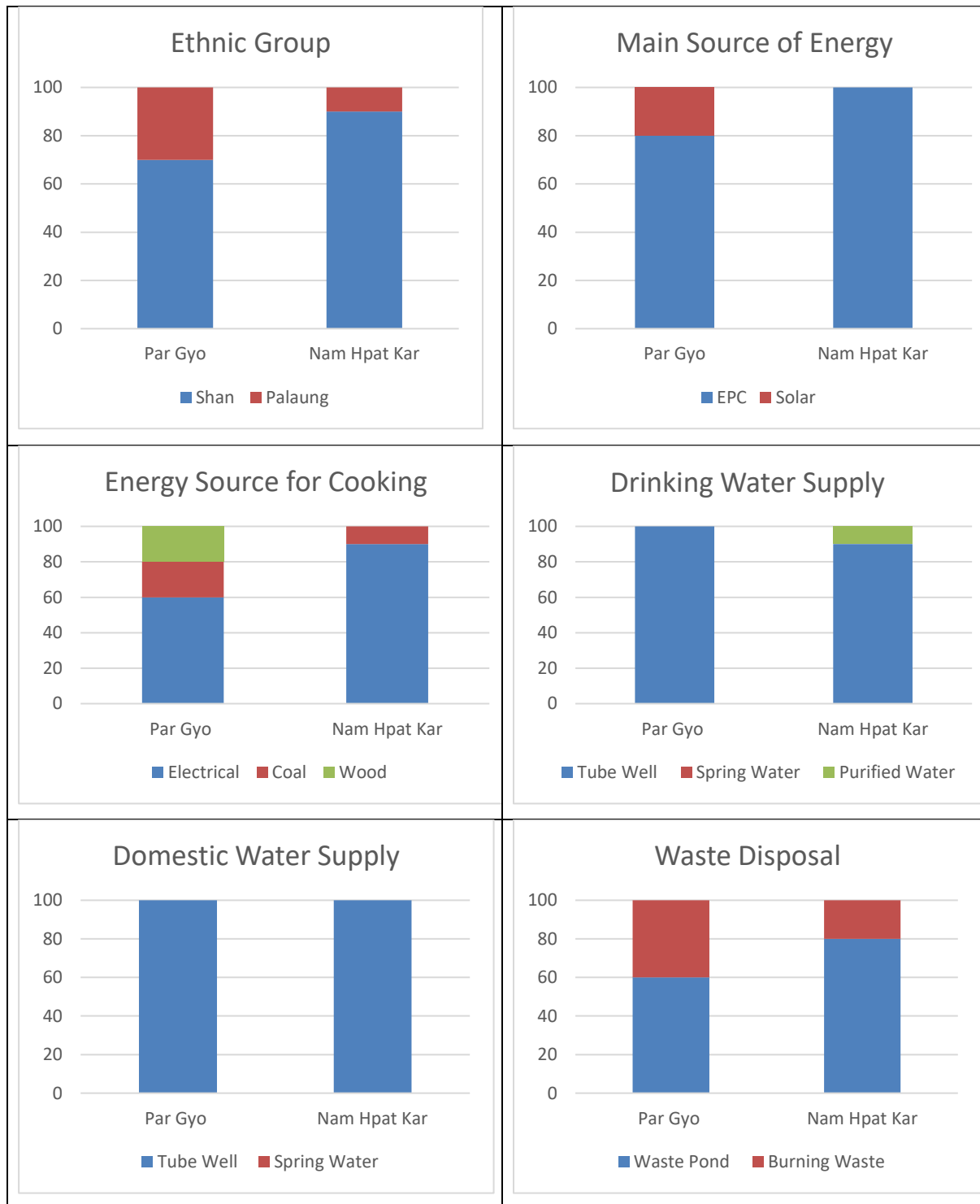






(b) Socio-economic and Census Profile of PAPs in Kutkai Township

There are two villages in Kutkai Township which will be affected by the project. According to the household data collection, Shan, Palaung and Kachin are the major ethnic groups within the Kutkai Township. The dominant religion of the people in Kutkai Township are Buddhist and Christian. Most of the households in this Township obtained their domestic water from tube well and spring water and drinking water obtained from tube well and bottled water. Primary data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC) and solar energy. In this Township, the main sources of income are from framing, trading, auto repair shops and other.





(c) Socio-economic and Census Profile of PAPs in Hseni Township

There is only one village in Hseni Township which will be affected by the project. According to the household data collection, Shan, Palaung, Kachin and Koekant are the major ethnic groups within the Hseni Township. The dominant religion of the people in Hseni Township are Buddhist and Christian. Most of the households in this Township obtained their domestic water from tube well and drinking water obtained from tube well and bottled water. Primary data from household survey revealed that the sources of energy for lighting in many of the villages

are mainly the electricity from Government (EPC) and solar energy. In this Township, the main sources of income are from framing, trading and other.

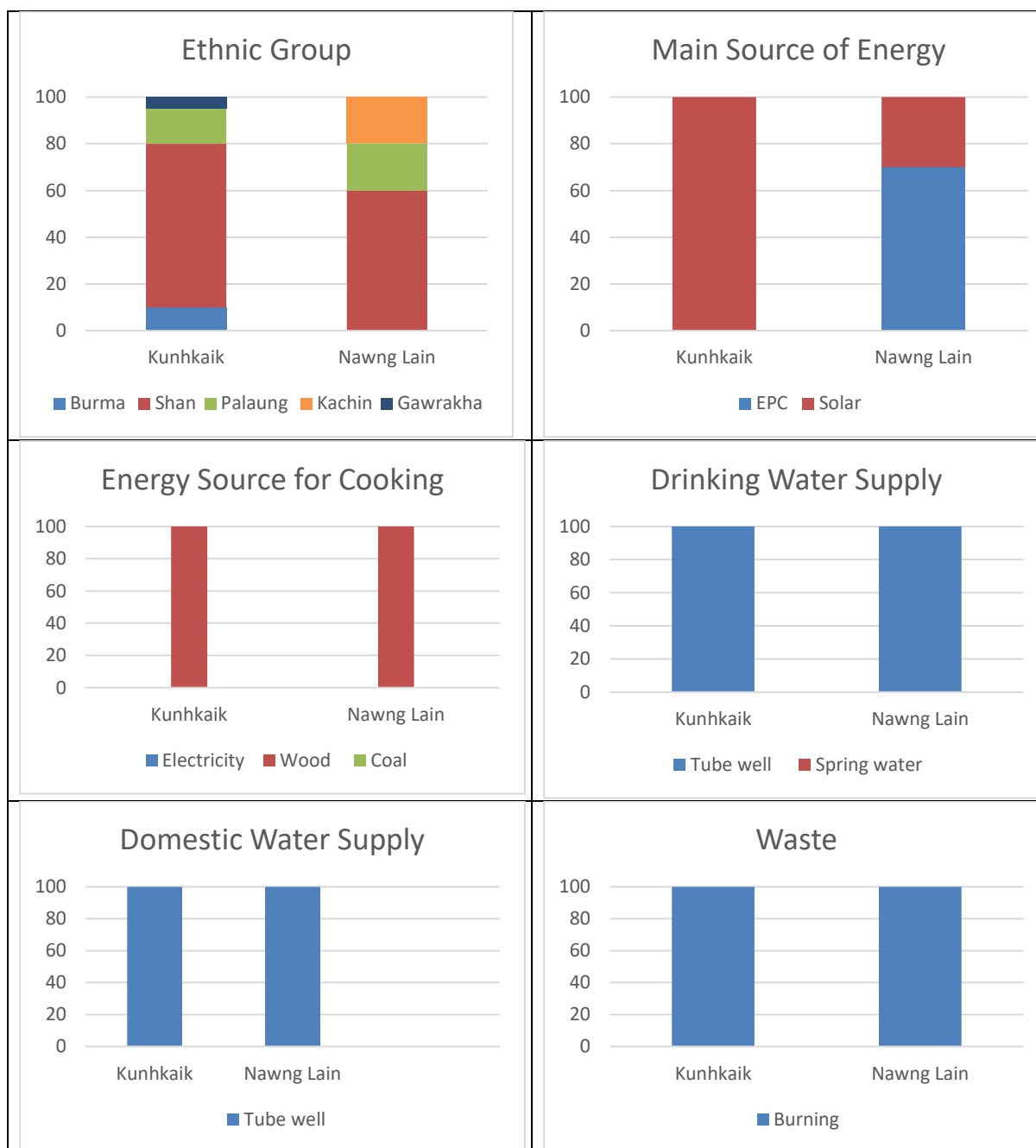




(d) Socio-economic and Census Profile of PAPs in Lashio Township

There are 2 villages in Lashio Township which will be affected by the project. According to the household data collection, Shan and Koekant are the major ethnic groups within the Lashio Township. The dominant religion of the people in Lashio Township are Buddhist and Christian. Most of the households in this Township obtained their domestic water from tube well, spring

water and stream water and drinking water obtained from tube well, spring water and bottled water. Primary data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC) and solar energy. In this Township, the main sources of income are from framing, trading and other.





(e) Socio-economic and Census Profile of PAPs in Nwang Hkio Township

There is only one village in Nwang Hkio Township which will be affected by the project. According to the household data collection, Shan, Burma and Danu are the major ethnic groups within the Nwang Hkio Township. The only one dominant religion of the people in Nwang Hkio Township is Buddhist. Most of the households in this Township obtained their domestic water from tube well and spring water and drinking water obtained from tube well. Primary

data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC) and solar energy. In this Township, the main sources of income are from framing, trading, livestock and other.

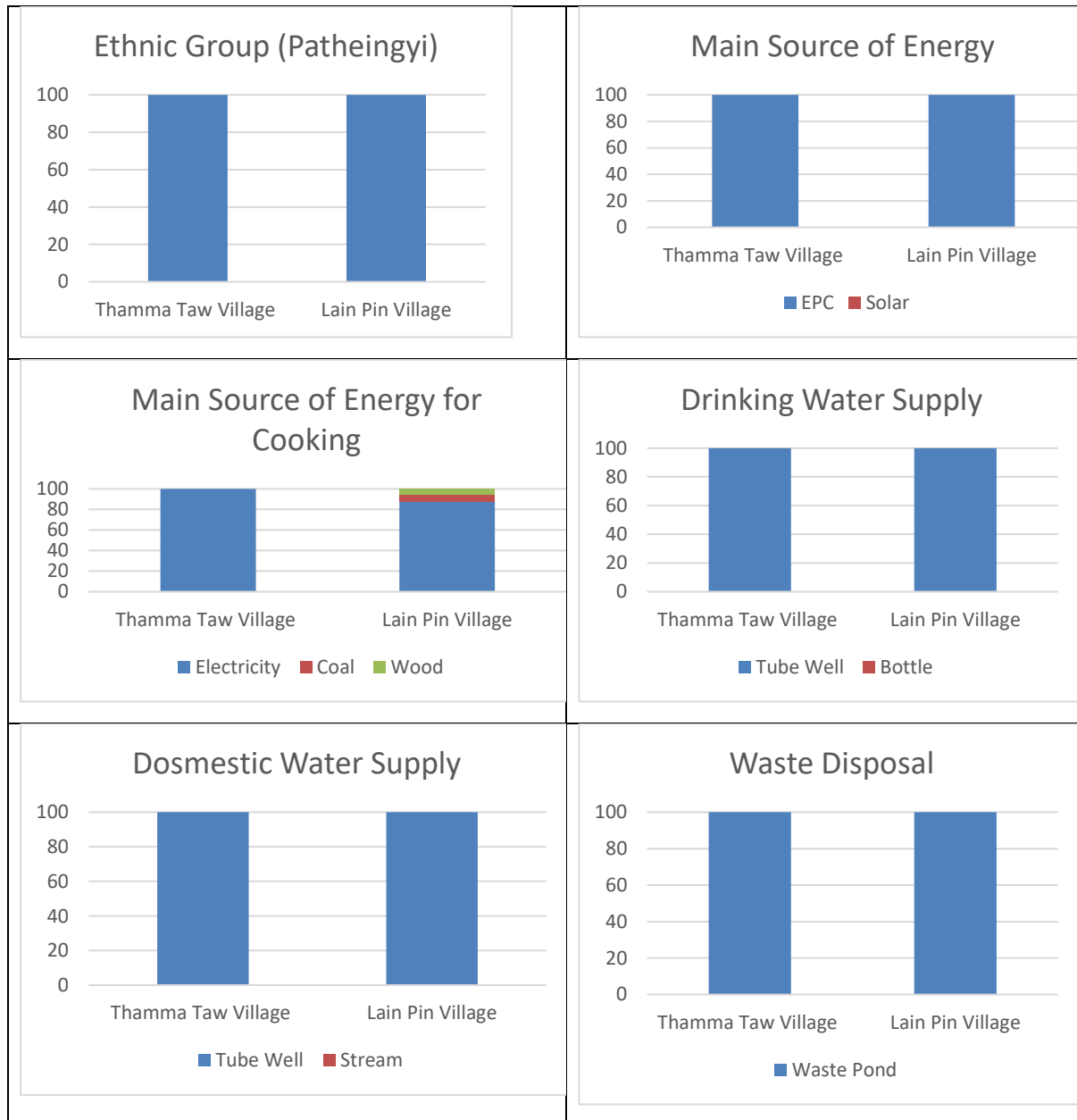




(f) Socio-economic and Census Profile of PAPs in Mandalay (Pathein Gyi) Township

There are two villages in Mandalay (Pathein Gyi) Township which will be affected by the project. According to the household data collection, Burma is the major ethnic group within the Pathein Gyi Township. The only one dominant religion of the people in Pathein Gyi Township is Buddhist. Most of the households in this Township obtained their domestic water from tube well and drinking water from bottled water. Primary data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity

from Government (EPC). In this Township, the main sources of income are from framing, trading, livestock and other.

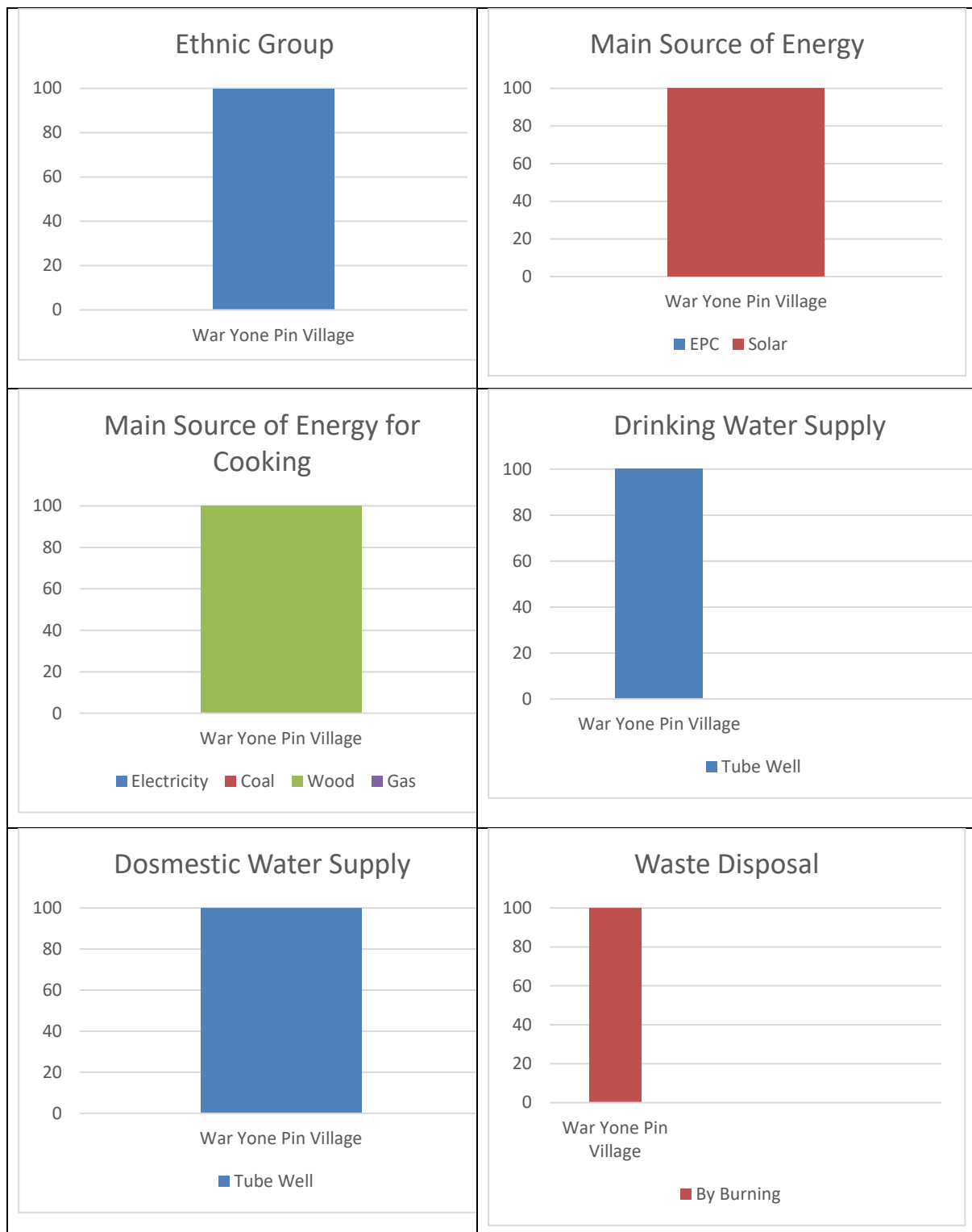




(g) Socio-economic and Census Profile of PAPs in Mandalay (Amarapura) Township

There is only one village in Mandalay (Amarapura) Township which will be affected by the project. According to the household data collection, Burma is the major ethnic group within the Amarapura Township. The only one dominant religion of the people in Amarapura Township is Buddhist. Most of the households in this Township obtained their domestic water from tube well and drinking water from bottled water. Primary data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity

from Government (EPC) and other is from solar energy. In this Township, the main source of income are from framing, trading, industry work and other.

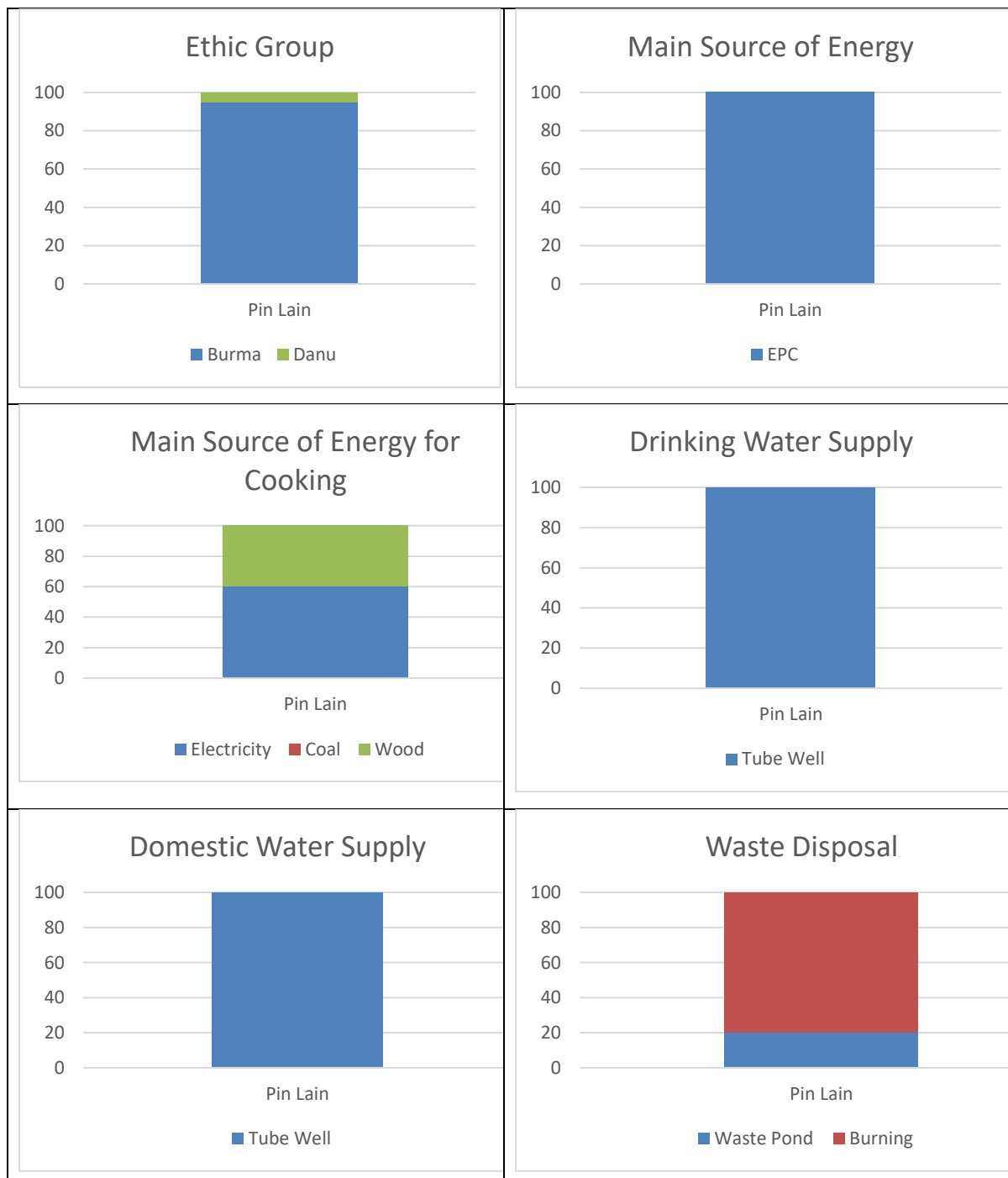


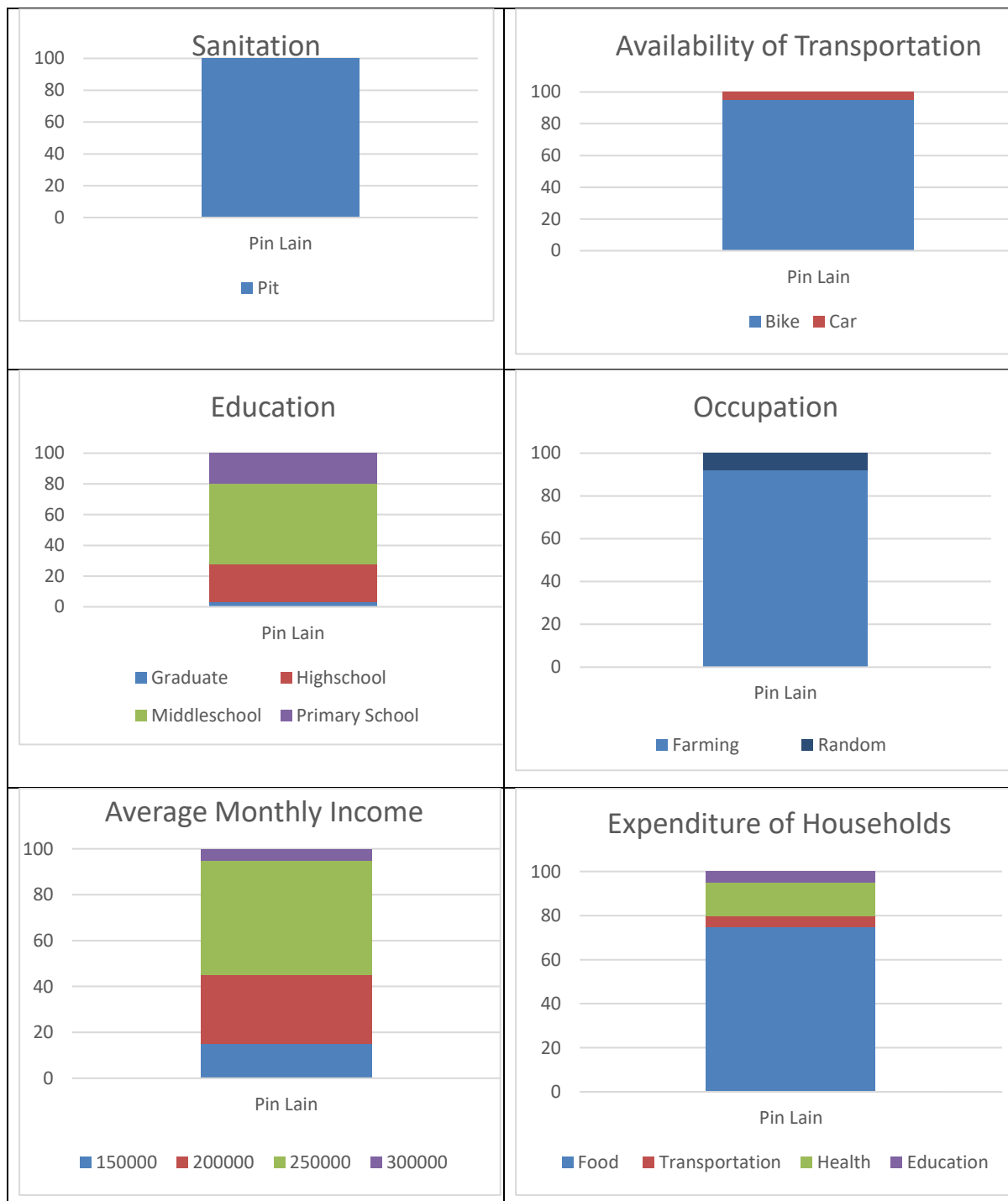


(h) Socio-economic and Census Profile of PAPs in Pyin Oo Lwin Township

There are six villages in Pyin Oo Lwin Township which will be affected by the project. According to the household data collection, Shan, Burma and Danu are the major ethnic groups within the Pyin Oo Lwin Township. The only one dominant religion of the people in Pyin Oo Lwin Township is Buddhist. Most of the households in this Township obtained their domestic water from tube well and spring water and drinking water obtained from tube well. Primary

data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC). In this Township, the main sources of income are from framing, trading and other.

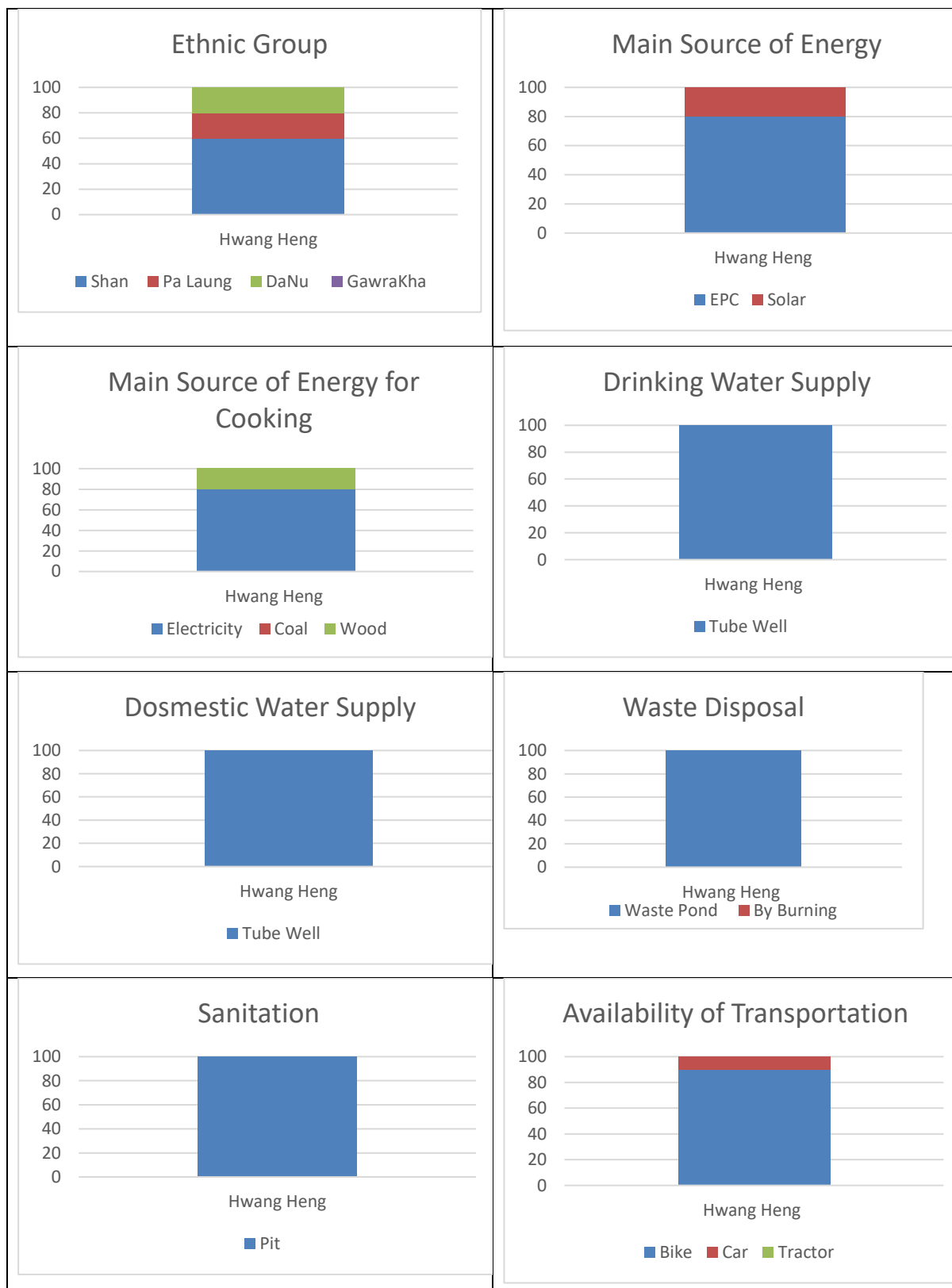


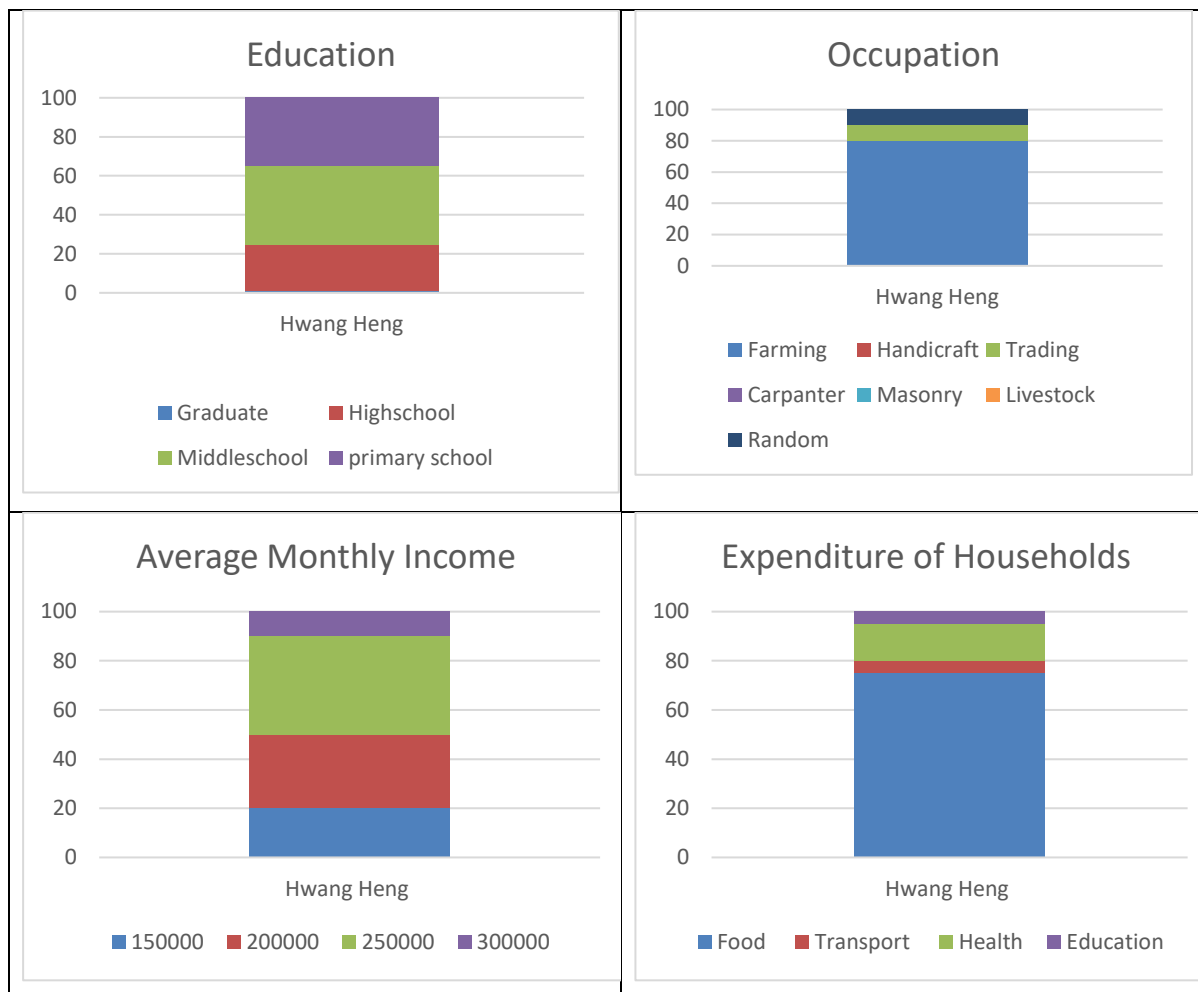


(i) Socio-economic and Census Profile of PAPs in Kyaukme Township

There is only one village in Kyaukme Township which will be affected by the project. According to the household data collection, Shan, Palaung and Danu are the major ethnic groups within the Kyaukme Township. The only one dominant religion of the people in Kyaukme Township is Buddhist. Most of the households in this Township obtained their domestic water from tube well and spring water and drinking water obtained from tube well.

Primary data from household survey revealed that the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC) and solar energy. In this Township, the main sources of income are from framing, trading and other.





Analysis of Primary Data Collection

Baseline Data	Analysis of Baseline Data	
	Mandalay	Shan
Ethic Group	Burma is the major ethic among the PAPs in Amarapura and Patheingyi. But in Pyin Oo Lwin, Danu is also included.	The majority of PAPs in Muse and Hseni Township are Shan while in Lashio, most of the PAPs are Shan and Palaung, Burma, Kachin and Gawrakha as minorities. In Lashio, Shan is the most common ethic in PAPs while Danu and Palaung are second most common.
Main Source of Energy	Majority of electricity is from EPC in Pyin Oo Lwin and Patheingyi, but PAPs use solar energy in Amarapura.	PAPs get electricity mostly from EPC and solar energy except for Muse, its electricity source is mainly from EPC.
Energy Source of Cooking	People mainly use electricity for cooking but in Amarapura, wood is mainly used and in Pyin Oo Lwin, electricity and wood are mostly used.	In Muse, Kutkai, Lashio, Naung Hkio, people mostly use electricity to cook but minority of them use coal and wood. While in Hseni and

		Kyauk Me, they mainly use wood for cooking.
Domestic Water and Drinking Water Supply	In Pyin Oo Lwin, Amarapura and Patheingyi, PAPs use domestic water from tube well also drinking water from it.	Majority of the townships use tube well for its domestic water and also use the well for drinking. Only a few from Muse use drinking water from purified water.
Sanitation	Pit is the most common use in both regions.	
Waste Disposal	In Patheingyi, the affected village mostly used waste pond for disposing waste but in Amarapura and Pyin Oo Lwin, burning waste is more common.	In Muse, waste pond is used for waste disposal but other project affected townships burn waste in order to dispose them.
Transportation	Bike is the most common in transportation but some also use car in Patheingyi.	Bike is mainly used for transportation but car is also used sometimes in Muse.
Occupation	In Patheingyi, peoples' occupation are mostly farming and some also do livestock farming and trading. In Amarapura, farming and trading is the most common occupation and In Pyin Oo Lwin, only farming is done.	In Muse, Kutkai, Hseni, and other township, farming is the most common occupation while breeding livestock and trading are the minor occupation.
Average Monthly Income	In Pyin Oo Lwin and Patheingyi, the income range is within 200000-250000 kyats and in Amarapura, 200000 kyats is the most common.	In Muse, the common income is about 250000 kyats while in Kutkai, Hseni, Naung Hkio and other villages, 200000 kyats is the most common.
Education	According to surveys, PAPs in Pyin Oo Lwin are mostly middle school while in Amarapura and Patheingyi, Highschool and middle school are most common. Overall, the number is graduate is very low in all affected villages.	In Naung Hkio, most PAPs have finished till middle schools and in Kyauk Me, Muse and Lashio, most finished till high school. In Hseni and Kutkai, most PAPs finished till primary school
Household's Expenditure	People mostly use its expenditure for food but they also use it sometimes for education, transportation and health.	

According to the socio-economic baseline study, the upgrading of the railway project will have impacts both in the rural and urban sections and will force some households to lose their residential and business buildings and income; similarly, in rural section, there will be farmers that will lose strip of their farm land for the construction works.

Loss of strip of farmlands by farm households is below 10% of their holding size and asset and will not force them to be permanently dispossessed from their farmland. The loss of strip of land by farm households will not also require for resettlement outside of their present location because the impact will be minimal for each household since the loss is partial. Hence, there

will not be households who will be requiring resettlement as it is stipulated in World Bank (WB) involuntary resettlement policy and guideline.

The affected farm households that will lose strip of their land could continue their livelihood in the remaining plot of land; however they need to be compensated for losing their farmlands, crops, timber trees, perennial crops, cash crops and affected farm structures; and also be provided with appropriate income restoration for loss of incomes and associated impacts as per the law.

The households who will fully lose their residential houses and businesses will be relocated within the same town/villages and not very far away from their present location and neighborhoods. The Project Affected Persons will be compensated for lost property and income as per Myanmar’s law and will be provided plot of land to construct their houses in the same town.

In the project area, there will also be public utilities that will be affected. The affected public utilities include, telephone lines and poles, electricity lines and poles. Likewise, household water supply network will also be affected in the town sections. The cost estimates for compensation payment of the affected utilities are prepared by the relevant government offices or utility providers.

(b) Socio-economic Profile of PAPs in Muse Township by Secondary Data Collection

The following data shows the regional data of village tracks that the proposed railway passes through in each township. These data are obtained from 2014 Myanmar Population and Housing Census released from Department of Population Ministry of Labour, Immigration and Population and some are from local information of State/Region from Department of General Administration.

(1) Ethnic Group and Population

Muse

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	24021	151868	15.81%
2	Kaya	15		0.009%
3	Kayin	228		0.15%
4	Chin	158		0.1%
5	Mon	17		0.01%
6	Burma	21006		13.83%
7	Ya Khine	114		0.07%
8	Shan	58332		38.43%

9	Pa Laung	12721		8.38%
10	Le Sue	2365		1.56%
11	Le Shaw	1549		1.02%
12	Wa	138		0.09%
13	Larhu	9		0.005%
14	Mone Won	9544		6.28%
15	Koe Kkant	2512		1.65%
16	Pa-Oh	3		0.002%
17	Foreigner	19136		12.6%

Lashio

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	18162	296392	6.13
2	Kaya	66		0.02
3	Kayin	1736		0.46
4	Chin	1333		0.45
5	Mon	154		0.05
6	Burma	49379		16.66
7	Ya Khine	610		0.21
8	Shan	89364		30.15
9	Pa Oh	45		0.02
10	Da Nu	30		0.01
11	Pa Laung	26217		8.85
12	Koe Kant	73053		24.65
13	Lah Hu	5522		1.9
14	Le Sue	3415		1.15
15	Le Shaw	589		0.19
16	Wa (Lwal La)	7080		1.72
17	Myaung Ze	749		0.22
18	Mone Won	10747		0.02
19	Other	6854		2.31
20	Foreigner	1282		0.43

Thein Ni

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	5176	58428	8.85
2	Kaya	-		-
3	Kayin	102		0.17
4	Chin	118		0.20
5	Mon	18		0.03
6	Burma	3019		5.15
7	Ya Khine	72		0.12
8	Shan	30764		53.03
9	Pa Oh	8		0.01
10	Da Nu	14		0.02
11	Mone Won (Koe Kant)	10466		17.58

12	Pa Laung	1997		3.40
13	Le Shaw	354		0.6
14	Le Sue	1496		2.58
15	Lah Hu	3086		5.25
16	Lwal La (Wa)	558		0.95
17	Myaung Sie	688		1.17
18	Other	500		0.85

Kutkai

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	45798	191222	24
2	Kaya	18		0.009
3	Kayin	105		0.054
4	Chin	96		0.06
5	Mon	23		0.012
6	Burma	4507		2.36
7	Ya Khine	93		0.05
8	Shan	12699		6.64
9	Pa Laung	47757		25
10	Le Sue	2558		1.34
11	Myaung Ze	521		0.27
12	Koe Kant	4435		2.32
13	Mone Won	55252		29
14	Le Shaw	10033		5.3
15	Inn Thar	5		0.003
16	Da nu	7		0.004
17	Lah Hu	14		0.01
18	Other	1140		0.6

Naung Cho

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	1368	132433	1.03
2	Kaya	22		0.02
3	Kayin	215		0.2
4	Chin	265		0.2
5	Mon	44		0.03
6	Burma	31927		24.09
7	Ya Khine	143		0.1
8	Shan	44808		33.8
9	Da Nu	47756		36.03
10	Koe Kant	810		0.61
11	Pa Laung	324		0.24
12	Lah Hu	143		0.1
13	Le Sue	286		0.21
14	Other	4322		3.26

Pyin Oo Lwin

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	11904	215293	5.52
2	Kaya	49		0.02
3	Kayin	1028		0.47
4	Chin	907		0.42
5	Mon	28		0.01
6	Burma	172553		80.15
7	Ya Khine	92		0.04
8	Shan	15005		6.97
9	Pa Oh	-		-
10	Da Nu	-		-
11	Taung Yoe	-		-
12	Pa Laung	-		-
13	Other	13582		6.31

Patheingyi

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	39	227613	0.02
2	Kaya	4		0.0001
3	Kayin	69		0.03
4	Chin	34		0.01
5	Mon	26		0.01
6	Burma	226892		99.98
7	Ya Khine	40		0.02
8	Shan	317		0.14
9	Other	-		-

Amarapura

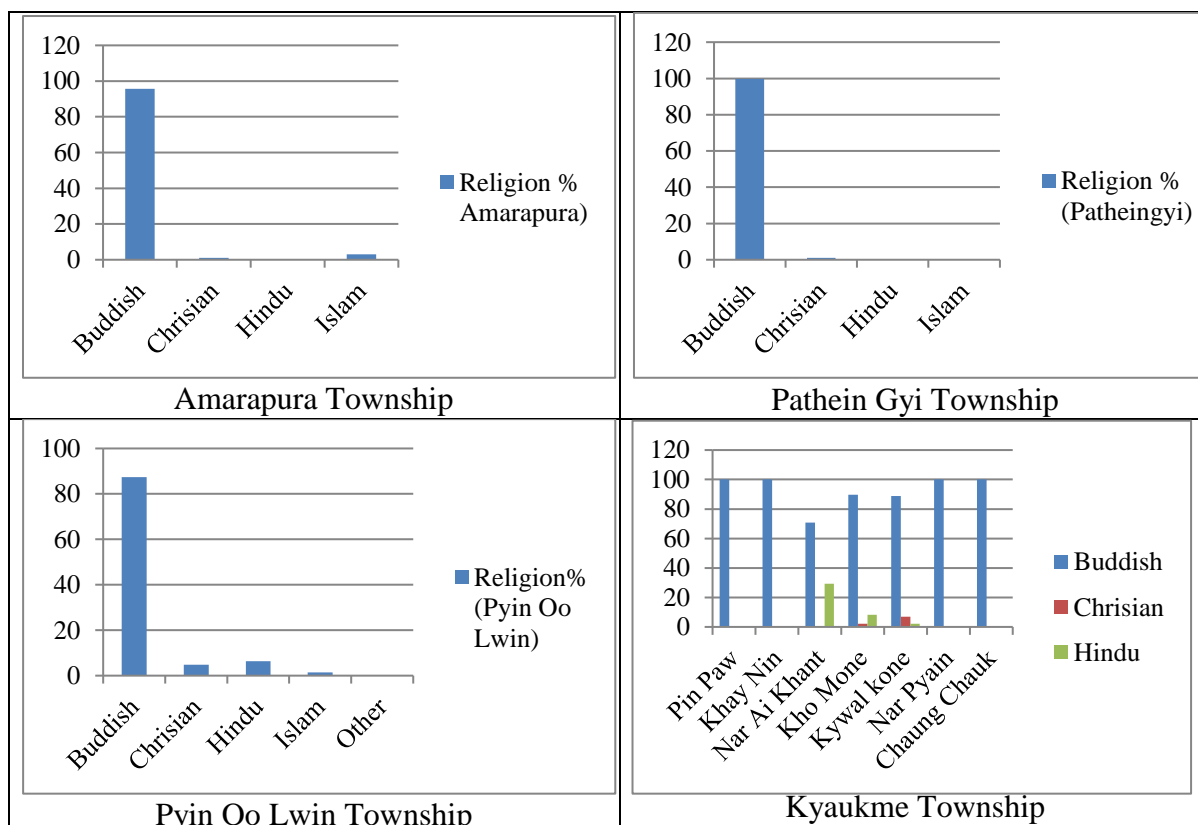
No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	18	203359	0.008
2	Kaya			
3	Kayin	11		0.005
4	Chin	43		0.021
5	Mon	4		0.002
6	Burma	203254		99.948
7	Ya Khine	17		0.008
8	Shan	12		0.005

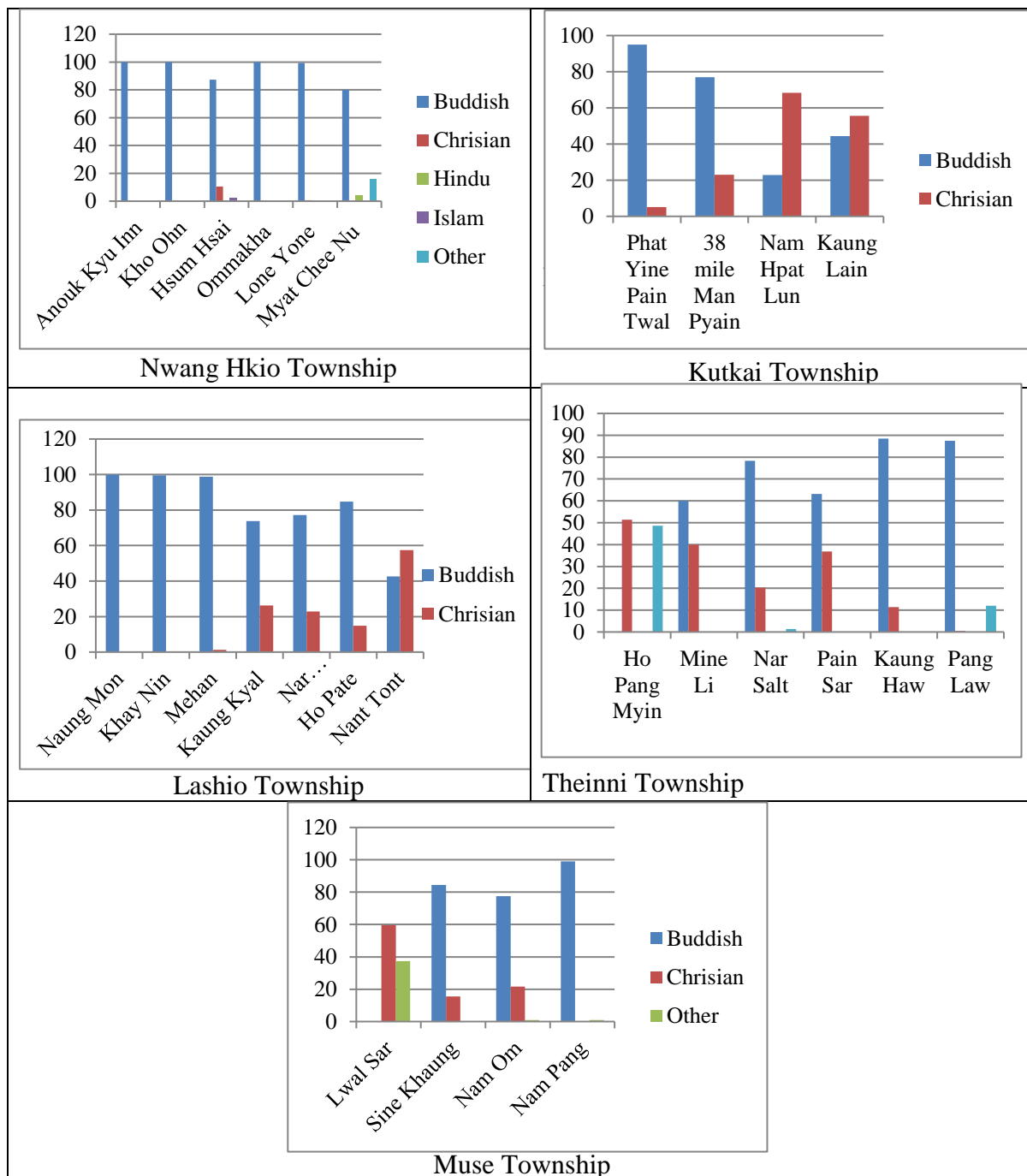
Kyauk me

No.	Ethnic Group	Population	Total Population	Population %
1	Kachin	3431	173724	1.97
2	Kayin	190		0.11
3	Chin	134		0.08
4	Mon	35		0.02
5	Burma	23487		13.77
6	Ya Khine	140		0.08
7	Shan	99273		57.14
8	Da Nu	1012		0.58
9	Koe Kant	1944		1.12
10	Pa Laung	32230		18.55
11	Wa	34		0.02
12	Le Shaw	96		0.06
13	Le Sue	728		0.42
14	Other	4849		2.85

(b) Religion

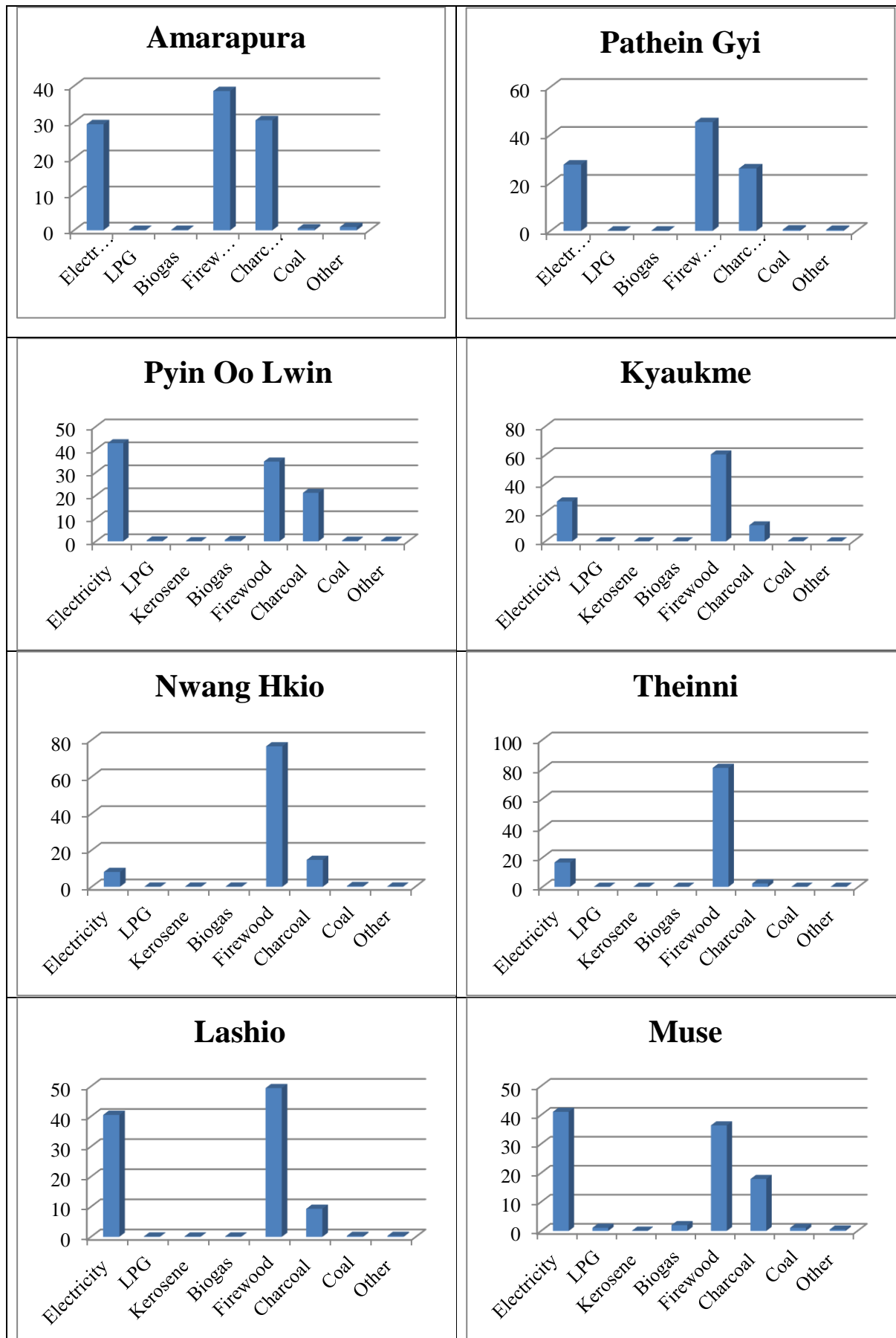
The only one dominant religion of the people in almost all of the township is Buddhist. The different types of the religions are shown in the following figures.

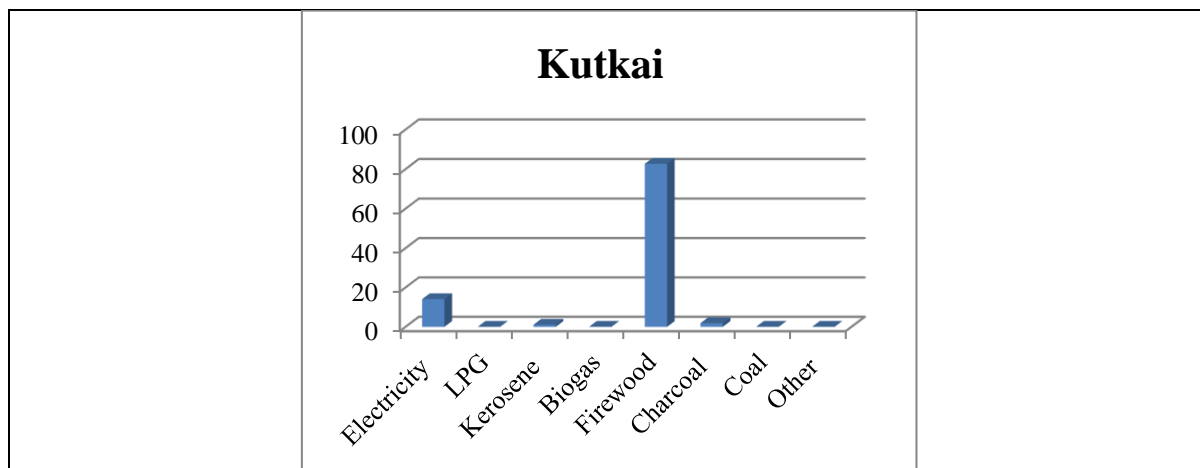




(c) Main Source of Energy for Cooking

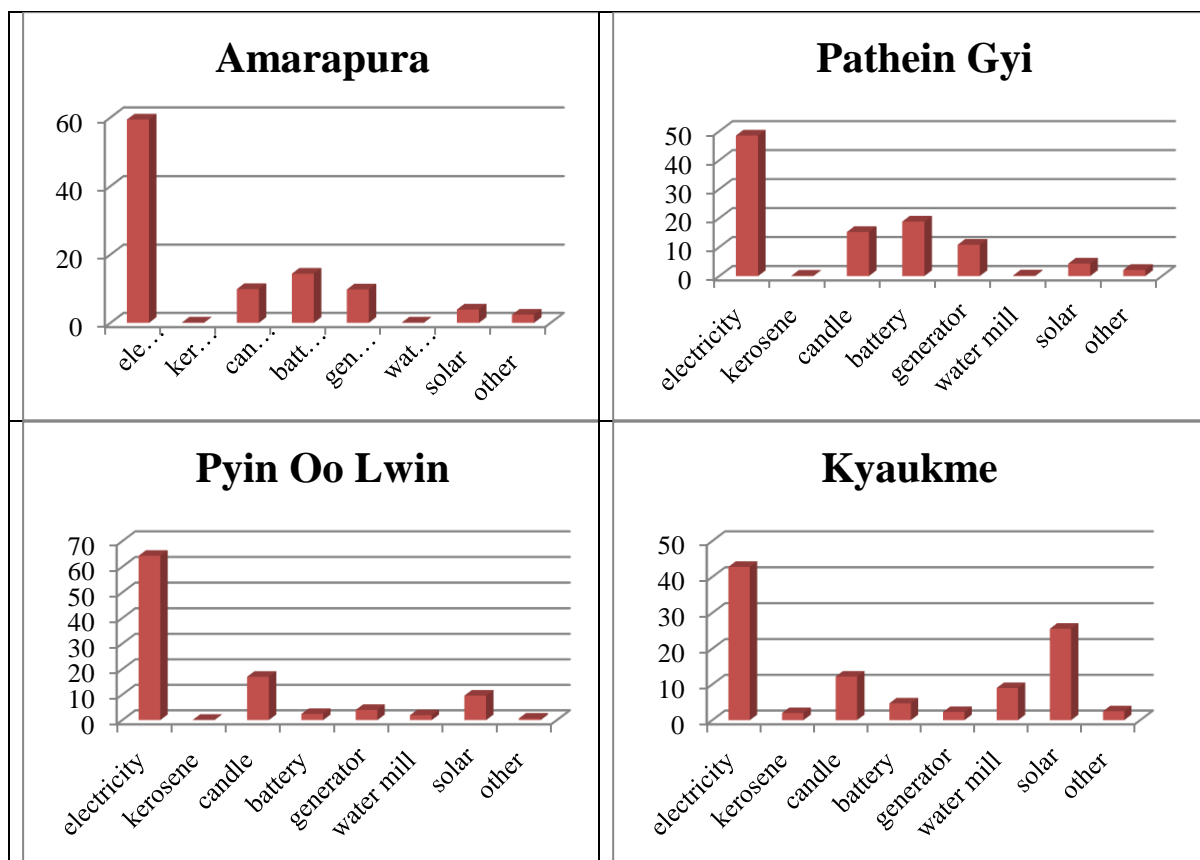
The different types of the source of energy for cooking are shown in the following figures.

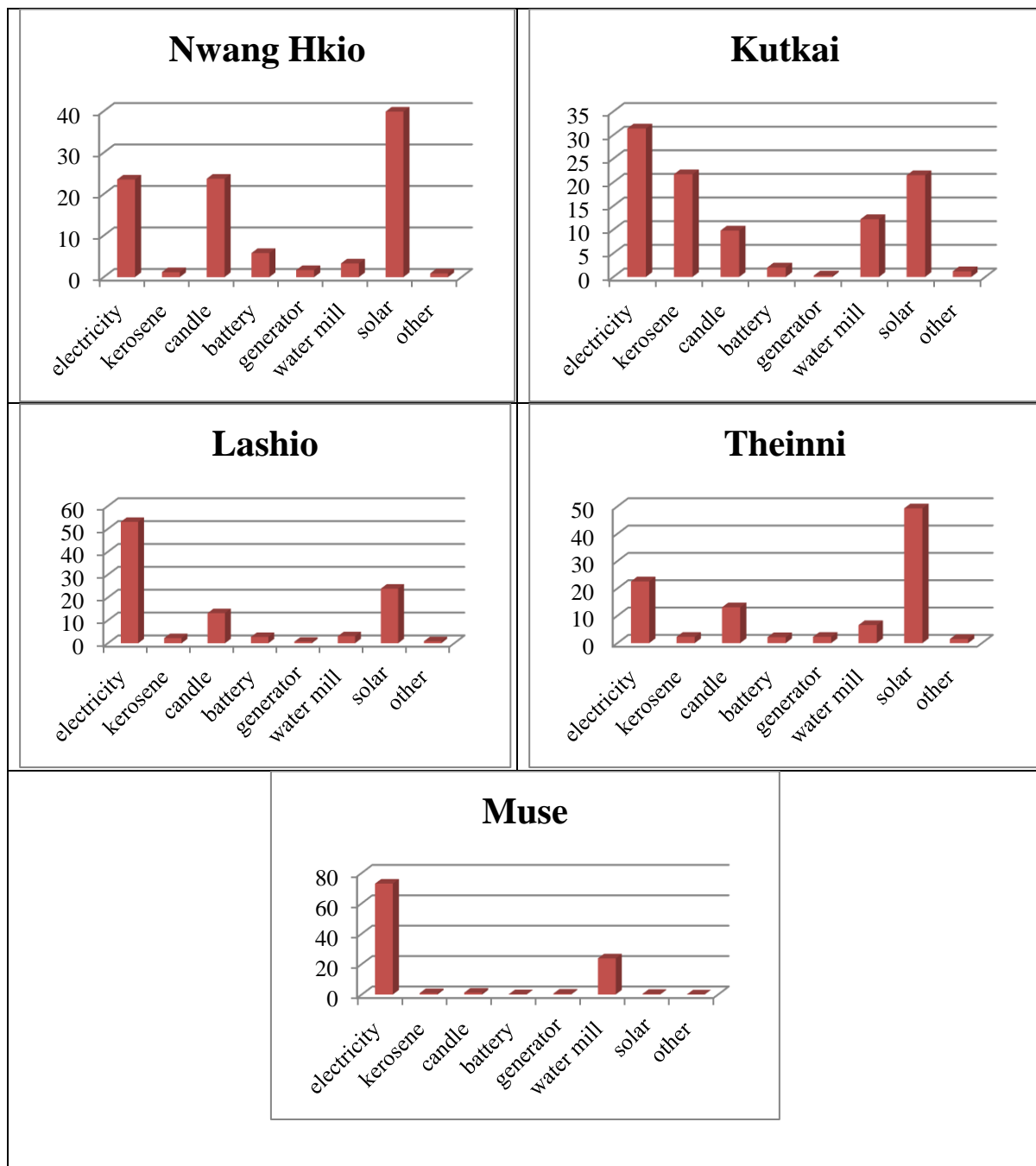




(d) Main Source of Energy

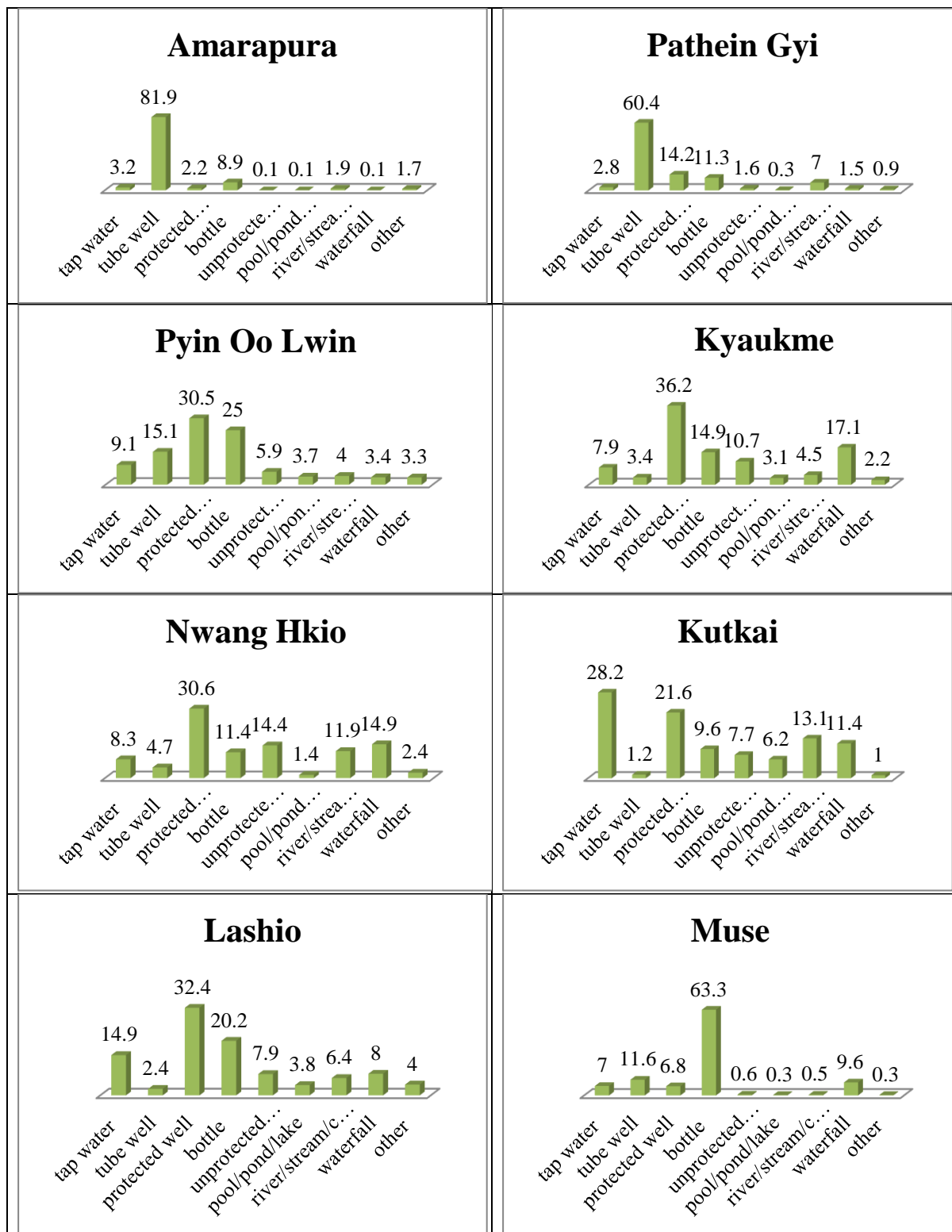
According to the secondary data collection, the sources of energy for lighting in many of the villages are mainly the electricity from Government (EPC). The different types of the energy sources are shown in the following figures.

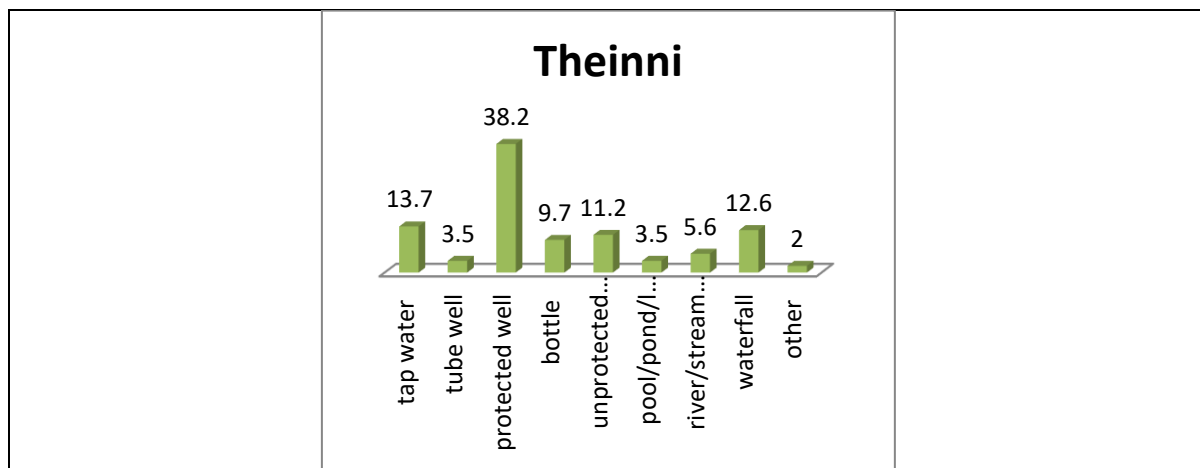




(e) Drinking Water Source

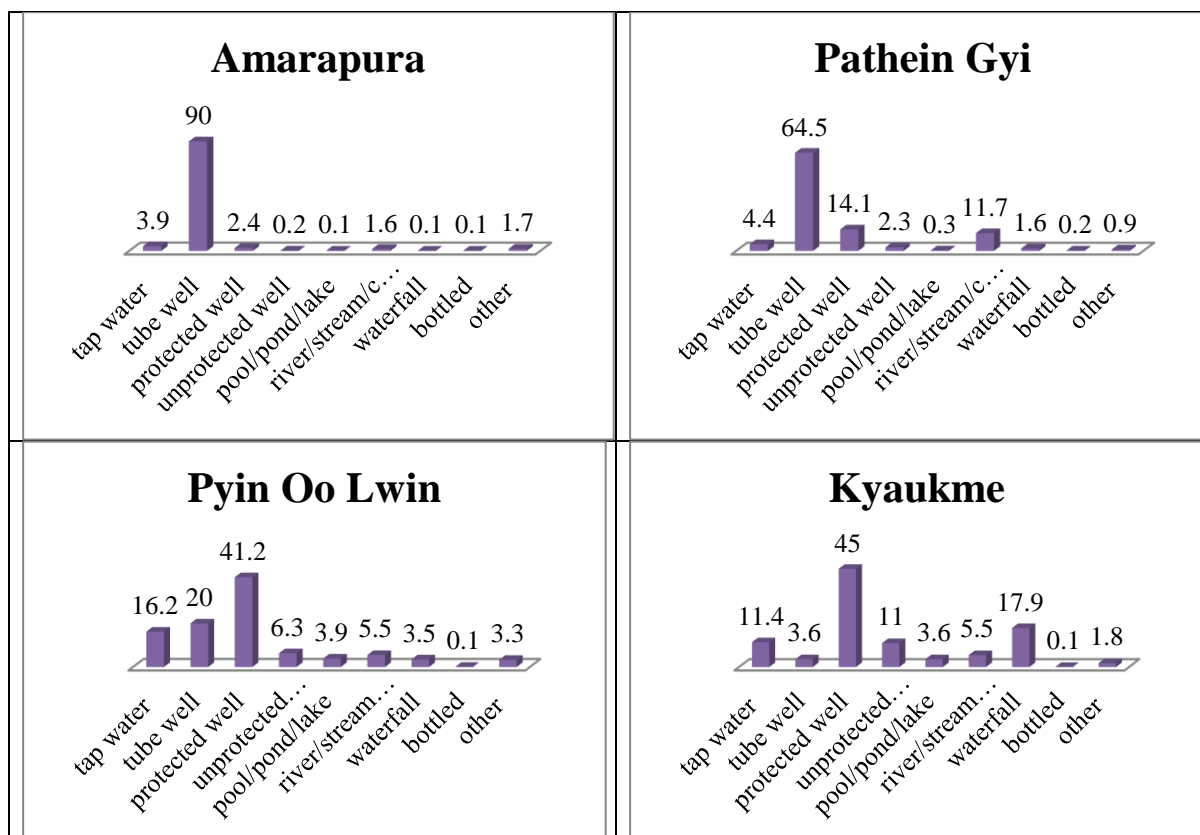
According to the secondary data collection, the sources of drinking water in many of the villages are mainly the tube well. The different types of the drinking water sources are shown in the following figures.

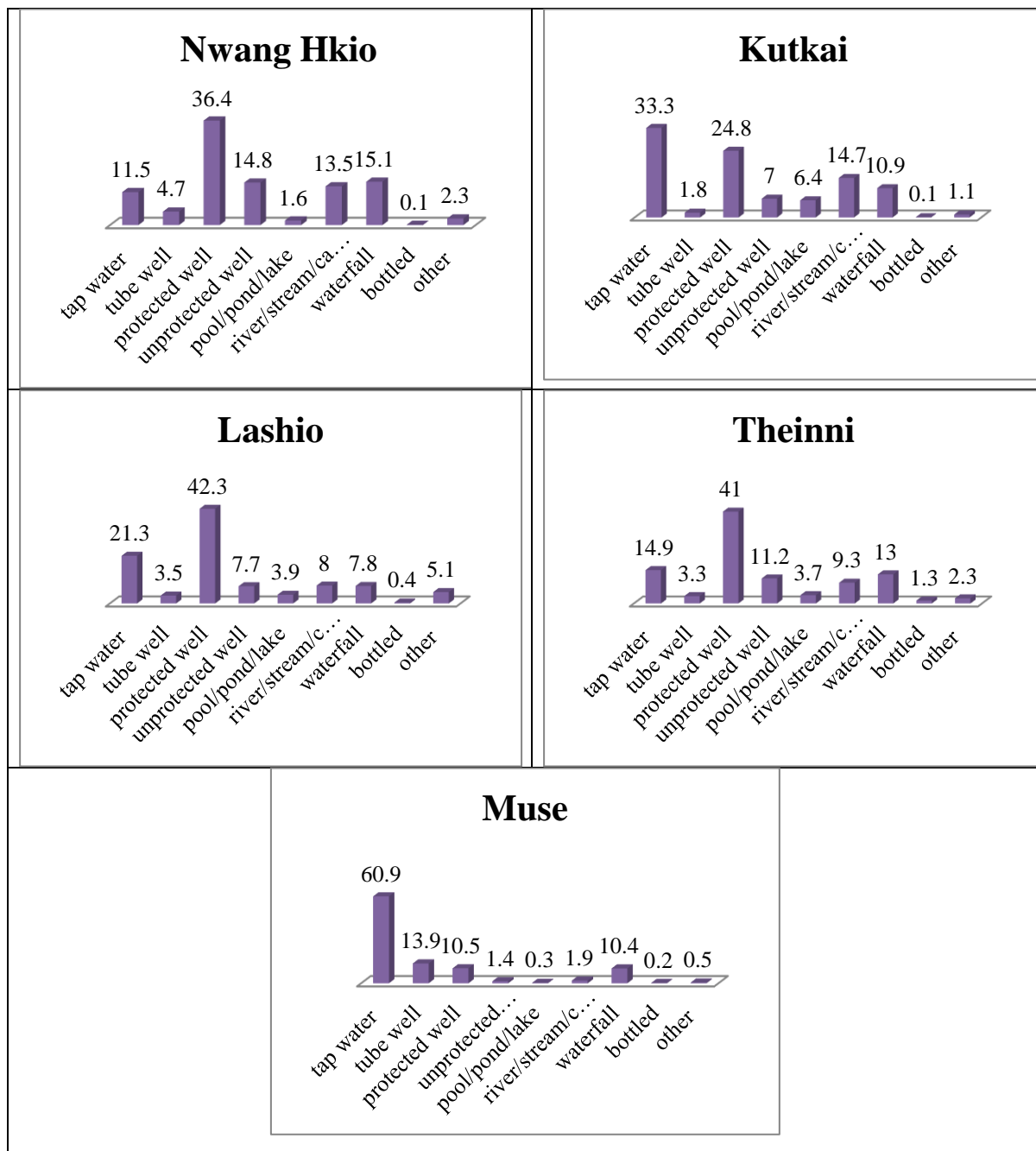




(f) Domestic Water Supply

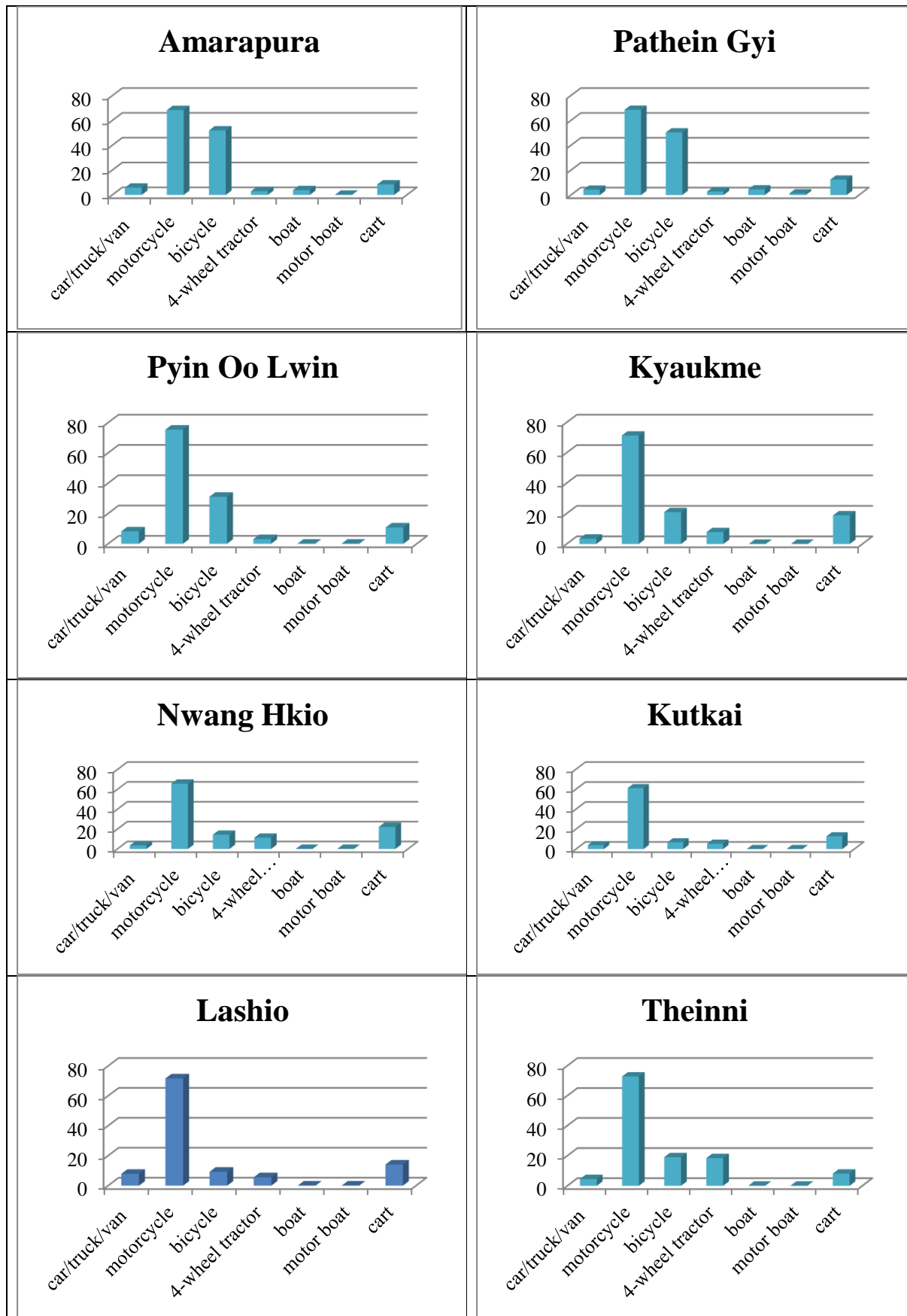
According to the secondary data collection, the sources of domestic water in many of the villages are mainly the tube well. The different types of the domestic water supply are shown in the following figures.

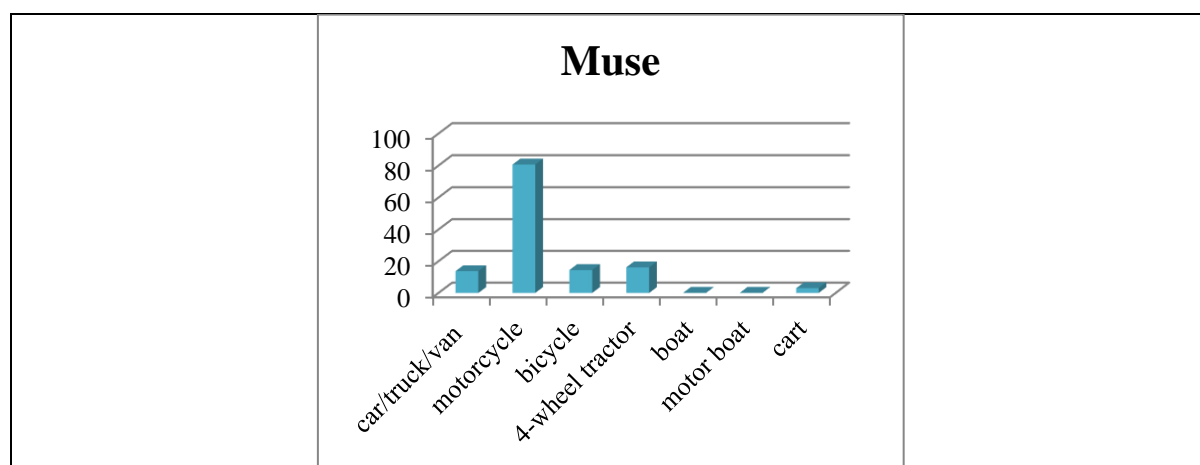




(g) Availability of Transportation

According to the secondary data collection, most of the villages use motorcycle for their transportation purposes. The different types of the equipment used for transportation purposes are shown in the following figures.





(h) Education

The total number of schools and teacher/student ratio for different Townships are shown in the following table.

Township	Education				
	School	No. of Schools	No. of Teacher	No. of Students	Teacher/Student Ratio
Patheingyi	Higher Education	7	725	8131	1:11
	BEHS	6	342	11508	1:33
	BEHS Branch	5	126	3965	1:31
	BEMS	6	110	3921	1:35
	BEMS Branch	2	22	595	1:27
	Post-primary school	19	197	8245	1:19
	BEPS	73	426	8254	1:27
	Preschool	-	-	-	-
Pyin Oo Lwin	Monastic School	29	399	7900	1:19
	Higher Education	1	141	2018	1:14
	BEHS	9	516	14828	1:28
	BEHS Branch	7	173	4687	1:27
	BEMS	13	198	4990	1:25
	BEM Branch	19	194	4098	1:21
	Post-primary school	16	118	1846	1:15
BEPS	81	408	6270	1:15	

	Preschool	3	5	66	1:13
	Monastic School	1	2	54	1:27
Amarapura	Higher Education	4	878	19878	1:23
	BEHS	7	410	13941	1:34
	BEHS Branch	5	116	2936	1:25
	BEMS	8	173	4924	1:28
	BEMS Branch	2	27	960	1:35
	Post-primary school	19	209	5942	1:28
	BEPS	64	381	7109	1:18
	Preschool	7	14	185	1:13
	Monastic School	6	55	954	1:17
	Heinsi	Higher Education	-	-	-
BEHS		3	93	3386	1:34
BEHS Branch		2	31	1035	1:33
BEMS		1	10	183	1:18
BEMS Branch		5	56	1545	1:27
Post-primary school		4	31	726	1:23
BEPS		46	173	3076	1:18
Preschool		7	5	71	1;14
Monastic School		-	-	-	-
Kutkai	Higher Education	-	-	-	-
	BEHS	7	215	6333	1:29
	BEHS Branch	1	26	790	1:30
	BEMS	7	96	3355	1:34
	BEMS Branch	11	111	4100	1:36
	Post-primary school	28	123	3561	1:28
	BEPS	203	608	18137	1:29
	Preschool	11	17	423	1:24
	Monastic School	2	7	199	1:28
Kyukme	Higher Education	-	-	-	-
	BEHS	7	253	8090	1:31

	BEHS Branch	4	88	2192	1:24
	BEMS	5	51	1045	1:20
	BEMS Branch	9	108	3573	1:33
	Post-primary school	33	221	4813	1:21
	BEPS	200	600	9892	1:16
	Preschool	1	11	309	1:28
	Monastic School	6	69	1380	1:20
Lashio	Higher Education	4	380	5151	1:13
	BEHS	11	657	27699	1:33
	BEHS Branch	10	310	9939	1:32
	BEMS	3	65	1910	1:29
	BEMS Branch	23	319	9659	1:30
	Post-primary school	-	-	-	-9
	BEPS	113	352	7170	1:20
	Preschool	14	27	448	1:16
	Monastic School	9	125	3629	1:27
Muse	Higher Education	-	-	-	-
	BEHS	7	280	8545	1:31
	BEHS Branch	5	1124	4266	1:34
	BEMS	2	30	891	1:30
	BEMS Branch	3	331	1266	1:40
	Post-primary school	14	132	3229	1:25
	BEPS	51	214	3630	1:17
	Preschool	14	17	351	1:20
	Monastic School	4	20	570	1:29
	Naungkio	Higher Education	-	-	-
BEHS		8	231	8361	1:36
BEHS Branch		8	132	2772	1:21
BEMS		13	152	3182	1:21
BEMS Branch		13	104	2805	1:27

	Post-primary school	34	183	3345	1:18
	BEPS	103	411	5247	1:13
	Preschool	25	57	1038	1:18
	Monastic School	2	15	401	1:27

(i) Employment Rate

Most of the township have a few numbers of unemployment except Lashio Township. The percentage of the unemployment rate are shown in the following table.

Township	No. of Employment	Employee in workplace	No. of Employment	% of unemployment
Mandalay (Amarapura)	127713	118607	9106	7.13
Mandalay (Patheingyi)	194567	188809	5758	2.95
Pyin Oo Lwin	137903	137057	846	0.006
Nwang Hkio	75083	73341	1742	2.32
Kyaukse	75261	757080	1091	1.44
Lashio	185873	138234	47639	25.63
Hseni	44841	17619	1145	2
Kutkai	94980	90341	3959	4.2
Muse	135734	72973	4388	3.23

(j) Occupational Patterns

The following table shows that the agriculture and self-employed are the common livelihood means of households in Townships along the railway bridges. The other types of occupation patterns are shown in the following table.

Township	Government Employee	Services	Agriculture	Livestock	Trade	Industry	Fisheries	Self-employed	Others
Mandalay (Amarapura)	4528	217	20038	20400	39545	21056	-	9544	1979
Mandalay (Patheingyi)	2637	17119	32060	4279	81316	8600	-	15679	17119
Pyin Oo Lwin	6892	1279	289	29	1007	62	-	4230	7830
Nwang Hkio	2046	5563	42338	14377	3774	2520	20	2001	2098

Kyaukme	3253	2558	32280	251	1657	231	-	17020	19938
Lashio	5289	4754	59908	4670	10606	1283	-	18406	33318
Hseni	768	1250	12070	25	375	200	-	881	1075
Kutkai	1878	4025	56147	3171	4689	734	-	13449	6248
Muse	3081	6356	39992	1937	29008	9310	-	5467	21814

Analysis of Secondary Data Collection

Baseline Data	Analysis of Baseline Data	
	Mandalay	Shan
National Income	According to secondary data, the income is higher in Muse, Lashio and Mandalay while the other areas have low income.	
Domestic Water Supply	Only areas in Muse, Lashio and Mandalay has good urban water supply but in rural areas, people use spring water as drinking and domestic water.	
Education	In Mandalay, Pyin Oo Lwin, Lashio and Muse, they have good basic and higher education except for some parts in Shan State especially in Hseni, Naung Cho, Kut Kai and Kyauk Me, there are more rural families in those areas.	
Employment	The employment rate in Pyin Oo Lwin is the highest as it is 99% while in Amarapura, its rate is 92.87%. In Shan State, the highest employment rate is in Theini where Lashio has the lowest employment of 74%.	
Main Source of Cooking	In Mandalay, Pyin Oo Lwin and Muse, electricity is the main source for cooking but in rural areas such as Hseni, Kutkai and Naung cho, wood and coal are the main source for cooking.	
Main Source of Electricity	The main source of electricity is from EPC but in rural areas especially in Shan State, solar energy is used.	
Transportation	Bike is the most used transportation in both regions but in Shan State such as in rural areas, bicycle is also used. Car is used sometimes and it is used more commonly in Mandalay, Pyin Oo Lwin and Muse.	
Ethic Group	In Lashio, Muse and Theinni, Shan is the major ethic group while in Pyin Oo Lwin, Patheingyi and Amarapura, Burma is the major ethic group. Danu is the major ethic group in Naung Cho and the majority ethic group of KutKai is Kachin and Pa Laung.	

5.4. Services and Other Facilities along the Railway Alignment

According to the EIA study, the railway will pass through residential area, agricultural land, power line, and cable line as follow:

(a) Demolition and Relocation of Power Lines

Principle of demolition and relocation

(1) All power lines and facilities shall be relocated if any of the following conditions apply:
They are within the railway land use boundary, having an impact on execution of railway project,

Power lines crossing the railway do not meet current electrified railway codes, specifications and requirements in crossing method, fixing method and crossing height,

Other situations do not meet current applicable codes, specifications and requirements and undermine safety in railway construction and operation.

(2) Costs for relocation of power lines resulting from the following works shall be included in the corresponding works and not included here:

In the case of overall relocation of a plant building or enterprise, power lines for the plant building or enterprise shall be rehabilitated by the enterprise, which is not included in these power line relocation work,

Power line relocation resulting from temporary facilities such as borrow pit/waste bank, spoil bank, girder fabrication yard, track-laying base, graded crushed stone plant, temporary road, temporary amenities and transition works. Power line relocation as a result of relocated road extending beyond the railway ROW boundary,

Regarding power line relocation caused by building relocation, power lines which do not affect their use by users outside the ROW boundary after building demolition and power transition during building relocation shall not be included in these relocation works.

Power line relocation resulting from new temporary or permanent power lines for the railway, Changes in power line relocation quantities as a result of change design of civil works in construction stage shall be included in the corresponding change design.

(3) Relocation of power lines and facilities shall comply with currently valid codes, specifications and requirements and not undermine safety in railway construction and operation. Relocation works shall be executed with the property owner's approval

(4) Relocated power lines shall be rehabilitated, wherever possible, to original technical standards while conforming to current codes.

(5) Relocation works shall be complete in one operation to avoid repeated relocation.

(6) The cost for power line relocation in this phase is reflected in all-in price, which included all costs necessary to execute power line relocation including relocation survey, proposal determination, necessary survey, design and review, execution of relocation works, crop compensation, acceptance, handover and coordination with relevant units and personnel.

Technical requirements for relocation

Power line relocation needs to take into account relevant technical conditions of electrified railway and the effect of operation and passage of the launching girder. When overhead power lines cross or near railway, the following requirements shall be met.

Item		Requirement	
Joints of conductors or earth wires within crossing span		Not permitted	
Minimum cross-section of conductor in crossing span		35mm ² for steel reinforced aluminium conductor at or above 132kV	
Joint of conductors in crossing span		Not allowed	
Line breaking in adjacent span		Verification required at 132kV or above (see Note3)	
Fixing method for crossing span		Independent tension section (not more than 3 tangent towers), dual fixing points, dual hanging points, dual strings, etc.	
Minimum vertical distance	Voltage Level	To the uppermost conductor of OCS or top of launching girder at maximum sag (m)	
	33kV and below	Over crossing not permitted	
	132 kV	3	
	230 kV	4	
	500 kV	6	
		Outer edge of tower to track center (m)	
Minimum horizontal distance	Voltage Level	Crossing	Parallel
	35 kV and below	30	
	110 kV	Tower height plus 3.1m; may be reduced as appropriate when requirements cannot be met, but not less than 30 m; take protective measures to prevent fallen tower from intruding into railway construction clearance.	Tower height plus 3.1m; as agreed between both sides in difficult conditions; take protective measures to prevent fallen tower from intruding into railway construction clearance.
	220 kV		
500 kV			
1. When power lines cross the railway, independent tension section shall be adopted; the number of continuous tangent towers in the independent tension section shall not exceed 3;			
2. When the crossing span of power line exceeds 200m, maximum sag shall be calculated at conductor temperature of 70° C or 80° C;			
3. Calculation conditions for line breaking in adjacent span; +15°C, windless. The minimum vertical distance between the conductor in crossing span and 27.5 kV electrified body is > 2.0m; when the tower carries a fixed cross arm and bundle conductor, it may be exempt from verification.			
4. In section where the launching girder is used for construction, the height of line crossing shall also satisfy the safe distance for the launching girder and other construction machinery			

Power line relocation in bridge sections; For power lines above 33kV crossing railway bridge, when the crossing method, height and horizontal distance meet requirements but the crossing height cannot satisfy the safety distance for launching girder operation, technical and economic compensation may be made with other construction methods (such as using continuous girder and scheduled outage) in consultation with relevant entities and departments to avoid adopting the scheme that requires relocation of power lines wherever possible. If relocation is necessary, it shall be carried out in a manner that satisfies the safety distance required for the launching girder.

Power line relocation near cities/ towns and highway; when relocation path is near urban planning area and highway, the relocated power lines shall meet the planning requirements of relevant departments.

Cable lines; XLPE armored copper-core cables are generally used; its cross-section shall allow for future development or cater of the development of local power grid. When crossing the track, cables shall be laid in pipe for protection. To facilitate maintenance and emergency repair and reduce its effect on subgrade, two steel pipes (one to accommodate cable and the other for standby) shall be provided at each location where cables laid in pipe cross the track; and one cable pit shall be provided at each end of the protective pipe.

Power line demolition and relocation

S/N	Description	Unit	Qty
Power Lines Crossing			
1	33kV line (changed to cable)	Nr.	23
2	33kV line (changed to overhead line)	Nr.	4
3	11kV line (changed to cable)	Nr.	48
4	0.4kV line (changed to cable)	Nr.	63
Other demolition and relocation works			
1	Demolition and relocation of 11/0.4kV pole type transformer	Nr.	1
2	Demolition and relocation of 33/0.4kV pole type transformer	Nr.	1

Source: Source: Feasibility Study Report for MMR (CREEC)

(d) Affected Telecommunication Lines

Principles for demolition and relocation

- Compensate for the affected optical (electric) cables along the line as per the actual condition, without improving the original communication line standards.

- Wireless facilities such as radio stations, navigation stations, DF stations, radar stations, seismographic stations and TV transposer stations affected along the line shall be protected correspondingly. Those that cannot be protected may be relocated.

Technical requirements

(1) All electric (optical)cables over-crossing the railway will be changed to be laid below the railway. Use the culvert and bridge to avoid laying or crossing the cables in stations. Reconstruction will be conducted together with removal during civil works of line and station and yard.

(2) Communication base stations within the boundary of railway will be removed outside the boundary of railway.

(b) Communication Line Demolition and Relocation

Communication lines and facilities to be demolished and relocated in the project include 17 optical (electrical) cables and 1 base station.

Railway Milage	Owner	Facility	Laying method	Unit	Qty
CK9+143	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK9+860	State owned by Myanmar	Base Station	Iron Tower	Nr.	1
CK118+512	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK134+984	State owned by Myanmar	Optical (electric) cable	Overhead	Pcs.	3
CK144+740	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK145+653	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK146+617	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK146+630 - CK147+300	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK147+418	State owned by Myanmar	Optical (electric) cable	Underground	Nr.	1
CK 198+166	State owned by Myanmar	Optical (electric) cable	Overhead	Pcs.	2
CK261+497	Shared by Myanmar Government and telecommunication operator	Optical (electric) cable	Directly buried	Pcs.	2

CK290+200- CK290+300	Shared by Myanmar Government and telecommunication operator	Optical (electric) cable	Directly buried	Pcs.	2
CK 290+585	Shared by Myanmar Government and telecommunication operator	Optical (electric) cable	Directly buried	Pcs.	2
CK 290+649	Shared by Myanmar Government and telecommunication operator	Optical (electric) cable	Directly buried	Pcs.	2
CK 290+945	Shared by Myanmar Government and telecommunication operator	Optical (electric) cable	Directly buried	Pcs.	2
CK 290+946	Unknown	Optical (electric) cable	Overhead	Pcs.	1
CK382+226	Unknown	Optical (electric) cable	Overhead	Pcs.	1
CK384+248	Unknown	Optical (electric) cable	Overhead	Pcs.	1

Source: Source: Feasibility Study Report for MMR (CREEC)

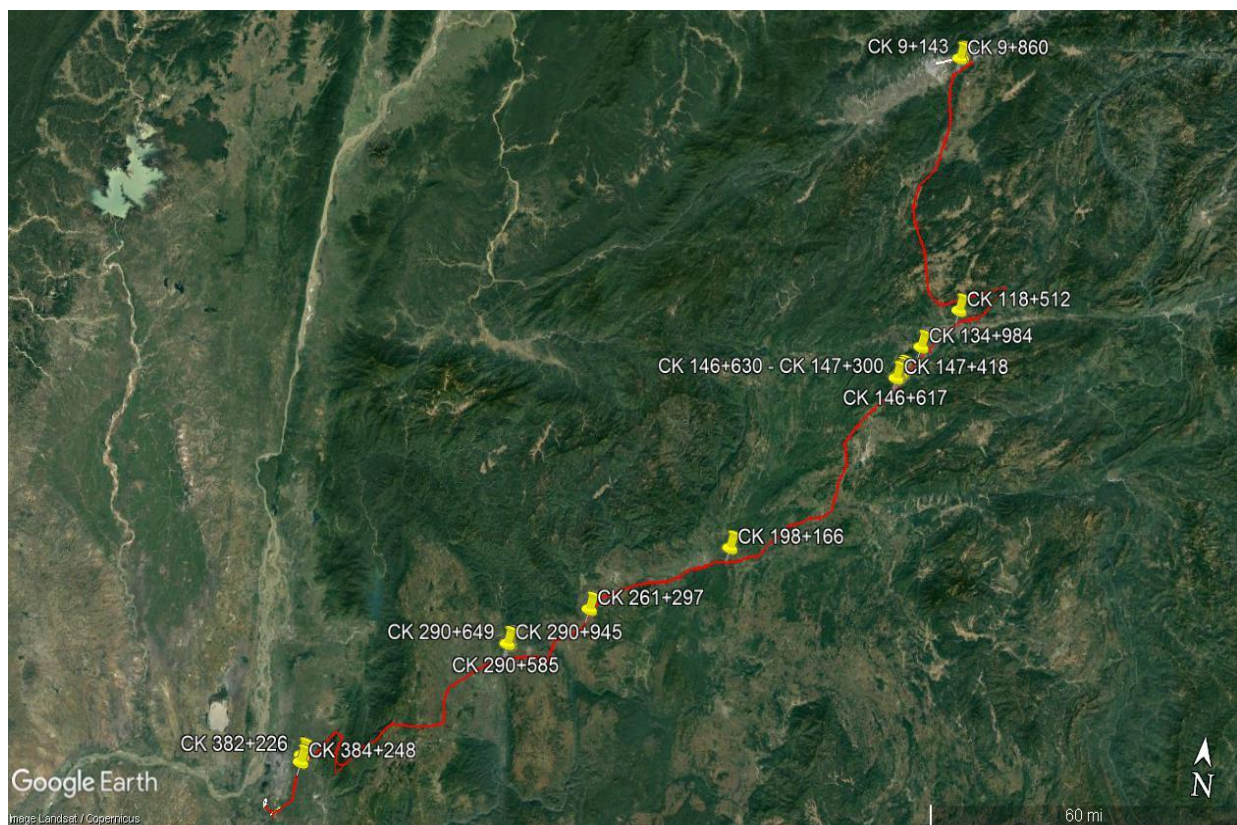


Figure 5.26– Location of Telecommunication Lines to be Demolished

(c) Demolition and relocation of pipelines

Principles and requirements for demolition and relocation

- Existing water supply and drainage pipelines and ancillary structures on both sides of the railway that do not meet the requirements of relevant design specifications are within the scope of demolition and relocation in this expansion and renovation project.
- The distance and intersection between the water supply and drainage pipelines and the railway shall meet the requirements of relevant specifications.
- The demolition and relocation of water supply and drainage pipelines shall follow the principle that the restoration works are conducted as per the original construction standards, and shall not alter the ownership of existing properties and the mode of operation management and maintenance.
- The demolition and relocation of existing water supply and drainage pipelines and ancillary works that affect railway operation shall be completed at one time.
- For relocation of factory buildings and enterprises, etc., related water supply and drainage pipelines shall be restored by the relocation organization and will not be included into the scope of the project.
- In principle, the water supply and drainage pipeline that crosses with the railway shall be relocated to pass between the nearby railway culverts or bridge piers, or protected with casing.
- Parallely relocated water supply and drainage pipelines and ancillary structures shall meet the requirements of relevant specification.

2) Main schemes for demolition and relocation and comments on their implementation

- . The demolition and relocation of water supply pipelines, rain water and sewage pipelines shall coordinate with the water supply and drainage demands of surrounding users, and temporary pipeline connection measures and supplementary emergency plans shall be available if necessary.
- . On important construction sites (such as super-large bridge and important subgrade sections), the demolition and relocation of pipelines shall be combined with the actual condition of the sites, with protection and support provided. Temporary transitional measures shall be taken even in the process of demolition and relocation during which water drainage problems around the construction sites shall be solved to protect the construction of main works from being affected by the subsidence around the sites.

- . During construction near existing lines, safety protection shall be available by wearing protective clothing and helmets and arranging full-time safety officers on the site in accordance with the safe railway construction codes, so as to ensure the safety of the existing lines and prevent major accidents.
- . During construction of pipelines crossing the railway, the culvert foundation shall be adequately protected by choosing qualified protective culverts, to prevent the collapse of culvert foundation caused by pipe breaking from affecting traffic safety.

CHAPTER 6.0. VALUATION AND COMPENSATION FRAMEWORKS

6.1. Valuation Framework

6.1.1. Method of Valuation

This project may impact PAP directly or indirectly and it may not be possible to eliminate the need for acquisition of land. The land and other assets of local communities and households are affected. Where domestic law does not meet the standard of compensation at full replacement cost, World Bank guidelines and technical specifications for compensation at replacement cost will be applied. Compensation for land, structures, business, fixed improvements and other temporary assets will be based on market valuation, productivity valuation, negotiated settlements, material and labor valuation, disposition of salvage materials and other fees paid. It should be noted that lack of title, license or permit is not a bar to compensation.

6.1.2. Eligibility and Entitlements

The basic principle followed in this RPF is that RPF should be assisted to RAP. RAP is aimed to improve the PAPs' living standards, income earning capacity, and production levels, or at least to restore them to pre-project level where by lack of legal title does not exclude individuals from the eligibility to receive compensation and/or rehabilitation assistance.

PAPs eligible for compensation will include those who have formal legal rights to land or other assets, and those who initially do not have formal legal rights to land or other assets but have a claim to legal rights based upon the laws of the country; upon the possession of documents such as land tax receipts and residence certificates; or upon the permission of local authorities to occupy or use the project affected plots. In Shan Region, some of the agricultural lands that the railway will pass initially do not have formal legal rights to land.

Those who have no recognizable legal right or claim to the land they are occupying are also eligible for compensation for immovable assets. If there are cases occupying illegally public land than no compensation will be offered for the land, but they will be eligible for compensation of the immovable property and potential loss of livelihoods. It is not anticipated that there will be any such PAPs.

(a) Eligibility

PAP entitled for rehabilitation or compensation under the project are as follows:

- 1) All families losing access to land, permanently or temporarily, over which they have legal use rights or traditional/customary use rights with or without legal status;
- 2) Owners of affected buildings, crops, plants, or other objects attached to the land; and
- 3) Members of the households losing business and income by the project.

(b) Entitlements and Valuating Assets

This RPF will be implemented according to a compensation and entitlements framework in line with Myanmar’s laws and regulations and WB OP 4.12. Where they are different, Myanmar’s law will apply as priority, as set out in the Entitlement Matrix below.

Table 6.1. Entitlement Matrix

Issue	Compensation and Mitigation Measures
Loss of residence (house or dwelling)	<ul style="list-style-type: none"> • Provide funds for expropriation payments for houses and dwellings based on government rates • Provide additional materials and technical support for people to be relocated to ensure at least the same standard of previous dwelling
Loss of structures	<ul style="list-style-type: none"> • Replace non -movable structures at cost or provide new materials for rebuilding
Loss of residential land	<ul style="list-style-type: none"> • Provide funds for expropriation payments for loss of residential land based on government rates. • Provide assistance to PAHs to secure suitable residential land.
Loss of agricultural land	<ul style="list-style-type: none"> • Provide funds for expropriation payments for loss of agricultural land based on government rates. • Identify and develop new areas for agricultural production where feasible for redistribution to those severely impacted by the loss of land in cooperation with communities, households and local authorities.
Loss of agricultural production	<ul style="list-style-type: none"> • The following Livelihood support packages will be offered based on the assessment of production loss: <ol style="list-style-type: none"> 1.Greenhouse production systems 2.Fruit trees 3.Livestock enhancement 4.Intensification of crop identification Business development
Temporary Loss of vegetation production	<ul style="list-style-type: none"> • Cash compensation for the loss of production and restoration of lands outside of the expropriated areas caused by project construction activities
Loss of common property resource	<ul style="list-style-type: none"> • Facilitate alternative access to adequate forests, grazing land, water and other natural resources where feasible
Permanent Loss of property sources	<ul style="list-style-type: none"> • Support in identifying replacement land with the location acceptable to PAH in order to continue viable commercial activities

Loss of physical resources	<ul style="list-style-type: none"> • Provide support for ceremonies and acceptable arrangements for relocation of moveable items and re-establishment at new site agreed with PAHs • Replacement of shrines and other religious structures of at least the same value and acceptable to the community within the alignment.
Loss of community infrastructure	<ul style="list-style-type: none"> • Assist and coordinate with PAHs in the replacement of all impacted community infrastructure of at least the same value and function or improvement of existing infrastructure, including water supply systems, access roads and electrical connections if required
Loss of educational facilities	<ul style="list-style-type: none"> • Assist and coordinate with PAHs in the replace of impacted schools or upgrading of existing village facilities within an acceptable distance from households • Provide equipment, materials and furniture for new school buildings as required
Regional programs	<ul style="list-style-type: none"> • Improve health services through health centers, equipment and training of health staff • Improve education services through schools, transport, training, skills development and scholarship programs • Enhance agricultural production, farmer training programs and marketing of local produce
Grievance Process	<ul style="list-style-type: none"> • All households will have free and direct access to a grievance redress mechanism for complaints or concerns about the project

During compensation identification at Project implementation stage, the entitlement matrix and description of compensation entitlements shall be revised and updated accordingly.

The project owner will prepare an entitlement matrix with respect to both temporary and permanent displacement that identifies:

- All categories of affected people, including property owners and land right holders, tenants, squatters, sharecroppers, grazers, nomadic pastoralists and other natural resource users, shopkeepers, vendors and other service providers, communities and vulnerable groups.
- All types of loss associated with each category, including loss of physical assets; loss of access to physical assets; loss of wages; rent or sales earnings; loss of public infrastructure and elements of cultural significance (as identified in the inventory of losses)
- All of types of compensation and assistance to which each category is entitled including: compensation for or replacement of land and natural resources; compensation for structures, assets, wages, rent, or sales earnings; moving assistance and post-resettlement support (such as technical assistance, extension and skills training, and access to credit.

Guiding Principles

- Project impacts shall be avoided or minimized wherever possible by exploring viable alternatives in design and location.
- Full assessments shall be conducted to ensure all impacts are identified and mitigated.
- Project Affected People (PAHs) shall be compensated and resettled in order to maintain and/or improve their standard of living, including access to community services and resources
- Land acquisition and resettlement shall be planned and implemented to cause least possible amount of social, cultural and economic disruption.
- All measures shall, as far as possible within reasonable costs and efforts, be implemented without detriment to the environment.
- Special measures shall be incorporated to protect socially and economically vulnerable groups, i.e. groups that cannot for various reasons participate in restoration programs.
- All persons residing within the areas directly impacted by the project shall be considered as PAHs and will be entitled to compensation and resettlement if the impact influences their residences and livelihoods negatively.
- The previous level of community services and resources for impacted communities shall be maintained and/or improved after compensation and resettlement.
- The resettlement programs shall be planned and implemented with the consent and agreement of the affected people through a participatory involvement process.
- All PAHs will have access to effective mechanisms for hearing and resolving grievances during the implementation of compensation and resettlement programs.

6.2. Compensation and Valuation

All types of compensation will be clearly explained to the individual and households involved. These refer especially to the basis for valuing the land and other assets. Once such valuation is established, the developer and government authorities should produce a Contract or Agreement that lists all property and assets being acquired by the sub-project and the types of compensation selected. Table below provides a sample of entitlements that are eligible for compensation. These options include in-kind (e.g. replacement housing) and cash compensation. All compensation should occur in the presence of the affected persons and the community local leaders. Compensation will include the damage of things of PAPs during initial examination for RAP preparation data collection.

Land and Assets	Types of Impact	Person(s) Affected	Compensation/Entitlement/Benefits
Agricultural land	Land remains economically viable.	Farmer/ title holder	Cash compensation for affected land equivalent to replacement value, taking into account market values for the land Land for land replacement where feasible, or compensation in cash for the entire landholding according to PAP's choice
		Tenant/ lease holder	Cash compensation for seasonal harvest or product based on the average yield per acre from the affected land or asset, equivalent to the triple of market value of current situation, or triple of market value of the crop for the current period of tenancy/ lease agreement according to the Myanmar
	Land does not become economically viable.	Farmer/ Title holder	Cash compensation will take into account market values for the land of current
		Tenant/Lease holder	Cash compensation equivalent to the triple of average of market value for the mature and harvested crop based on the calculation on the price of average yield per acre, or market value of the crop for the current period of tenancy/ lease agreement.
Commercial Land	Land used for business partially affected Limited loss	Title holder/ business owner	Cash compensation for affected land, taking into account current market values for the land.
	Assets used for business severely affected If partially affected, the remaining assets become insufficient for business purposes	Title holder/ business owner	Land for land replacement or compensation in cash according to PAP's choice. Cash compensation will take into account market values for the land and assets Transfer of the land to the PAP shall be free of taxes, registration, and other costs. Relocation assistance (costs of shifting + allowance)
		Business person is lease holder	Cash compensation equivalent to current market value of the assets on the land Relocation assistance (costs of shifting) Assistance in rental/ lease of alternative land/ property .
Residential Land	Land used for residence partially affected, limited loss Remaining land viable for present use.	Title holder	Cash compensation for affected land, taking into account market values for the land.

		Rental/lease holder	Cash compensation equivalent to (current market value) lease/ rental fee for the remaining period of rental/ lease agreement (written or verbal)
		Title holder	Land for land replacement or compensation in cash according to PAP's choice. Cash compensation will take into account current market values for the land.
	Land and assets used for residence severely affected	Rental/lease holder	Refund of any lease/ rental fees paid for time/ use after date of removal Cash compensation equivalent to current market values of lease/ rental fee Assistance in rental/ lease of alternative land/ property Relocation assistance (costs of shifting + allowance)
Buildings and structures	Structures are partially affected	Owner	Cash compensation for affected building, taking into account current market values for structures and materials. Cash assistance to cover costs of restoration of the remaining structure
	Entire structures are affected or partially affected Remaining structures not suitable for continued use	Owner	Cash compensation for entire structure and other fixed assets without depreciation, or alternative structure of equal or better size and quality in an available location which is acceptable to the PAP. Compensation will take account of market values for structures and materials. Right to salvage materials without deduction from compensation. Relocation assistance (costs of shifting + allowance). Rehabilitation assistance if required (assistance with job
		Street vendor (informal without title or lease to the stall or shop)	Opportunity cost compensation equivalent to relevant months net income based on the current situation Relocation assistance (costs of shifting). Assistance to obtain alternative site to re-establish the business.
Standing crops	Crops affected by land acquisition or	PAP (whether owner, tenant, or squatter)	Cash compensation shall be triple of the current market value based on the calculation of yield per acre
Trees	Trees lost	Title holder	Cash compensation shall be triple of the current market value based on the calculation of yield per acre
Temporary Acquisition	Temporary acquisition	PAP (whether owner, tenant, or squatter)	Cash compensation for any assets affected (e. g. boundary wall demolished, trees removed), taking into account market values for materials.

6.2.1. Compensation Framework

This project may impact PAP directly or indirectly and it may not be possible to eliminate the need for acquisition of land. The land and other assets of local communities and households are affected. Where domestic law does not meet the standard of compensation at full replacement cost, World Bank guidelines and technical specifications for compensation at replacement cost will be applied. Compensation for land, structures, business, fixed improvements and other temporary assets will be based on market valuation, productivity valuation, negotiated settlements, material and labor valuation, disposition of salvage materials and other fees paid. It should be noted that lack of title, license or permit is not a bar to compensation.

The RAP compensation framework specifies all forms of asset ownership or use rights among the population affected by the project and the project's strategy for compensating them for the partial or complete loss of those assets. The compensation framework will include a description of the following:

- any compensation guidelines established by the government;
- in the absence of established guidelines, the methodology that the project sponsor will use to value losses;
- the proposed types and levels of compensation to be paid;
- compensation and assistance eligibility criteria; and
- how and when compensation will be paid.

6.2.1.1. General Guidelines of Compensation

PAPs will have to be compensated at full replacement and substitution costs without depreciation, and relocated or resettled in and after due consultation with them. The preliminary compensation rates for replacement and substitution cost have to be proposed to the PAPs to give them an opportunity to compare those with the prevailing market rates.

All fees and taxes on land and/or house transfers shall be waived or otherwise fees and taxes shall be included in a compensation package for land and/or house. The competent government authorities will give preferential treatment to PAPs reconstructing their houses on their own, and to obtain the necessary property titles and official certificates. This in case there are cases for displacement of homes. (WB Safeguard Policy, OP 4.12)

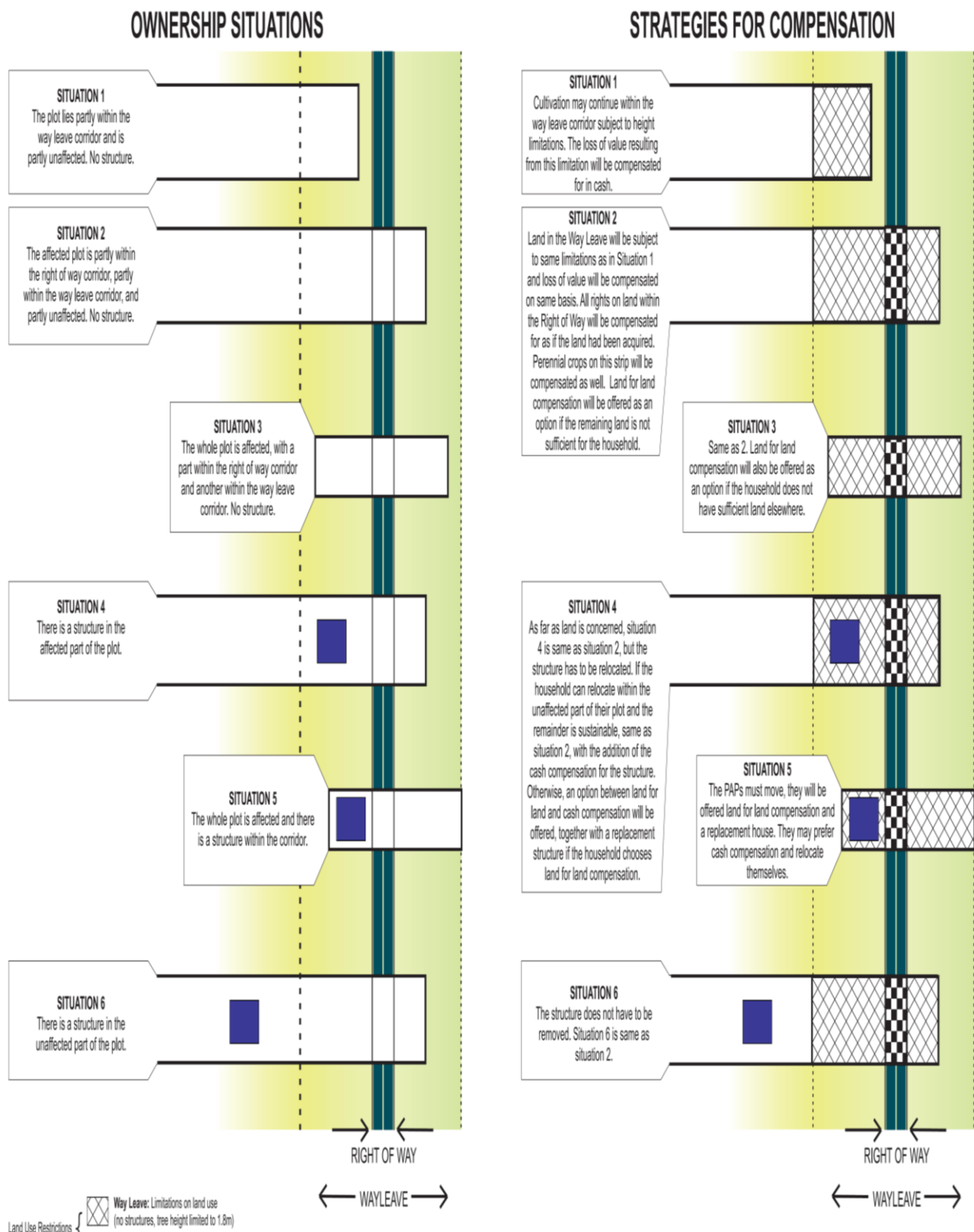


Figure 6.1. Illustration of Compensation Strategies for Linear Resettlement

Source : WB Safeguard Policy, OP 4.12

Table 6.2. General Guidelines of Compensation

The following table shows the general guidelines for compensation.

No.	Item	Costs	Assumptions
1	Compensation for loss of Land	/hectare	On the basis of Land Acquisition, Resettlement and rehabilitation Law and related laws and regulations
2	Compensation for loss of Crops	/hectare of farm lost	On the basis of Farm Land Law and rehabilitation Law, Farmland Act (Law No.11) and related laws and
3	Compensation for loss of access to pastoralists	If applicable	Those affected would be provided with shared access, or alternate routes (decision agreed through consultation and participation of all).
4	Compensation for loss of access to fishing resources.	If applicable	Data provided from the revised socio-economic study will determine market values of catch, fish products etc.
5	Compensation for Buildings and Structures	If applicable	This compensation may be in-kind or cash. Costs for basic housing needs should include ventilated pit latrines, outside kitchen, and storage. Cash compensation will take into account market values for structures and materials.
6	Compensation for Trees	/year/tree	Includes costs of labor invested and average of highest price of trees (and tree products) and Myanmar market prices.
7	Cost of Relocation Assistance/Expenses	/household	This cost reflects the moving and transportation allowance
8	Cost of Restoration of Individual Income		Assumed to be higher than the GDP/capita in Myanmar.
9	Cost of Restoration of Household Income		These costs reflect the livelihood restoration program of the RAP.
10	Cost of Training Farmers, pastoralists and other PAPs		This is a mitigation measure involving capacity building and involves PAPs and affected communities.

6.2.1.2. Compensation Standards

On the basis of comprehensive investigation and research, the compensation standards for the construction of railway land occupation and demolition are based on the relevant laws and regulations of Shan State and Mandalay City of Myanmar and the World Bank's operational guidelines on involuntary migration, so that the living standards of the affected population can be recovered within a short period of time after the resettlement.

(a) Compensation standard for land occupation

(i) State Own Land

According to Myanmar's policies, the occupation of state-owned land shall be evaluated for specific land use and approved by the Land Management Department before compensation

based on evaluation value. State-owned land occupied by engineering projects is usually forest land, dry land, and deserted land, having no impact on daily lives of local residents.

(ii) Occupation of collectively-owned land

Determine the compensation standard for occupation of collectively-owned land according to Myanmar’s policies.

(iii) Other Lands

According to Myanmar’s Land Law and the Implementing Regulations, the compensation for land acquisition consists of three parts: land compensation fee, resettlement subsidy and seedling compensation fee. Specific compensation standards will be subject to Myanmar’s Land Management Law as well as laws and regulations of Shan State and Mandalay City.

(b) Compensation standards for buildings

All buildings affected by the project will be compensated based on the replacement cost. To accurately determine the replacement cost of various types of buildings of the affected area, special research must be conducted in following ways to find out the replacement cost of affected buildings and feasible compensation standards:

- To find out the market price of each type of house near the affected area along the Line.
- To conduct research and find out the amount of compensation for relocating houses in similar projects proceeded recently as the reference for the Project.
- To refer to documents of Shan State and Mandalay City and find out the exact amount of compensation for house relocation on collective land as the reference for the Project.

(c) Compensation standards for houses & fences

Compensation estimates for the different types of houses such as, CIS roof house, thatched roof (Tukul) & for Fences is estimated on the basis of bill of quantities prepared by the municipalities at current market price. The compensation estimate for houses is prepared at a replacement value and no depreciation is considered.

Asset Acquired	Type of Impact	Entitled Person	Compensation Entitlement
Commercial property	Loss of business and/or rent	PAP (whether owner, tenant or squatter)	Compensation for loss of income incurred as a result of relocation including any discrepancies in livelihood. Support to reestablish the business in other suitable location.
Residential property	Not applicable	-	-

Structures	Support structure such a garage	Owner /user	Compensation at replacement value
Temporary acquisition	Temporary acquisition	PAP (whether owner, tenant or squatter)	Cash compensation for any assets affected (e.g. boundary wall demolished, trees removed)

(d) Compensation standard for house relocation

Determine reference compensation standards for various types of houses based on researches, studies and negotiations. It is preferable that the compensation standards under the project are the same to those for houses in the same area and of the same function and the transaction prices.

(e) Compensation standard for affected trees

The compensation estimate for timber trees is calculated on the basis of the tree size and age. The cost for each tree type is calculated on the existing market price collected.

Asset Acquired	Type of Impact	Entitled Person	Compensation Entitlement
Trees/crops	Trees/crops lost	Owner/ user/ tenant	Cash compensation based on type, age and productive value of affected trees/crops

(f) Compensation Standards for the crop on the agricultural land

The compensation estimates for annual crops (cereal, pulses and oil seeds), perennial crops (fruit trees), cash crops (coffee, chat, hops, etc) is calculated on the basis of average production and productivity and market prices collected from each places and calculated on the basis of related Laws and Regulation.

Asset Acquired	Type of Impact	Entitled Person	Compensation Entitlement
Agricultural or construction land	No displacement: Less than a fraction of land holding affected The remaining land remains economically valuable	Farmer/tenant	Cash compensation for affected land
	Displacement: More than a fraction of land holding lost. Remaining land is not valuable	Farmer/tenant	Cash compensation equivalent to replacement value of land income restoration package

(g) Compensation Standers for Loss of Water Resources

The railway project can affect some water resources in the following villages.

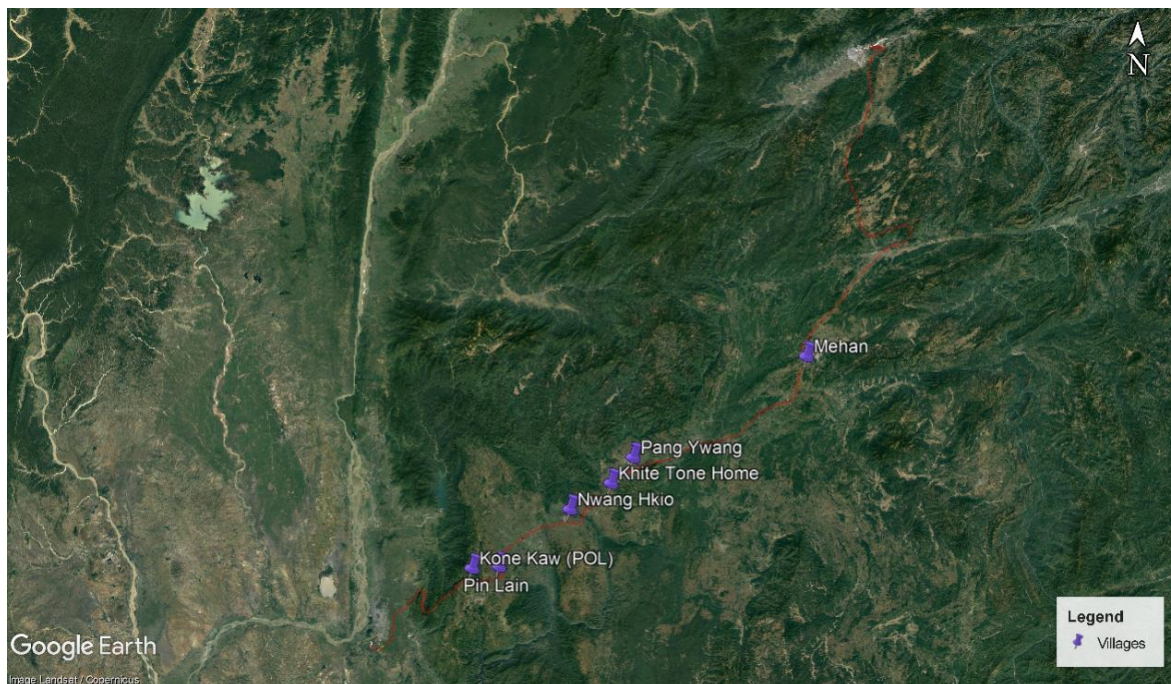


Figure 6.2. Villages with Natural Spring Water

Damage to water resources will be compensated by digging of tube well during implementation phase. The price of digging tube well may varies according to the structure of the area because if the area is in hilly and rural places, the prices will be higher since the well has to be dug deeper and the difficulty of the transportation of the equipment.

However, it cannot be considered the railway alignment will pass the water resources or not during FS stage and so, the detailed calculation about the compensation for water resource (compensation for water spring) cannot be made and the most possible way is to make alternative water resources such as tube well for drinking and domestic purposes.

(h) Compensation Standards to Affected Village Collectives

Land belongs to the state and collectives. In rural areas, village collectives own land and peasants have the right to use land for agricultural purposes. According to Myanmar's land management laws, when land is acquired due to a national development project, the compensation for land occupation is not directly paid to individuals or households, but to rural collectives to develop rural production infrastructures or living facilities.

Local government must establish a proper system for allocating compensation within the village collective, which shall be based on such a principle that compensation shall directly go to those whose land is occupied. Land occupation compensation shall ensure the direct compensation to the affected peasants and the specific method of allocation will be subject to regulations of local government.

(i) Compensation Standards to the Affected of House Demolition and Relocation

Owners of removed buildings having legal and valid certificates within the scope of relocation of the Project may independently select monetary compensation or the shift of house property. Those accepting monetary compensation are excluded from house resettlement.

Urban and rural households whose houses are removed accepting monetary compensation will obtain the compensation for house relocation directly from the relocating authority. The amount of compensation equals that required for purchasing houses of the same area, location and quality. Additionally, they will be granted with temporary resettlement subsidies and relocation subsidies.

Those who accept property shift will be settled and granted with houses of equal number to their removed ones based on valid property area. If the area of a resettlement house is less than that removed, the affected may obtain more resettlement houses. If the area of a resettlement house exceeds that removed, the excessive part will be sold based on market price.

(j) Compensation Standards to Affected Shops

The compensation to affected individuals or collectives includes not only that for buildings, but also the relocation fees, subsidies for shutdown/loss of work and temporary resettlement.

(k) Compensation Standards to Affected Enterprises and Public Institutions

Factory and enterprise buildings are owned jointly by the state, collectives and individuals. The compensation to factories and enterprises go to the representatives of the affected, who will decide whether to resume their enterprises. For commercial buildings, the compensation for demolition and relocation includes those for buildings and relocation.

Buildings of affected organizations and public institutions such as government buildings, water supply stations, etc. belong to local government. These buildings will be restored by local authorities.

(l) Compensation Standards for Temporary Land Occupation

For temporarily occupied land, losses incurred from such occupation will be compensated. After the period of temporary occupation expires, the construction contractor will restore the land under the supervision of local homeland management authority.

(m) Compensation Standards for Affected Forest

The stand of compensation for affected trees will be based on tree diameter and whether fruits are born. The compensation for affected trees will go to the individual or organization who owns the trees.

(o) Compensation Standards for Community Payments

Although most sub-projects do not normally take land and other assets belonging to a community, such as a community center, school, or sacred site, if this occurs in a sub-project, the community (as a whole) will be compensated. This compensation will be in the form of reconstruction of the facility (in case of damages) or replacement at least the same standard or equivalent. Examples of community compensation expansion of grazing grounds; rehabilitation of school buildings, public toilets, health facilities; installation of wells or pumps; creation of market places; and reconstruction of community roads.

6.2.2. Asset Valuation

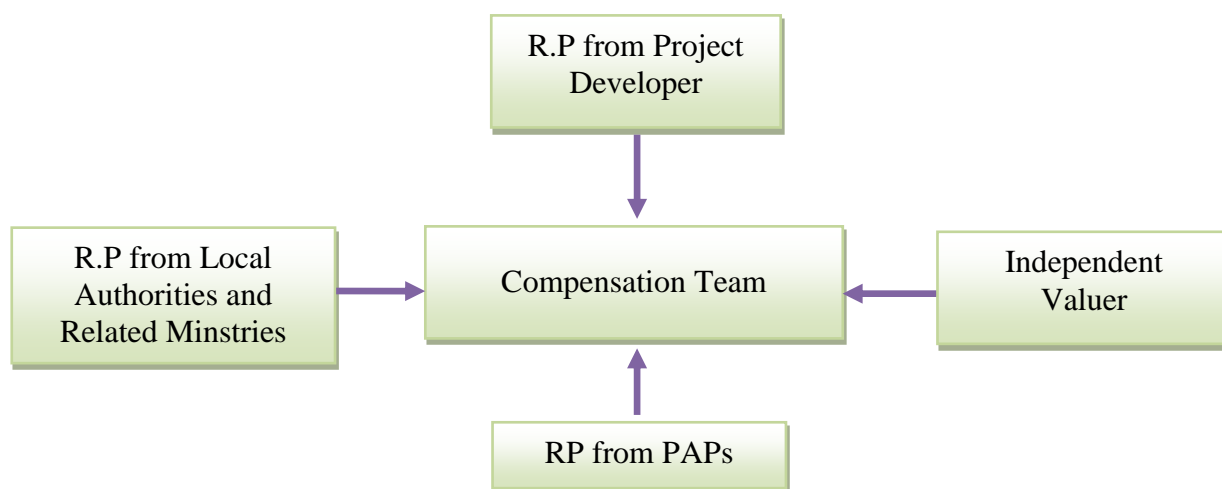
This project may impact PAP directly or indirectly and it may not be possible to eliminate the need for acquisition of land. The land and other assets of local communities and households are affected. Domestic law will be applied first and World Bank guidelines and technical specifications for compensation at replacement cost will be applied as additional reference. Compensation for land, structures, business, fixed improvements and other temporary assets will be based on market valuation, productivity valuation, negotiated settlements, material and labor valuation, disposition of salvage materials and other fees paid. It will be noted that lack of title, license or permit is not a bar to compensation.

6.3. Compensation Team

Compensation team will include representatives from project developer (MR) & construction contractor(s), representatives from Village Administrative Office of nearest project sites, representatives from other related departments (if necessary), representatives from Township Administrative Office, and representative from Village Administrative Office and PAPs as shown in the following table and figure. It should also include an independent valuer if the complaint is in relation to compensation amounts.

Table 6.3. Compensation Team

No.	Team Members	Quantity	Remark
1.	Representative from Township Administrative Office	1	
2.	Representative from Village Administrative Office	1	
3.	Representative from Department of Agriculture Land Management and Statistics	1	
4.	Representative from Department of Forestry	1	
5.	Representative from Department of Agricultural	1	if necessary
6.	Representative of MR Office (Administration Department, Naypyidaw)	1	
7.	Representative of the MR Administrative Office (Upper Myanmar)	1	
8.	Representative from Department of Relife and Resettlement	1	If necessary
9.	Representative from Construction Contractors and/or Subcontractors	1	
10.	Representatives of PAPs		
11.	Independent valuer	1	if necessary



should participate → , R.P = Representative Persons

Note : DOF will have to participate only land used in forest area and DALMS will have to participate only land used in agricultural land.

Figure 6.3. Organization Structure for Compensation Team

Role and Responsibility of Compensation Team

(1) Myanma Railway

The followings are the role and responsibilities of the project developer (MR).

- Corporate with local authorities for detailed compensation measures;
- Prepare financial resources for compensation;
- Compensate the PAPs and PAHs as soon as possible;
- Prepare to RAP for detailed compensation measures;

(2) Roles and Responsibilities of Local General Administrative Office

The followings are the roles and responsibilities of GAO.

- Cooperate among the investor and PAPs about the compensation

CHAPTER 7. IMPLEMENTATION ARRANGEMENTS FOR COMPREHENSIVE RAP

As described above, comprehensive RAP cannot conduct during FS stage due to the unfixed railway alignment and railway alignment can be changed based on the land acquisition, available of facilities, and actual ground conditions. So, some portions of RAP will have to draw to become comprehensive RAP and implement after the approval of the FS and before the implementation stage. The following table shows the main difference between RPF and comprehensive RAP.

Table 7.1. Key Difference between RPF and RAP

No.	RAP	RPF	Remark
1.	Identification of project impacts and affected households and populations including household and detailed census and socio-economic survey for PAPs	Identification of project impacts and affected households including socio-economic profile of PAPs	Detailed census survey for PAPs cannot make during in FS stage
2.	Legal framework for land acquisition and compensation;	Legal framework for land acquisition and compensation	No difference between RAP and RPF
3.	Compensation framework	Compensation framework	No difference between RAP and RPF
4.	Description of resettlement assistance and restoration of livelihood activities	Description of resettlement assistance and restoration of livelihood activities	Not too much difference between RAP and RPF
5.	Detailed budget including land acquisition, housing, fence, trees, well and other assets	Some budget including land use for (agricultural land and residential area) but not including housing, fence, trees, well and other assets	Differences about the budget calculations for housing, fence, trees, well and other assets
6.	Implementation schedule	Implementation schedule	But not tentative time frame in RPF due to indefinite of project approval time
7.	Description of organizational responsibilities	Description of organizational responsibilities	No difference between RAP and RPF
8.	Description of provisions for redress of grievances	Description of provisions for redress of grievances	Not too much difference between RAP and RPF
9.	Monitoring, evaluation, and reporting process	Monitoring, evaluation, and reporting process	Not too much difference between RAP and RPF

10.	Public consultation and participation with PAPs	Public consultation and participation with Local Communities	Differences about public consultation of land acquisition and compensation with PAPs
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According to the above table, the main difference between RPF and RAP will be (i) cut-off date declaration, (ii) detailed census for asset valuation and compensation (iii) detailed calculation of compensation and resettlement budget, (iv) public consultation process with PAPs (v) implementation time schedule and (vi) disclosure of RAP. All of these issues cannot be conducted during FS stage without exact alignment and will cause serious social problems such as higher in land price in undesired area. So, MR will have to conduct the followings implementation process of RAP before the starting of implementation stage. RAP preparation will commence immediately after the cut – off date has been declare and main activities to be undertaken include – but may not be limited to the following:

- (a) Consultation with PAPs;
- (b) Cut-off date Declaration;
- (c) Census survey an inventory of losses of PAPs;
- (d) Inventory of lost assets;
- (e) Preparation of indicative budget for implementation; and
- (f) Implementation time schedule.

The timing of resettlement should be coordinated with the implementation of the main investment component of the project requiring the resettlement. All resettlement plans must include an implementation schedule for each activity covering initial baseline and preparation, actual relocation, and post-relocation economic and social activities. The plan should will also have to include a target date when the expected benefits to resettles and hosts would be achieved.

7.1. Consultation with PAPs

Resettlement plan will be developed and implemented in consultation with the PAPs. Effective and timely design, planning and implementation of resettlement and rehabilitation measures will be conducted to avoid unnecessary delays and consequent inconveniences to the PAPs. Information dissemination and consultation with the PAPs will reduce the potential for conflicts, minimizes the risk of project delays, and enables the project include resettlement and rehabilitation as a comprehensive development program to suit the needs and priorities of the

PAPs. Specific objective of the public information campaign and public consultation are: to fully share information about the purposed project, its components and reactions to proposed policies and activities, to ensure transparency in all activities related to land acquisition and compensation payments.

Public participation is a process that is designed to enable all interested and affected parties (I&APs) to voice their opinion and/ or concerns which enables the practitioner to evaluate all aspects of the proposed development, with the objective of improving the project by maximising its benefits while minimising its adverse effects. I&APs include all interested stakeholders, technical specialists, and the various relevant organs of state who work together to produce better decisions. Public participation empowers local people so that they regard the development projects as their own. Public participation (community involvement) also reduces the impact of uncertainties and stress caused by the proposed project. There are six main steps to resolve complaints ; (1) Receive, (2) Assess and assign, (3) Acknowledge, (4) Investigate, (5) Respond and resolve, and (6) Follow up and close out, as shown in the following figure.

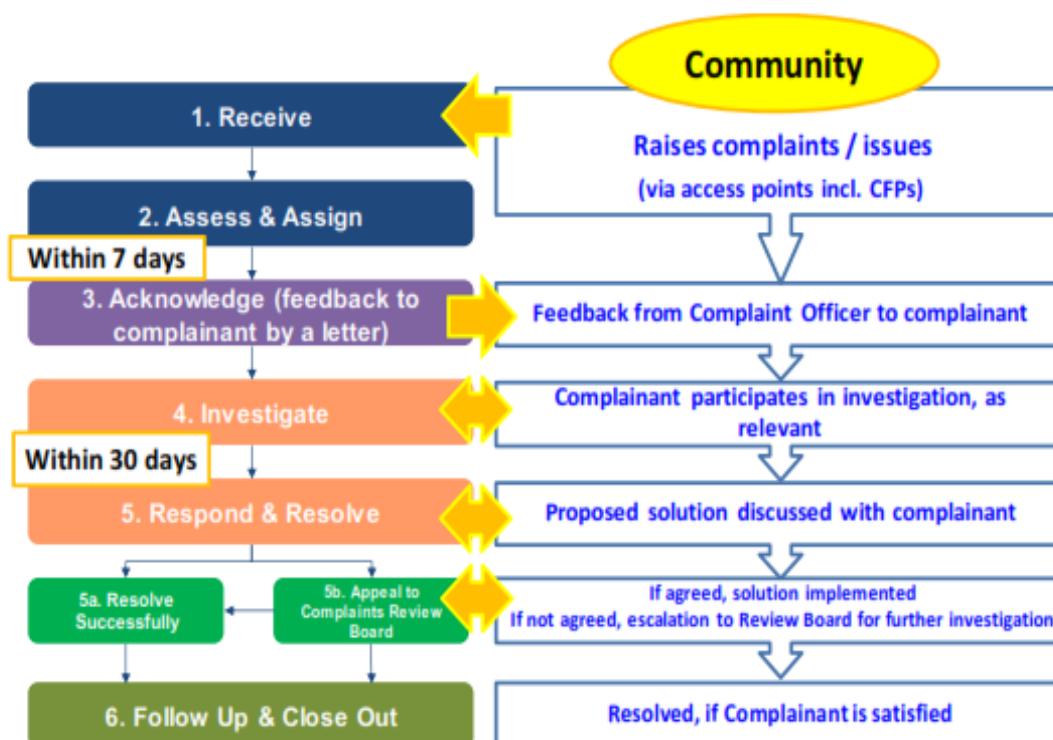


Figure 7.1. Steps for Resolving Complaints

The government authorities at both national and local levels; community elders and leaders; representatives from MR and authorities will arrange meetings with PAPs to discuss the compensation and valuation process. For each individual or household affected by the sub-

project, the RAP preparation team will complete a Compensation Report containing necessary personal information on the PAPs and their household members; their total land holdings; inventory of assets affected; and demographic and socio-economic information for monitoring of impacts. This information will be documented in a Report, and ideally should be “witnessed” by an independent or locally acceptable body (e.g. Resettlement Committee). The Reports will be regularly updated and monitored. MR will do consultation with PAPs before and during the implementation stage.

After discussion with local authorities, public consultation team will have to discuss with related PAPs for detailed compensation process during implementation phase. The role of traditional political and cultural leaders, including the community elders, in the participation strategy will be important. The public consultation team should ensure that these leaders and local representatives of PAPs are fully involved in designing the public consultation procedures.

PAP and PAH required to participate throughout the process of RAP. PAP and PAH will be consulted by township and ward level committees, MR’s staff, RAP preparation team and local authorities. The PAP and PAH will be invited to participate in public meetings in the early stages of the process and will be provided with reliable information on the proposed subproject(s), its impacts and proposed mitigation measures and economic rehabilitation activities.

Information publicly disclosed will also include cut-off dates for each sub-project, eligibility criteria and entitlements, modalities of compensation, complaints and grievance redress procedures.

The PAP and PAH and different populations will be provided with an opportunity of presenting their ideas and suggestions as inputs into the planning and implementation of the project. These will be achieved through a series of participatory exercises and focused discussions with PAP and PAH, thus ensuring that the affected parties have a stake in the process. As mentioned, PAP and PAH will be involved in various committees, including the grievance redress committee, to be established, which will ensure their participation in the decision-making process throughout various stages of the RAP process, including preparation and implementation. Following subproject completion, a survey could be undertaken by the MR amongst PAP and PAH to assess their level of satisfaction with the process and results of the RAP.

Ongoing Consultation and Participation

For land acquisition and resettlement action plan, ongoing consultation and participation are conducted based on the followings.

Procedures of Consultation

The free flow of information between project developer and stakeholders is essential to promoting effective public consultation and participation and to achieving the objectives of resettlement planning. Early in the project development process, the project developer

- Identify all stakeholders;
- Inform local government, village leaders, and local community organizations of the plan for the project as soon as feasible and ask them to inform their constituents;
- Brief all project line managers and personnel who will interact on a regular basis with people affected by the project regarding the anticipated effects of the project and measures to mitigate its impact;
- After completion of census and the public notice of the eligibility cut-off date, arrange for the government to issue formal notice banning the construction or approval of construction of new buildings or capital improvements in areas to be affected by the project;
- Prepare an illustrated resettlement information booklet providing details on eligibility, rates of compensation and other entitlements, a timetable for implementation, and all applicable grievance procedures; and
- Prepare and issue regular resettlement information updates.

The objective of these consultations will be to secure the participation of all people affected by the project in their own resettlement planning and implementation, particularly in the following areas:

- assessment of project impacts;
- resettlement strategy;
- compensation rates and eligibility for entitlements;
- choice of resettlement site and timing of relocation;
- development opportunities and initiatives;
- development of procedures for redressing grievances and resolving disputes; and
- mechanisms for monitoring and evaluation and for implementing corrective actions.

Future Consultation for RAP

Objectives for Update Consultation

- To reduce the potential for conflicts, minimizes the risk of project delays
- To fully share information about the purposed project, its components and reactions to proposed policies and activities
- To ensure transparency in all activities related to land acquisition and compensation payments.

Need for Update Consultation

Update consultations are needed to identify all interested and affected parties (I&APs) voice, their opinion and/ or concerns which enables the practitioner to evaluate all aspects of the proposed development, with the objective of improving the project by maximizing its benefits while minimizing its adverse effects. Public consultations in relation to the RAP will need at all stages.

Strategies for Consultation

(a) Organizing Public Consultation Team

The PCT will have to include representatives from MR, Village Administrative Office, NGO, and PAPs.

(b) Meeting with Local Authorities

Public consultation team will have to meet with local authorities to discuss about the actual conditions of PAPs in respective areas along the railway line.

(c) Meetings with PAPs

After discussion with local authorities, public consultation team will have to discuss with related PAPs for detailed compensation process during implementation phase. The role of traditional political and cultural leaders, including the community elders, in the participation strategy will be important. The public consultation team should ensure that these leaders and procedures.

(d) Media

The public media will have to use to make publicity for cut-off-date. Consultation must take place with PAPs about the compensation and resettlement. Various types of informal and formal consultation methods such as focus group discussion, will be used. In particular, different types of meetings will take place during the resettlement process with a wide range of stakeholders as illustrated in the following figure.

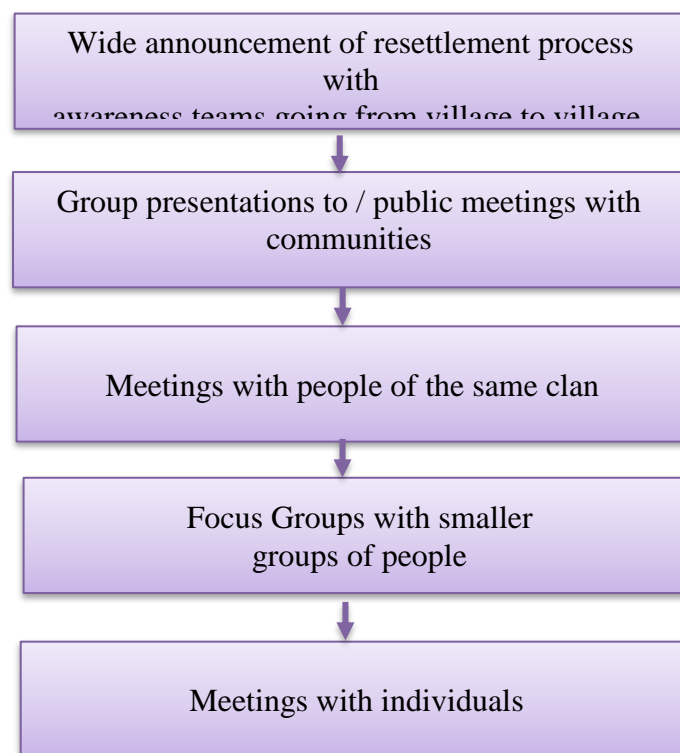


Figure 7.2- Various Types of Meetings in Affected Areas During the RAP Implementation Process

Surveys

Various surveys will take place during the RAP implementation process (e.g., land use, assets, and a socio-economic survey). Extensive personal contact with individuals will also take place during these surveys, representing a further consultation and disclosure opportunity.

7.2. Cut-off Date Declaration

The WB's OP 4.12 recognizes that individuals and households who occupy project-affected areas after the cutoff date are not eligible for compensation. All people moving into the project area and/or people conducting construction works, planting trees, etc. after the cut-off date are non-eligible PAPs and thus will not receive any compensation. Advance notice will be given, requesting them to vacate their premises and dismantle affected.

The cut-off date is the date when the social baseline is established after the project alignment is certain. Persons who start using the land or build structures in the proposed area after the cut-off date will not be eligible for compensation under the project. However, cut-off date cannot be set up during FS stage because the approval for FS is not definite and there will be

serious social problem such as higher in land price in uncertain area and sudden population influx. The public media will have to use to make publicity for cut-off-date.

7.3. Census Survey and Inventory of Losses of PAPs

The purpose of census/socio-economic survey, which is part of the evaluation process, is to ensure that PAPs livelihood and well being have improved, and have not worsened as a result of the sub-project. An assessment will be undertaken on payment of compensation, restoration of income and livelihoods, and provision of sufficient community development activities. Monitoring of living standards should continue after resettlement. MR will undertake census/socio-economic survey for inventory of losses of PAPs as the following procedures.

To undertake Census/ Socio-economic survey properly, well qualified and dedicated professionals and field support staff. The team was composed of three resettlement workers and one area manager under whose leadership and supervision the resettlement workers carried out their duties and responsibilities.

Resettlement Expert will depute to guide, supervise and monitor the activities of the field staff engaged in conducting census, inventory of losses, socio-economic survey, market survey, and organizing stakeholders/community meeting and performing other related assignments.

Before starting survey work in a specific area survey team used to inform the owners of the affected land about the survey work through holding spot discussion with community people gathered at tea-stall, shop, social institutions and focus group discussion with affected people and discussion meeting with compensation team. And then after resettlement workers will use to conduct survey of Project Affected Households (PAHs) with the set questionnaire going from door to door. The questionnaire will have to include the following issues for valuation of assets and compensation.

- Family Size of PAPs
- Gender Distribution
- Loss of Farmland
- Loss of Trees & Cash Crops
- House to be Affected
- Fence to be affected
- Public Utilities Affected (electricity, telecommunication poles & cables, water supply, etc.)

Myanmar version of questionnaire will have to used for census and socio-economic survey, so that, the PAPs and the Resettlement Worker can easily understand the purpose of the survey. The questionnaire was pre-tested and modified before using for survey. After completed institutional procedures for start of a Census and Inventory of Project Affected Persons, a cut-off date must be publicly announced and, where applicable, a census of families and persons adversely affected by the Project will be undertaken. Checklists for census information is shown in List 1 and list of data for census survey is shown in List 2.

Table 7.2. Illustrative Census Format

Household No. K-044 Village: K**** Date:						Map Reference: 044-399		
Name	Sex	Age	Relation to Household Head (HH)	Primary Occupation	Notes/Secondary Occupation	Highest Level of Education	Income/Remittances	Illness/Symptoms within past 2 weeks*
Devi	F	72	Mother of HH	deceased, 4/2001		n/a		
Ram	M	76	Father of HH	retired	wood carver	none		1,3
Sita	F	65	Mother of W1	retired	weaver	none		
Hanuman	M	55	HH	farmer	hunter/fisher	primary		
Pria	F	44	Wife 1 (W1)	farmer	beer maker	primary		3
Anjuli	F	33	Wife 2 (W2)	farmer	petty trade	secondary		
Shiva	M	25	Son, W1	taxi driver/in town	resides in town	college	\$50/month	
Paras	M	23	Son, W1	farmer	seasonal laborer	secondary		1
Tulsi	F	20	Daughter, W1	farmer	weaver	primary		
Ram	M	19	Son, W1	deceased, 6/2001	malaria	secondary		
Sita	F	18	Daughter, W1	farmer	weaver	primary		
Poolan	M	15	Son, W2	school, grade 8	farm labor	grade 8		1,3
Visnu	M	12	Son, W2	school, grade 6	farm labor	grade 6		1,3
Arun	M	7	Son, W2	school, grade 1	household help	grade 1		1
Nandini	F	3	Daughter, W2			n/a		
Mohan	M	1	Son, W2	deceased, 9/2001	infant	n/a		

*Illness/Symptom codes: 1) diarrhea; 2) skin rash; 3) fever; 4) other (specify)

Source: IFC, Handbook for Preparing Resettlement Action Plan

List 1: Checklist for Census Information

Persons:

- Aggregate number of individuals and households in each affected category;
- Age, gender, occupation of every individual.

Property:

Personal property including details of ownership of

- structures: houses, farm buildings, shops, industrial structures, grain drying area, latrines;

- land and type: irrigated or non -irrigated, woodlots, grassland, wasteland, etc.;
- description and estimate of the value of standing crops on land;
- other (livestock, wells, trees).

Public and common property:

- land, village common lands, gathering and foraging areas, fishing areas, etc;
- structures and facilities: schools, health facilities, burial grounds, temples, community centers, public transport, banks, co-ops;
- infrastructure: drinking and other water systems, access and internal roads, electricity and other power sources;

PAP incomes from other sources, including:

- farm-based income;
- off-farm labor;
- informal sector activities

List 2 Lists of Data for Census Survey

1. Background Information

- (a) Questionnaire code and date of survey
- (b) Name of interviewer
- (c) Name of province, district and village/hamlet

2. Household Census

- (a) Name of household head and all household members
- (b) Relationship of household members to the household head
- (c) Age and sex of each household member
- (d) Information on ethnicity
- (e) Education level of each member
- (f) Primary occupation and monthly income of each member
- (g) Incomes from secondary sources for each member
- (h) Location of job or businesses as the case may be
- (i) Length of stay on present location

3. Tenure Status

- (a) Category of land
- (b) Type of land ownership and the name of the owner/HH member
- (c) Type of document possessed to certify ownership type

- (d) If not owned, name and address of owner
- (e) If informal use right, type of agreement
- (f) Number of years used
- (g) Rent per month paid by tenant
- (h) Deposits made by lessee

(g) Inventory of lost assets

As the proposed railway project will involve physical relocation of PAPs, data have to collect on the location, area, type, and category of the replacement land available for residential and/or agricultural purposes. Care must be taken to ensure that the relocation site or replacement land is in the vicinity of the PAPs previous location to avoid social dislocation and unrealistic division of the PAPs economic livelihood. Lis of data for inventory of losses is shown in List 3 as follow:

List 3. List of Data for Inventory of Losses

1. Land Use

- a) Existing use of land
- b) Areas under different land usages, where applicable
- c) Total and affected area of land with breakdown by usages, if applicable
- d) Estimate whether the remaining area is viable for continued use
- e) Total area of land by type for compensation purposes

2. Structures

- a. Type of structure
- b. Number of floors
- c. Area by floor
- d. Name of owner of structure
- e. Year of construction
- f. Whether permit obtained for structure
- g. Use of structure and areas by usages, if applicable
- h. Description of building material used for roof, walls and floors by surface areas
- i. Type of foundation
- j. Description of any special features of structure
- k. Utility connections (electric meter, water supply, etc.)
- l. Charges paid for utility connections
- m. Affected area of structure
- n. Estimate whether the remaining structure is viable for continued use

- o. Total area of building for compensation purposes

3. Other Structures

- a. Types of structures (wells, boundary wall, fence, warehouse, etc.)
- b. Area of fish pond affected
- c. Average household income from fish pond
- d. Description of areas and construction material of affected structures
- e. Use of other structures

4. Agricultural Products

- a. Type of crops affected
- b. Owner of affected crops
- c. Total yearly production of crop on affected land
- d. Average yield of crop
- e. Any products that are sold at the market
- f. Number of employees/labors used for crop production
- g. Average value of crop
- h. Average yearly household income from agriculture

5. Trees

- a. Number and types of affected trees
- b. Age of trees
- c. Name of owner of trees
- d. Average yield of fruit bearing trees
- e. Average yearly income from fruit trees

6. Business

- a. Type of business affected
- b. Name of owner of business
- c. Registration/permit number of business (check document)
- d. Total yearly household income from business
- e. Average operating expenditure of business
- f. Number of employees in business
- g. Number of permanent and temporary employees
- h. Average income and profit as reported for income tax (check document)
- i. Whether the business needs to be relocated

7. Affected Public Utilities and Facilities

- a. Description of affected community infrastructure
- b. Description of affected facilities by area & building material used
- c. Estimated number of population adversely affected by the facilities/infrastructure

8. Preference for Relocation

- a. Whether there is a need for relocation or reorganization
- b. Preferred mode of compensation (cash or kind) for land
- c. Preferred mode of compensation for structure
- d. Preferred type of assistance for income rehabilitation

Asset Valuation is the process to determine the value of specific property including land, buildings, bonds or machinery when a company or asset is to be sold, insured or taken over. There are several methods to determine the value of the assets depending on its type such as:

- Cost Method
- Market Value Method
- Standard Cost Method
- Base Stock Method

In this proposed project, the assets of the affected people are mostly residential land and agricultural land for their crops so their assets are mostly estates. In order to compensate those affected areas along the railway project, real estate valuation methods are used to determine the estimated compensation of the affected land area.

The most suitable method is the market – extraction which is a part of cost approach method where it is based on the current market price of the land.

7.4. Preparation of Indicative Budget for Implementation

Indicative budget for resettlement is an important part of the Resettlement Action Plan (RAP). For preparation of indicative Resettlement Budget, replacement value/current market prices of the affected properties need to be determined. To determine replacement value, market survey of the affected properties was conducted through a structured questionnaire.

7.5. Implementation Time Schedule

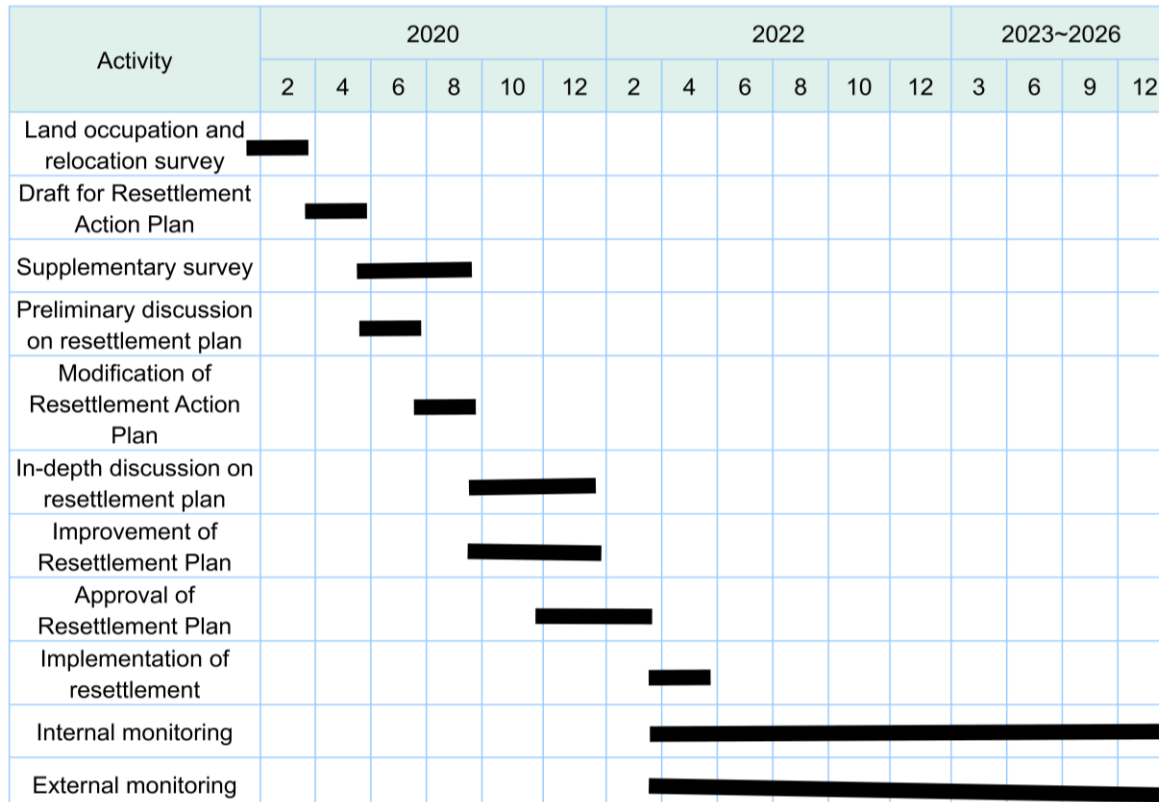
The following facts should be included when implementation of the RAP:

- Provide a clear statement of financial responsibility and authority.
- List the sources of funds for resettlement and describe the flow of funds.

- Ensure that the budget for resettlement is sufficient and included in the overall project budget.
- Identify resettlement costs, if any, to be funded by the government and the mechanisms that will be established to ensure coordination of disbursements with the RAP and the project schedule.
- Prepare an estimated budget, by cost and by item, for all resettlement costs including planning and implementation, management and administration, monitoring and evaluation, and contingencies.
- Describe the specific mechanisms to adjust cost estimates and compensation payments for inflation and currency fluctuations.
- Describe the financial arrangements for external monitoring and evaluation including the process for awarding and maintenance of contracts for the entire duration of resettlement.

The most important things is who will responsible authority for resettlement financial responsibility and authority.

The following figure shows tentative time schedule for implementation stage. However, the time schedule can be changed according to the approval process for FS Study.



Source: CREEC (Feasibility Report), 2018

7.6. Disclosure and Notification

In special cases where there are no clearly identifiable owners or users of the land or asset, the RAP team must notify the respective local authorities and leaders. A “triangulation” of information—affected persons; community leaders and representatives; and an independent agent (e.g. local organization or NGO; other government agency; land value) – may help to identify eligible PAPs. The RAP must notify PAPs about the established cut-off date and its significance. PAPs must be notified both in writing and by verbal notification delivered in the presence of all the relevant stakeholders.

Public disclosure of the RAP has to be made to PAPs and other stakeholders for review and comments on entitlement measures and other issues in the implementation of the RAP. The purpose of the disclosure is to receive comments and suggestions from PAPs and incorporate appropriate suggestions.

As per WB guidelines, this Resettlement Action Plan will also be disclosed in a form, manner and language comprehensible to PAPs (Myanmar Language) and at a place accessible to the displaced population and other stakeholders for review and comments on entitlement measures. The purpose of the disclosure is to receive comments and suggestions from PAPs and other stakeholders, and to incorporate appropriate suggestions. The Public disclosure of abbreviated RAP will be made in English and Myanmar languages and will also post it in MR’s websites.

CHAPTER 8. ORGANIZATION AND INSTITUTIONAL RESPONSIBILITY

8.1. Constitution

The constitution identifies that state is owner of all lands as well as all natural resources above and below the ground, above and beneath the water and in the Union's atmosphere. Citizens and organizations are allocated land use rights, but do not own land. The Ward or Village Tract Administration Law (2012) provides the formation of wards or villages, assigning administrator for security, prevalence of law and order, community peace and tranquility and carrying out the benefit of the public.

8.2. Institutions

The MOAI is the primary body responsible for farmland. The ministry has departments in charge of land-use planning, water resources, irrigation, mechanization, settlement and land records, among other matters. The Farmland Management Body (FMB) and the CCVFV, established by the above mentioned two laws enacted in 2012 respectively, are responsible for approving requests for land use rights governed by the respective law.

8.2.1. Institutional Arrangements for RPF Implementation

The process of resettlement and compensation will be in line with Myanmar legislative requirements, augmented in certain areas to bring these into line with World Bank Safeguard Policy OP 4.12 as set out in this RPF.

8.2.2. National Level Institutions and Responsibilities

At a National level, the parties responsible for the application of the RPF to related governmental authorities will be the following.

- MR will be responsible for (i) ensuring that the RPF requirements are followed; (ii) preparing RAP; and (iii) monitoring and evaluation of their implementation. As part of these responsibilities, the developer will determine an appropriate Resettlement Budget sufficient to meet the objectives of this RPF.
- MR will be responsible for preparing valuation forms, approving the valuation process and compensation amounts calculated.
- The Departments under Ministry of Irrigation and Agriculture, will be responsible for providing statistics on crops and productivity per ha. This must be made available to the valuation officers responsible for the valuation process. Compensation shall pay

according to the farmland law and land acquisition, resettlement and rehabilitation law to the PAPs.

- The Ministry of Natural Resources and Environmental Conservation will be responsible for providing statistics and values of trees per hectare.

8.2.3. District Level Institutions and Responsibilities

At a District level, the main party responsible for the application of the RPF is the related governmental department with land for facilitating the evaluation, census and evaluation process and for negotiations among the MR and the village administration and PAPs. Also for payment of compensation after the valuation report has been approved, and deals with any conflict that may arise.

8.2.4. Village Level Institutions and Responsibilities

At a Village level, the parties responsible for the application of the RPF include:

- The Village Administrative Office, in its capacity as having jurisdiction over village land, for consultation with the MR, and for identifying replacement land for the individual land owners/PAPs; and
- The PAPs, for taking part in the land acquisition process, consultation and in assisting to design the compensation measures.

8.3. RAP Implementation Unit

A RAP Implementation Unit (RIU) required to establish to implement approved RAPs. All activities indicated in the RAP shall be covered from project funds and be completed prior to commencing the construction activities. Project Implementation Unit (PIU) will be responsible for preparing and implementing approved RAPs, under the supervision of the government authorities related with land acquisition, resettlement and rehabilitation Act 2019.

8.3.1. Role and Responsibilities of RIU/PIU

Major responsibilities and activities of the RIU/ PIU include – but may not be limited to – the following:

- Undertake cadastral and topographic surveys and ensure correction of data of measuring and inventory as required by possible design changes;
- Closely consult with PAPs and settlements representatives;

- Prepare documentation for registration of new land plots;
- Provide the public with necessary information & Public Consultation Meeting according to EIA Procedures;
- Negotiations and agreement with PAPs;
- Delivery of compensation and, as needed, implementation and supervision of rehabilitation measures. Cash compensations will be paid on bank transaction account and in cash etc;
- Observe grievance procedures;
- Court processing of cases where no agreement is reached;
- Expropriation proceedings through the court, as required;
- Construction of infrastructure (in case resettlement is necessary) and arrangement of relocation of PAPs;
- Prepare quarterly reports.

8.4. Income Restoration Program

8.4.1 Approach of Income Restoration Program (IRP)

Income Restoration Program (IRP) is planned to restore and stabilize livelihood of displaced PAHs at least to pre-project level after relocation and resettlement as “in-kind assistance” taking advantage of economic activities being developed in and around the project area. The approach of IRP for the Expanded Area is prepared based on international practices, the assistance policy of the Framework and lessons learned, and will be further updated in consultation with PAHs and stakeholders. Since IRP includes a wide range of activities, such as household account management, vocational training, learning business rules at a company and community development at new living place, the details of each IRP program will be further examined and fine-tuned in consultation with PAHs as well as the stakeholders.

IRP is proposed to be composed of two main components: Component-1: as for all PAPs, support for restoration of economic conditions through a combination of activities for enhancement of income earning opportunities and household account management, Component-2: as for PAPs who are resettled to new place, support for adapting environmental and social living conditions through community development. Activities of Components-1 and -2 will be monitored and followed up to see the degree of livelihood restoration of PAPs, and their basic frameworks are shown in the following figures.

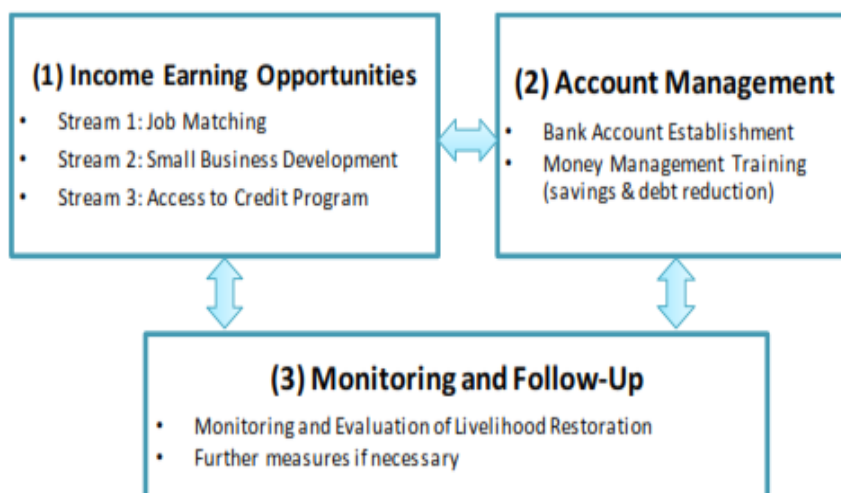


Figure -Basic Framework of Restoration of Economic Conditions (Component-1)

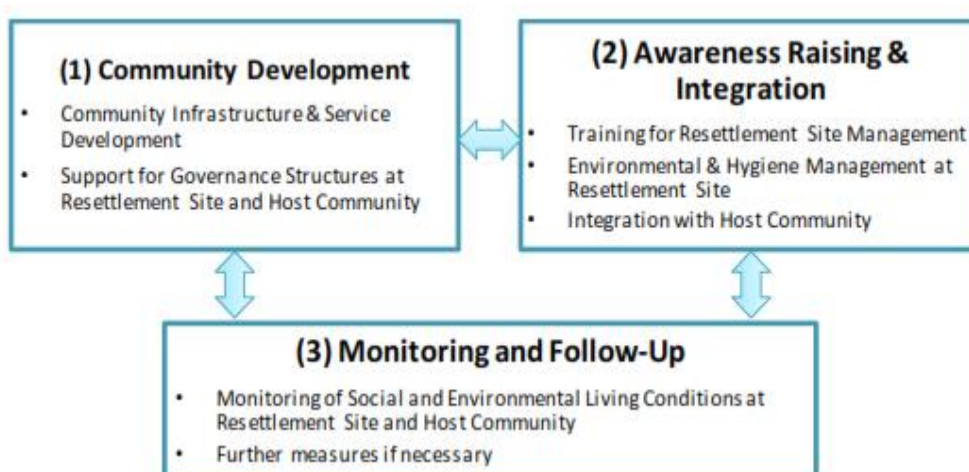


Figure- Basic Framework of Support for Adapting to Environmental and Social Living Conditions (Component-2)

8.4.2 Target of IRP

IRP will be provided to the following PAPs to enhance their vocational opportunities:

- a) Farmers who need to alter income earning activity from farming to another activity
- b) Odd job worker and other off-farming worker who desire to alter job place
- c) Unemployment people who desire to improve technical skill for finding job opportunity
- d) PAPs who do not need to change the current income earning activities but desire to improve technical skill and income level

8.4.3 Proposed IRP Contents

The following contents are proposed for the IRP based on the lessons learned from implementation of project. The IRP contents will be discussed with PAHs/PAPs in consultation meetings.

(1) Component-1: Support for Restoration of Economic Conditions

(a) Supports for income earning opportunities

Supports for income earning opportunities are to include: i) series of technical support for improvement of work-skill, ii) facilitating job matching in and around the project area and iii) assistance for starting business.

The activity of item i) series of technical support, will provide vocational trainings to PAPs in order to improve their skills for enhancing job opportunities. The following steps will be included in the support.

- Preparation of the menu of vocational trainings to PAPs: The possible vocational trainings will be screened by analyzing possible job opportunities in/near project area and the qualification requirements (e.g. skills, age, academic qualification, transportation and others).
- Conducting a site visit: The site visit is being also arranged for PAP representatives and/or willing PAPs so that PAPs could understand the nature of available jobs clearly. It also aims to help understanding of PAPs who are less literate.
- Preparation of a job booklet: Since there was a gap regarding the offered job openings and the jobs PAP preferred, the job booklet will be prepared for PAPs so that PAPs can understand for which kind of job the PAPs can apply immediately and can apply after improving their skills through a certain vocational training. The booklet will be produced and would cover examples of construction workers, health and safety personnel, cleaners, security guards, gardeners, electricians, manufacturing factory workers, and office workers.
- A series of IRP workshop/job counseling will be organized between PAHs and MR to understand the PAHs' preference, the job openings for PAHs or the general public, the developers and the locators (RAILWAY tenants) could offer, and the qualifications for job openings and select the actual vocational trainings to be provided.
- Since some ministries provide several types of vocational training, which could be utilized as part of IRP, cooperation with these concerned ministries will be taken into consideration.

As for item ii) facilitating job matching in and around the project area, PAPs are expected to find job opportunities in and around the project RAILWAY area through vocational training

and assistance in job matching i) Introducing a job vacancy which is suitable for the interest and capability of PAPs will be enhanced in cooperation with the developer and the locators and conducted through IRP workshops and job counseling between TSMC and PAPs. This includes cooperation and facilitation with Dept. of Labor under Ministry of Labor and Employment and relevant departments in townships.

In addition, assistance will be considered for those who wish to start their own business as part of the activity of item iii) assistance for starting small business including business plan preparation.

(b) Supports for household account management

As for supports for household account management, two types of supports will be included in order to manage income and expenditure properly to avoid spending without proper plan:

- i) support to open a bank account not only to receive compensation and assistance money in safe but also to save money, avoid misuse and earn interest, and
- ii) support to learn knowledge on increase of saving and reduce of debt.

Although it is a common challenge of involuntary resettlement in the world, there is a tendency that PAHs misuse the compensation and assistance money in the initial stage since usually the compensation and/or assistance is provided at once before resettlement. The similar problem was found and many PAHs had the larger expenditure than the income for a while after relocation. Therefore, sometime between the compensation payment and relocation, household account management training will be provided so that PAHs will plan how to utilize compensation and assistance money in a longer term.

(2) Component-2: Support for Adapting to Environmental and Social Living Conditions

(a) Support for community development

After resettlement, as relatively densely populated conditions are expected at the resettlement site, a sense of community needs to be built and internal rules also need to be prepared in the new resettlement site for better environmental and social living conditions. Since generally the PAPs have existing living standards and customs, harmonization with host communities (i.e. existing communities around/in the resettlement site) and PAHs to be resettled at the same resettlement site, is an important factor to develop social living conditions. With respect to functions of community after its development, establishment of appropriate rules and system is necessary. To realize these important factors, the following supports will be offered: (i) Support to creation of the sense of cooperation with peoples from the host communities, and

(ii) Support to coordination with host communities through having the meetings and discussions among the host communities around the resettlement site, and PAHs to be resettled. Social integration also needs to be facilitated at the resettlement site where the host community exists so that new comer PAHs are able to understand the existing social rules and system and adapt to them as early as possible. Therefore, necessary assistance to coordinate with the local leaders of the existing community will be provided to the PAHs so that the PAHs are get used to the rules and systems of the existing community as early as possible. It is also expected social integration will be improved through benefit sharing such as promoting CSR activities such as vocational training which is open to not only the PAHs but also the local communities.

(b) Support for awareness raising

Similarly, after resettlement, as relatively densely populated conditions are expected at the resettlement site, environmental and hygienic management will be required such as management of common wells, private toilets, garbage, and noise from neighbors' houses. For this, raising of awareness on their life style change from the rural lifestyle to the semi-urban lifestyle at the resettlement site becomes important to maintain the resettlement site in a sustained manner with community members. Therefore, (i) supports for enlightenment on appropriate environmental and hygienic management is to be included as part of the supports for awareness raising. In addition, (ii) support for training for sustainable resettlement site management are to be included, which include creation of working groups against each issue so that the peoples will be able to deal jointly with the issues.

(3) Monitoring and Follow-up

Progress and issues of both components, (namely restoration of economic conditions and adapting to environmental and social living conditions), will be monitored as part of internal and external monitoring. It is planned that internal monitoring will be conducted by the village administrator as a representative of Income Restoration Program Implementation Committee (IRPI) monthly and the external monitoring will be conducted by the independent expert bi-annually. Based on the results of the monitoring, follow-up activities including further measures will be carried out if necessary.

CHAPTER 9. MONITORING, EVALUATION, REPORTING AND AUDITING

Arrangements for monitoring implementation of resettlement and evaluating its impact should be developed by during project preparation and used during supervision. Monitoring provides both a warning system for project managers and a channel for the resettles to make known their needs and their reactions to resettlement execution. Monitoring and evaluation units should be adequately funded and staffed by specialists in resettlement. In-house monitoring by the implementing agency may need to be supplemented by independent monitors to ensure complete and objective information. Annual and midterm reviews are desirable for large-scale resettlement. The purpose project should be required to continue impact evaluation for a reasonable period after all resettlement and related development activities have been completed. The purpose project should also be required to inform the MR about the findings.

9.1. Monitoring and Evaluation

Monitoring and Evaluation is an integral part of this RAP and will oversee re-establishing process of the Project Affected Person (PAP). It will be a compliance monitoring and this will assist to follow the type of measures incorporated in RAP documents, and the extent to which on these matters, as set out in the RAP, are complied with. It is the objective of ERA to use lessons from the monitoring and evaluation results to enhance the preparation and implementation of future resettlement action plans.

9.1.1. Monitoring

The basic monitoring principles will describe:

- (a) The external and internal monitoring process;
- (b) Key monitoring indicators (provide a list of monitoring indicators, which would be used for internal monitoring);
- (c) Institutional (including financial) arrangements;
- (d) Frequency of reporting and content for internal monitoring, process for integrating feedback from internal monitoring into implementation; and
- (e) Financial arrangements for external monitoring and evaluation, including process for awarding and maintenance of contracts for the duration of resettlement.

Monitoring process will be conducted in two phases: Internal and external as follow:

9.2. Internal Monitoring

Internal monitoring should be carried out routinely by PIU either directly or through the Local Authorities. The results will be communicated to MR. Specific monitoring benchmarks will be:

- Information campaign and consultation with PAPs;
- Status of land acquisition and payments on land compensation;
- Compensation for affected structures and other assets;
- Relocation of PAPs;
- Payments for loss of income;
- Selection and distribution of replacement land areas;
- Income restoration activities, and
- Grievances and their resolution.

The above information will be collected by PIU through local authorities which are responsible for monitoring the day-to-day resettlement activities of the project through the following instruments:

- Review of census information for all PAPs;
- Consultation and informal interviews with PAPs;
- In-depth case studies; • Sample survey of PAPs;
- Key informant interviews; and
- Community public meetings.

Internal monitoring and supervision will:

- Verify that the census of all PAPs has been carried out;
- Verify that the RAP and baseline survey (as appropriate) has been prepared for project;
- Verify that property valuation and resettlement has been carried out in accordance with the provisions of this RPF and the respective RAP;
- Oversee that all resettlement measures are implemented as approved;
- Ensure that funds for implementing resettlement activities are provided in a timely manner, are sufficient for their purposes, and are spent in accordance with the provisions of this RPF and the respective RAP.

(b) External Monitoring

The external monitor also has the responsibility of reviewing potentials for job opportunities for PAH, including women and youth, which would be assisted by MR authorities. If required and needed based on the project impact, MR will hire an External Monitoring Agency (EMA)

to carry out external monitoring and post-evaluation. The TOR for the engagement of the EMA will be prepared before procurement process. The external monitoring reports will be submitted to the MR. In addition, to verifying the reports generated by internal monitoring, external monitoring will:

- Evaluate the social and economic impact of resettlement on the PAPs;
- Verify if the objective of enhancement or at least restoration of income levels and standards of living of the PAPs has been met; and
- As needed, provide suggestions for improvement of resettlement implementation to ensure achievement of the principles and objectives set forth in this RPF and respective RAPs.

The following are main indicators for the investigations to be carried out in this external monitoring phase:

- Socio-economic conditions of the APs after project implementation;
- Communications and reactions from APs on entitlements, compensation, options, alternative developments and relocation timetables etc.;
- Changes in housing and income levels;
- Socio-economic conditions of Informal land owners;
- Effectiveness of property valuation for rehabilitation purposes;
- Effectiveness of Grievance procedures;
- Level of satisfaction of APs in the post resettlement period.
- Level of income of APs after implementation of livelihood restoration measures.

9.3. Evaluation

The independent impact evaluation should determine:

- (i) If compensation payments have been completed in a satisfactory manner; and
- (ii) If there are improvements in livelihoods and well-being of PAPs.

Several indicators are used to measure these impacts. These include, among others, a comparison of income levels before-and-after; access to livelihoods and employment; changes in standards of housing and living conditions; and improvements in level of participation in sub-project activities. There are measures to verify these basic indicators, such as number of children in- school (compared to pre-RAP levels); changes in health

standards; and changes in access to markets or roads – all of which may reflect overall improvements in standards of living.

The following methods should be used for measuring impacts:

- (i) Questionnaires with data stored in a database for comparative analysis (before-after and with-without);
- (ii) Documentation and recording of PAPs situation, including subsequent uses of assets/improvements;
- (iii) Relocation/resettlement and compensation Reports, including status of land impacts; percentage of individuals selecting cash or a combination of cash and in-kind compensation; proposed use of payments;
- (iv) Number of grievances and time and quality of resolution; and
- (v) Ability of individuals and families to re-establish their pre-resettlement activities, in terms of improvements in land and crop production, and/or presence of other alternative incomes.

The RAP team should maintain, together with local officials, basic information on all physical or economic displacement arising from the sub-project. This includes an update, for example on a quarterly basis, of the following:

- (i) Number of sub-projects requiring preparation of an RAP;
- (ii) Number of households and individuals physically or economically displaced by each sub-project;
- (iii) Length of time from sub-project identification to payment of compensation to PAPs;
- (iv) Timing of compensation in relation to commencement of physical works;
- (v) Amount of compensation paid to each PAP household (if in cash), or the nature of compensation (if in kind);
- (vi) Number of people raising grievances in relation to each sub-project;
- (vii) Number of unresolved grievances.

The PIU will review these statistics to determine whether the RAP implementation arrangements, as defined in this RPF, are effective in addressing RAP related issues. Financial records will be maintained by the sub-projects and the PIU, to determine the final cost of RAP implementation. The following indicators (in Table 6) can be used to monitor implementation of the RAP.

Table : Indicators of RAP impacts

Monitoring (of Issues)	Evaluation (of Impacts)
Number of compensation (and valuation) not completed	Changes (+/-) in PAPs conditions during transition process
Number of sub-projects unable to settle compensation after two years	Changes (+/-) in PAPs income and livelihood conditions
Number of grievances filed	Quality of grievances or disputes resolved (qualitative)
Number of livelihood restoration programs completed	Changes (+/-) in affected households' income levels
Pre project production versus present production levels (crops for crops, land	Equal or improved production per affected household/homestead

9.4. Annual Audit

The annual audit of RPF implementation, and as applicable RAP implementation in sub-project(s), includes: (i) a summary of RAP performance of each sub-project; (ii) a compliance review of RAP implementation process; and (iii) a progress report on the quality of RAP implementation in terms of application of guidelines provided in this RPF.

The audit will verify results of monitoring of RAP implementation indicators, and assess whether the project achieved the resettlement objectives. A specific measure of whether livelihood and living standards have been restored or enhanced will be completed. The audit will also assess the efficiency, effectiveness, impact, and sustainability of RAP sub-project activities. The aim is to learn lessons for application to future sub-projects or other projects in the sector and in the country. Finally, the audit will ascertain whether the resettlement entitlements were appropriate, as defined in the RPF guidelines.

9.5. Establishment of Reporting System

The PIU will establish a reporting system for RAP that will:

- (i) Provide timely information to the project about all resettlement and compensation issues arising as a result of RAP related activities;
- (ii) Identify any grievances, especially those that have not yet been resolved at the local level and which may require resolution at the higher levels (e.g. by the PIU);

- (iii) Document completion of project resettlement and compensation that are still pending, including for all permanent and temporary losses;
- (iv) Evaluate whether all PAPs have been compensated in accordance with the requirements of this RPF and that PAPs have better living conditions and livelihoods; and
- (iv) Identify mitigation measures, as necessity, when there are significant changes in the indicators that may require strategic interventions (e.g. vulnerable groups are not receiving sufficient support from the sub-project).

9.6. Role and Responsibilities for Monitoring and Evaluation

For the monitoring and evaluation of the RAP activities, the Implementing Committee (to be established) together with Environmental & Social Management Team (ESMT) will take a prime responsibility at the project area level. The committees which is the coordinator for the implementing committee will follow and clarify the implementation processes, and whenever found to be necessary will arrange the ground for consultation with Project Affected Persons (PAP).

Environmental & Social Management Team (ESMT) will be responsible to monitor and evaluate the RAP in consultation with local administration office. The monitoring indicators that will be adopted include;

- a. Number of PAPs and amount of compensation to be made
- b. Restoration and restitution of PAP
- c. Appropriateness of relocation sites
- d. Appropriateness of the time schedule for RAP
- e. Public infrastructures and social services re established
- f. Support and assistance made to vulnerable groups and women
- g. Appropriateness of grievance redress mechanisms

MR's through its ESMT will assign a qualified Sociologist/Social scientist to conduct individual evaluations of PAPs re-establishment socio-economic progress. This service aims at evaluating, and reporting on, the level of living conditions and social services of the PAPs, both before and after the re-establishment. The evaluation will be done on quarterly and annual basis for two consecutive years. The monitoring and evaluation results will be based on a number of key indices for selected households, in combination with the special observation by

the social scientist. MR administration offices will produce a report regarding their accomplishments and submit to Local Administration Office. The report will inform the client about the accomplished compensation process and make the site is ready for the construction of the railway.

CHAPTER 10. COSTS AND BUDGET FOR LAND ACQUISITION, RESETTLEMENT AND RELOCATION

During FS stage for Railway Alignment, detailed cost and budget for resettlement cannot be accomplished because of detailed census and socio-economic survey for inventory asset and resettlement cannot be made during FS stage.

10.1. Indicative Outline of RAP Costs and Budget

The following table shows the framework and outlines for indicative outline of RAP costs and budget.

Table 10.1. An Indicative RAP Budget Outline

Asset acquisition	Amount or number	Total estimated cost	Agency responsible
Land			
Structure			
Crops and economic tress			
Community infrastructure			
Land Acquisition and Preparation			
Land			
Structures			
Crops areas and others			
Community infrastructure			
Relocations			
Transfer of possessions			
Installation costs			
Economic Rehabilitation			
Training			
Capital Investments			
Technical Assistance			
Monitoring			
Contingency			

10.2. Some Estimations for RAP Cost and Budget

Compensation planning involves more than simple cadastral surveys or inventories of affected assets. The proposed railway alignment will entail displacement of considerable number of households from their current dwellings and loss of farmland. The calculation of estimated cost for residential area, agricultural land and plantation are based on the primary data collection

(households survey) and secondary data collection. For the secondary data collection, it is collected from the real estate agency and some media pages (www.minnthu.com, www.imyanmarhouse.com, etc). During the household survey (primary data collection), the data related to current estimated cost for residential area, agricultural land (farmland and crop land) and plantation are conducted. The information regarding price of the land were collected from different types of people of the area concerned such as potential seller, potential buyer, and local vender. Considering their opinion replacement value/current market price of the property is determined. Land prices can be varied according to the time and locations. Some recorded photos during the household survey for land acquisition are shown in the figures below.

Figure – Some Recorded Photos during Households Survey for Land Acquisition



Although detailed estimation budget RAP cannot be made, estimated framework for some calculations about residential area, agricultural land, plantation, water resources and demolished power line and telecommunication cables as follow:

10.2.1. Estimated Cost for Land Use in Residential Area

According to the land use for residential area, the proposed railway project will use 23.15 acres of residential area and 335 households as minimum requirement as described in the previous chapter. The following table shows the estimated cost for Land Use in residential area.

Table 10.2. Estimated Cost for Land Use in Residential Area

Township	Villages	Total Land Use for Residential area (Acre)	Price per Acre (Lakh)
Mandalay (Amarapura)	Myit Nge, Sin Bo	2.81	4500 ~ 5900
Mandalay (Patheingyi)	Ywar Shay, Thale Gone, Thamma Taw, Toe Tet Kone	2.66	2000 ~ 2725
Pyin Oo Lwin	Kone Kaw, Thet Kan Kone, Pin Lain	0.62	750 ~ 1500
Nwang Hkio	Kaung Hong, Thone Se, Hsum Hsai, Kyauk Thone Lone, Ommakha, Kyauk Kyan, Nwang Hkio, Yay Lint, Kone Sam,	8.986	500 ~ 750
Kyaukse	Khite Tone Home, Pang Ywang, Nwang Mun	1.11	600 ~ 850
Lashio	Loi-Lawn, Mehan, Kaung Mat Kyine, Nwang Lain, Pang Hat, Nam Hu	5.56	700 ~ 1200
Kutkai	Man Nwang, Ho Nar, Nam Phat Loon (Lower)	0.412	700 ~ 900
Muse	Mang Haung, Nam Onn, Wane Kine	0.99	900 ~ 1100

Note: Estimated price will change base on PAP's willing to sell and the local market price changes due to venders.

10.2.2. Estimated Cost for Land Use in Agricultural Area

As the proposed railway project will use 476.83 acres of agricultural land as minimum requirement and the following tables shows the estimated cost for Land Use for agricultural land and plantation.

Table 10.3. Estimated Cost for Agricultural Land

Township	Total Land Use for Agricultural land (Acre)	Type of Land	Land Value per Acre (Lakh)
Mandalay (Amarapura)	24.98	Farmland	2000 ~ 3500
Mandalay (Patheingyi)	32.17	Farmland	1800 ~ 3000
Nwang Hkio	132.75	Farmland	30 ~ 400
		Crop land	25 ~ 100
Kyaukse	76.27	Crop land	15 ~ 80
Hsipaw	30.25	Farmland	40 ~ 100
		Crop land	10 ~ 80
Lashio	46.99	Farmland	80 ~ 100
		Crop land	100 ~ 200
Hsengi	46.46	Farmland	25 ~ 35
		Crop land	25 ~ 40
Muse	26.81	Crop land	600 ~ 2000

Note: Estimated price will change base on PAP's willing to sell and the local market price changes due to venders.

Table 10.4. Estimated Cost for Plantation

Township	Villages	Total Land Use for Agricultural land (Acre)	Type of Plantation	Production per Acre	Unit Price (Lakh)
Mandalay (Amarapura)	War Yone Pin	0.073	Paddy (Summer & Monsoon)	70 ~ 80 tin	10 ~ 11
Mandalay (Patheingyi)	Thamma Taw	0.073	Paddy (Summer & Monsoon)	70 ~ 80 tin	10 ~ 11
Nwang Hkio	Nwang Hkio	0.073	Wheat	2500 ~ 3000 viss	0.006 ~ 0.008
			Corn	1500 ~ 2000 viss	0.006 ~ 0.008
			Sugarcane	25 ~ 30 ton	0.60 ~ 0.65
			Paddy (Monsoon)	65 ~ 80 tin	10 ~ 11
			Pea	60 ~ 70 tin	1.5 ~ 2
Kyaukse	Hwang Heng	0.073	Corn	1500 ~ 2500 viss	0.005 ~ 0.006
			Sugarcane	30 ~ 40 ton	0.6 ~ 0.68

			Wheat	2000 ~ 2500 viss	0.01 ~ 0.015
			Soybean	45 ~ 60 viss	0.02 ~ 0.025
Lashio	Kun Htaik, Nwang Lain	0.146	Corn	1500 – 2500 viss	0.007 ~ 0.01
			Paddy	70 ~ 100 tin	10 ~ 11
Hseni	Wane Hlaine	0.073	Corn	2000 ~ 2500 viss	0.005 ~ 0.008
			Sugarcane	15 ~ 20 ton	0.5 ~ 0.6
			Paddy (monsoon)	60 ~ 70 tin	9 ~ 10
			Wheat	2000 ~ 2500 viss	0.01 ~ 0.015
Muse	Muse	0.073	Sugarcane	25 ~ 30 ton	0.65 ~ 0.75
			Corn	1000 ~ 1500 viss	0.006 ~ 0.008
			Rubber	1500 ~ 2500 lb	0.005 ~ 0.01

Note: Estimated price will change according to time and market value.

10.2.3. Estimated Cost for Water Resources

As the proposed railway project will pass some villages and these villages are used water springs as drinking and domestic purposes. However, the proposed alignment during FS stage will pass the catchment area of water springs is not sure and the following table show just the estimated cost for digging of tube well for compensation of water resources in these villages if necessary.

Table 10.5. Estimated Cost for Water Resources

Township	Villages	Type of Water Resources	Use of Water Resources	Estimated Price for Tube Well (lakhs)
Mandalay (Amarapura)	Myit Nge	Tube well	Tube well	
	Sin Boe	Tube well	Tube well	
Mandalay (Patheingyi)	Ywar Shay	Tube well	Tube well	
	Thale Gone	Tube well	Tube well	
	Thamma Taw	Tube well	Tube well	
	Toe Tet Kone	Tube well	Tube well	
Pyin Oo Lwin	Kone Kaw	Natural Spring Water	Natural Spring Water	
	Thet Kan Kone	Tube well	Tube well	
	Pin Lain	Natural Spring Water	Natural Spring Water	
Nwang Hkio	Kaung Hong	Tube well	Tube well	

	Thone Se	Tube well	Tube well	1,000,000 ~ 1,500,000
	Hsum Hsai	Tube well	Tube well	
	Kyauk Thone Lone	Tube well	Tube well	
	Ommakha	Tube well	Tube well	
	Kyauk Kyan	Tube well	Tube well	
	Nwang Hkio	Natural spring water	Natural spring water	
	Yay Lint	Tube well	Tube well	
	Kone Sam	Tube well	Tube well	
Kyaukme	Khite Tone Home	Natural spring water	Natural spring water	
	Pang Ywang	Natural spring water	Natural spring water	
	Nwang Mun	Tube well	Tube well	
Lashio	Loi-Lawn	Tube well	Tube well	
	Mehan	Natural spring water	Natural spring water	
	Kaung Mat Kyine	Tube well	Tube well	
	Nwang Lain	Tube well	Tube well	
	Pang Hat	Tube well	Tube well	
	Nam Hu	Tube well	Tube well	
Kutkai	Man Nawng	Tube well	Tube well	
	Ho Nar	Tube well	Tube well	
	Nam Phat Loon (Lower)	Tube well	Tube well	
Muse	Mang Haung	Tube well	Tube well	
	Nam Onn	Tube well	Tube well	
	Wane Kine	Tube well	Tube well	

Note: Normally, the compensation for tube well is not necessary and the construction contractor(s) can be avoided the blockage of water resources by using alternative alignment. The estimated cost will be digging of tube well for compensation if necessary.

The price of digging tube well may varies according to the structure of the area because if the area is in hilly and rural places, the prices will be higher since the well has to be dug deeper and the difficulty of the transportation of the equipment.

However, it cannot be considered the railway alignment will pass the water resources or not during FS stage and so, the detailed calculation about the compensation for water resource (compensation for water spring) cannot be made.

10.2.4. Estimated Cost for Demolition of Power Line

The following table shows the estimated cost for demolition of power line.

Table 10.6. Estimated Compensation for Demolished Power Line.

S/N	Description	Estimated Unit Price for 500 m (Kyats)
Power Lines Crossing		
1	33kV line (changed to cable)	15,000,000 ~ 25,000,000
2	33kV line (changed to overhead line)	5,000,000 ~ 8,500,000
3	11kV line (changed to cable)	15,000,000 ~ 25,000,000
4	0.4kV line (changed to cable)	5,000,000 ~ 8,500,000
Other demolition and relocation works		
1	Demolition and relocation of 11/0.4kV pole type transformer	5,000,000 ~ 8,000,000
2	Demolition and relocation of 33/0.4kV pole type transformer	8,000,000 ~ 12,000,000

Estimated Compensation for demolished telecommunication cables

S/N	Description	Estimated Unit Price for 500 m (Kyats)
1	Optical (electric) cable	8,500,000 ~12,500,000
2	Base Station	5,000,000 ~ 90,000,000

Note: The actual price will vary based on the quality of products and the origin of country.

10.2.5. Estimated Cost for Forest Plantation

The railway will pass through forest, forest plantation, private plantation and CF plantation as follow:

Forest		Forest Plantation		Private Plantation		CF Plantation	
-	Area (Acres)	-	Area (Acres)	-	Area (Acres)	-	Area (Acres)

Compensation of Tree Cutting of Trench Sampling

The compensation estimate for timber trees is calculated on the basis of the tree size and age. The cost for each tree type is calculated on the Myanmar's laws and existing market price collected. The following table shows local price for timber in forest plantation.

(a) Timber (For 3 feet and above)

	Type of Timber	Long	Price	Remarks
1.	Other	3' to 3' 11"	40000	
2.	Other	4' to	40000	

		4' 11"		
3.	Other	5' and above	40000	

(b) Tile (For 1 feet to 2 feet 11 inches)

No.	Type of Timber	Price	Remarks
1.	Teak	3000	
2.	Hard Wood	2000	

Note: Normally, forest plantation can be compensated by replantation, and it will avoid compensation for trees.

10.2.6. Estimated Project Management & Running Costs

(a) Costs for Internal Monitoring

The internal monitoring will be carried out on monthly bases for two years during construction phase and for one year in the operation phase. The cost includes salary and allowances for a Sociologist and an Environmentalist, vehicle rent, fuel cost, administrative costs and office rent for 12 months in the project life time, which means every one month every quarter for a period of three years. 3,000,000 MMK is allocated for single monitoring and related activities.

(b) Cost for External Evaluation

Evaluation of the project will be carried out by experienced consultants employed in country or internationally. At least two evaluations (mid-term and ex-post) will be carried out. An estimated 2,000,000 MMK is allocated for each phase.

CHAPTER 11. COMMUNITY PARTICIPATION, PUBLIC CONSULTATION AND DISCLOSURE FRAMEWORK

11.1. Introduction

Public consultations in relation to the RAP will need at all stages. The following strategies will have to use during public participation process for RAP.

11.2. Public Participation in Data Collecting Phase

Consultations during preparation, in particular, the collection of background information, and the social survey or social assessment, are critical for successful data collection. The levels of consultation will vary from households to community groups, based on the particular context of the sub-project(s). The RAP team will design the questionnaires but it will be the households, organizations, and institutions that will validate their effectiveness through feedback. Focus group meetings with women, individuals who own farms and agricultural lands, etc, as well as primary and/or secondary schools, health centers, and agricultural cooperative unions are usually good sources for establishing the community baseline situation.

11.3. Public Participation in Implementation Phase

During implementation, PAPs must be informed about their rights and options. The grievance mechanism should continue to operate and all grievances will be recorded. The participation of local leaders and PAPs in disseminating information and resolving disputes will be important once RAP implementation starts. In implementation phase, the most important thing is to involve the right PAP in compensation phase. So, it is necessary to conduct to take part the representative persons from local people (PAPs) and local authority to avoid dispute about the land right. A dynamic participatory approach involves PAPs in decision making about livelihood and community development programs.

11.4. Public Participation in Monitoring and Evaluation Phase

PAPs representatives will participate in the sub-project workshops at mid-term and at the end of RAP implementation. To the extent possible, the RAP should include social accountability tools like citizen report cards to assess the quality of RAP implementation, and in some cases, assist the RAP team in tracking expenditures. The latter would be

significant in helping PAPs with money management and restoring their livelihoods. PAPs will be able to suggest corrective measures, as needed, to improve RAP implementation in the sub-project(s). Prior to closing the RAP, PAPs will participate in a feedback survey as part of the RAP’s independent impact evaluation exercise.

11.5. Local Residents along the Railway Alignment

The railway will pass the following towns and villages along the alignment:

Township	Village and Village Tract
Mandalay (Myit Nge)	Sar Toe Village Group (Sar Toe, Sat Kway, Myo Pyin Gyi) Danone Village, Nyaung Pin Ni Village, Nyaung Pin Zout Village, Myit Laung Village, Ashay Thar Yar Gone Village, Min Ywar Village, Pyauk Sake Kone Village, Sin Bo Village, Pauk Chine Village, Min Su Village, Saut Taw Wa Village
Naung Cho	Taung Quarter, Myat Chae Nu Village, Kone Gyi Ma Village, Ngoke Ka Lay Village, Ohmm Ma Khar Village, Kyin Ganai Village, Ban Bway Village, Samasal Village, Lone Yone Village, Anauk Kyu Yinn Village
Kyauk Me	Khie Tone Hone Village, Nar Kite Khan Village, Naung Ann Village, Ngon Sai Village, Know Kaw Village, Kyaung Kone Village, Mway Taw Village
Lashio	Khar Shi Village, Naung Mon Village, San Pyat Village, Lwin Lount Village, Khay Ninn Village, Mal Han Village, Kaung Ma Kyan Village, Naung Laing Village Nam Tom Village, Ho Pate Village, Pan Hat Village
Theinni	Nan Onn Village, Man Sar Tone Village, Nar Chat Village, Nan Maw Hate Village, Pan Kham Village, Man Chat Village, Pan Sone Village, Pan Phat Village, Naung On Village, Wane Line Village
Muse	Nan Pann Village, Nan Kon Village, Nan Sonn Village, Kaung Khan Village, Wane Mine Village, Nan Onn Village, Mhan Haunn Village, Phat Mhan Village, Mine Mine Village, Yaw Han Par Village

11.6. Household Survey of PAPs

Information sharing and issue identification is conducted by household surveys and public meeting. As household survey was conducted in more than 70 villages, the results of household survey cannot be made very detailed to cover 70 villages. 19 public meetings are held for information sharing and issue identification. Summary of discussion of household survey and public meetings are described below.

Residential area along the railway alignment

Township	Villages	Residential area (Acre)	Households
Mandalay (Amarapura)	Myit Nge	1.94	70
	Sin Boe	0.87	27
Mandalay (Patheingyi)	Ywar Shay	0.47	9
	Thale Gone	0.70	5
	Thamma Taw	0.83	4
	Toe Tet Kone	0.66	10
Pyin Oo Lwin	Kone Kaw	0.39	11
	Thet Kan Kone	0.22	7
	Pin Lain	0.01	1
Nwang Hkio	Kaung Hong	0.045	2
	Thone Se	0.95	1
	Hsum Hsai	0.18	6
	Kyauk Thone Lone	0.16	3
	Ommakha	6.56	10
	Kyauk Kyan	0.14	7
	Nwang Hkio	0.67	12
	Yay Lint	0.041	2
Kyaukme	Kone Sam	0.24	8
	Khite Tone Home	0.27	10
	Pang Ywang	0.21	4
Lashio	Nwang Mun	0.63	12
	Loi-Lawn	0.34	9
	Mehan	1.46	22
	Kaung Mat Kyine	0.24	5
	Nwang Lain	0.21	6
	Pang Hat	1.89	17
Kutkai	Nam Hu	1.42	17
	Man Nawng	0.092	3
	Ho Nar	0.13	4
	Nam Phat Loon (Lower)	0.19	5
Muse	Mang Haung	0.1	7
	Nam Onn	0.42	7
	Wane Kine	0.47	12
Total		23.15	335

Table 11.1. Summary of Household Survey for Public Concerns for Land Acquisition

Location	Concerns	Needs
Hsipaw		
Twon Kar Village	<ul style="list-style-type: none"> - affecting the field and vegetation - transportation difficulties - vibration from operation of trains 	<ul style="list-style-type: none"> - compensate properly according to its current price - discuss with the villagers before starting the project - compensate for vegetation - fix roads inside the village - want the project to construct the railway by avoiding the village's farming land
Kyin Thi Village	<ul style="list-style-type: none"> - affecting the field and vegetation - blockage of field's drainage system and streams 	<ul style="list-style-type: none"> - discuss properly with the victims till satisfaction - prepare the project openly - fix the roads inside the village
Ho Naung Village	<ul style="list-style-type: none"> - affecting the vegetation field and forest area 	<ul style="list-style-type: none"> - discussions should be made with villagers and compensate properly according to its current price - prepare the project by avoiding the village 's farming land -upgrade the schools from primary to secondary - fix the fire station and police station - build clinics
Nam Aun Village	<ul style="list-style-type: none"> - affecting the field, houses, yards and vegetation 	<ul style="list-style-type: none"> - compensate the victims properly - carry out according to their preference - do the project away from houses and farming land - build wells and connect the water to the village - improve the roads
Pan Sauk Village	<ul style="list-style-type: none"> - affecting the agricultural field 	<ul style="list-style-type: none"> - construct the railway by avoiding the village - help in getting electricity and jobs
Swat Lann Village	<ul style="list-style-type: none"> - affecting the houses and agricultural field - noises from the proposed project disturbing the environment 	<ul style="list-style-type: none"> - carry out the project in accordance with environmental rules and regulations - build clinics
Naung Eain Village	<ul style="list-style-type: none"> - affecting the agricultural field and houses - concerning about the accidents that can occur from speed of the train 	<ul style="list-style-type: none"> - compensate the affected people properly - build pagoda, clinics and station - improve the roads
Lashio		
Khar Shi Village	<ul style="list-style-type: none"> - affecting the agricultural field - concerning if the villagers will get injured from the proposed project 	<ul style="list-style-type: none"> - discussions should be made with villagers and compensate properly according to its current price - help with the drinking water supply - improve the transportation system

Naung Mon Village	<ul style="list-style-type: none"> - concerning about losing the land and forest - affecting the source of water - concerning about car accidents 	<ul style="list-style-type: none"> - discuss with the affected villagers or victims till satisfaction - when the land is used, it should be compensated according to the current price - help with the development of the village - fix the water ponds
San Pyat Village	<ul style="list-style-type: none"> - affecting the pagodas and agricultural field 	<ul style="list-style-type: none"> - discuss with the villagers before starting the project
Lwin Lount Village	<ul style="list-style-type: none"> - affecting the houses and land 	<ul style="list-style-type: none"> - build monastery
Khay Ninn Village	<ul style="list-style-type: none"> - affecting the agricultural field, vegetation and villagers 	<ul style="list-style-type: none"> - discuss with the affected victims and compensate them properly according to its current price - build monastery, bridges and schools - help in improving the transportation system
Mal Han Village	<ul style="list-style-type: none"> - affecting the land and houses 	<ul style="list-style-type: none"> - discuss with the affected victims and compensate them properly according to its current price - help with the drinking water - need fire station and police station
Kaung Ma Kyan Village	<ul style="list-style-type: none"> - affecting the land and vegetation - causing damage to the buildings - affecting the long-life trees and plants - affecting the livestock farming 	<ul style="list-style-type: none"> - discuss with the affected victims and compensate them properly according to its current price - help with the drinking water - help in developing the village and its transportation system - help in getting electricity
Naung Laing Village	<ul style="list-style-type: none"> - affecting the land, houses and forest 	<ul style="list-style-type: none"> - discuss with the affected victims and compensate them properly according to its current price - help with the drinking water - help in increasing its economy and getting electricity - build schools
Nam Tom Village	<ul style="list-style-type: none"> - affecting the land, houses and drainage system 	<ul style="list-style-type: none"> - discuss with the affected victims and compensate them properly according to its current price - build houses for teachers and workers
Theinni		
Nan Onn Village	<ul style="list-style-type: none"> - losing agricultural land - need to protect the source of water since there can be a shortage of water that could be a difficulty for farming 	<ul style="list-style-type: none"> - discuss properly with the victims till satisfaction - when the land is used, it should be compensated according to the current price - help with the development of the village - build new schools
Man Sar Tone Village	<ul style="list-style-type: none"> - affecting the houses, yard - concerning that the project will be constructed across the village 	<ul style="list-style-type: none"> - do not want the project to be constructed across the village - when the land is used, it should be compensated according to the current price - build shan literature school - want water supply in the village and electricity
Nar Chat Village	<ul style="list-style-type: none"> - losing land, forest and sources of water 	<ul style="list-style-type: none"> - compensate properly according to its current price - discussions should be made with villagers before the start of the project - compensation for vegetation - build roads that connect with nearby villages - need schools

Nan Maw Hate Village	- affecting the land and vegetation - road traffic due to the project	- carry out the project openly - compensate properly for the affected cases or victims - improve the road along from the main road to the monastery
Pan Kham Village	- concerning about injuring the villagers - road traffic	- compensate properly - improve the transportation system
Man Chat Village	- affecting the houses and yards - concerning that the project will be constructed across the village	- when the land is used, it should be compensated according to the current price - build shan literature school - want water supply in the village and electricity
Pan Sone Village	- affecting the land and sources of water	- want the project to be carried out outside the village - build schools
Pan Phat Village	- affecting the houses, yard - concerning that the project will be constructed across the village	- do not want the project to be constructed across the village - build clinics
Naung On Village	- affecting the houses and yard	- compensate properly to the affected cases or victims - improve bridges and roads
Wane Line Village	- affecting the houses and yards - concerning that the project will be constructed across the village	- do not want the project to be constructed across the village - when the land is used, it should be compensated according to the current price - build shan literature school - want water supply in the village and electricity
Pyin Oo Lwin		
Kone Kaw Village	- losing garden land - want the workers from the proposed project to go back home after the project is done	- when the houses and yards are affected, a replacement should be made - discuss carefully with the owners for the compensation - improve the roads within the village - build clinics and schools
Pan U Taung Village	- losing garden land - concerning that the project will be constructed across the village	- when the land is used, it should be compensated according to the current price (or) a replacement should be made instead - fix roads within the village
Hmyawt Taw Village	- affecting agricultural land and yard - concerning about the compensation since the past project about gas pipe line do not cover full compensation to the affected people	- compensation should be made according to the current price - discussion should be made openly - reconstruct the road - build asphalt roads for the entrance and inside the village - upgrade schools
Pin Lein (Middle) Village	- affecting the agricultural land - concerning that the income from the agricultural works would be affected before the compensation period	- compensate properly according to its current price - while passing through the village, do not cross over the village's agricultural land - build highway overcrossing railway or pedestrian overpass - reconstruct the village road with asphalt - build houses for teachers

	<ul style="list-style-type: none"> - concerning about the compensation since the past project about gas pipe line do not cover full compensation to the affected people - concerning about the safety of villagers and animals while passing due to the speed of the train 	<ul style="list-style-type: none"> - want medical care
Pin Lein (Ashae) Village	<ul style="list-style-type: none"> - affecting agricultural field - concerning about affecting the village's pagodas - since the electric train project is the first one in Myanmar, there are some concerns that the project might affect the village - affecting the grazing land of cows and buffalos 	<ul style="list-style-type: none"> - compensate properly according to its current price - explain the villagers carefully with proofs that the proposed project will have no harm to them - improve the transportation and education system
Thet Kan Kyaing Village	<ul style="list-style-type: none"> - affecting the agricultural land - concerning that the traffic of the village will be complex due to the project 	<ul style="list-style-type: none"> - compensate properly according to its current price and provide replacement for the land - build highway crossing railway or pedestrian overpass - when the train crosses through the village, warning signs should be placed nearby - build a village hall and fix monastery
Naung Cho		
Taung Quarter	<ul style="list-style-type: none"> - losing farming land - road traffic due to the project 	<ul style="list-style-type: none"> - when the land is used, it should be compensated according to the current price - fix road and build drainage system properly - want every houses in the village to get electricity
Myat Chae Nu Village	<ul style="list-style-type: none"> - affecting the houses and farm 	<ul style="list-style-type: none"> - implement the project openly - when the land is used, it should be compensated according to the current price - improve the transportation system - prioritize to get electricity - build housing for workers
Kone Gyi Ma Village	<ul style="list-style-type: none"> - affecting the agricultural land 	<ul style="list-style-type: none"> - when the land is used, it should be compensated according to the current price (or) a replacement should be made instead - fix and upgrade the village road
Ngoke Ka Lay Village	<ul style="list-style-type: none"> - affecting the farming land 	<ul style="list-style-type: none"> - when the land is used, it should be compensated according to the current price - improve transportation system of the road - build new schools
Ohmm Ma Khar Village	<ul style="list-style-type: none"> - affecting the farming land 	<ul style="list-style-type: none"> - compensate the farming land according to its current price - build new roads within the village and also build village hall
Kyin Ganai Village	<ul style="list-style-type: none"> - affecting the houses and yard - concerning that the vibration from the project will damage the houses 	<ul style="list-style-type: none"> - when the houses and yards are affected, a replacement should be made - discussions should be carried out to solve for the effected cases - when the land is used, it should be compensated according to the current price - build a station, support schools and construct new roads
Ban Bway Village	<ul style="list-style-type: none"> - affecting the farming land and houses 	<ul style="list-style-type: none"> - want the project to carry out outside the village

	- concerning about the transportation difficulty due to the project	- prepare everything in advance - victims should be compensated properly - build a station, help with the electricity and improve the transportation system
Samasal Village	- affecting the farming land and houses - noise pollution from the project	- affected cases or places or victims should be relocated - perform safely throughout the project - build a station and schools
Lone Yone Village	- affecting the farming land and houses - road traffic due to the project	- when the land is used, it should be compensated according to the current price (or) a replacement should be made instead - build schools and clinics
Anauk Kyu Yinn Village	- affecting the houses and farming land - concerning that the pagodas will be affected	- when the land is used, it should be compensated according to the current price (or) a replacement should be made instead - construct roads - help with getting electricity
Kyauk Me		
Khie Tone Hone Village	- losing farming land - affecting farming land and vegetation	- compensate properly according to the current price - discuss with the villagers before starting the project - compensation for vegetation should be made - help with the development of the village - build new schools and station - fix monastery and support education and health of the village
Nar Aike Khan Village	- losing farming land - difficulty of water for farming	- discuss with the affected villagers until satisfaction - when the land is used, it should be compensated according to the current price - help with the development of the village with their needs - build new schools since there is no enough schools in the villages
Naung Ann Village	- concerning that the water surfaces near the village will be affecting due to the project	- discuss with the villagers closely while performing the work - fix the schools and improve the village's roads
Ngon Sai Village	- concerning that the villagers will be injured	- help with the difficulty of water - improve the transportation system of the village
Know Kaw Village	- affecting the farming land and source of water	- compensate properly according to the current price - improve the roads of the village - fix the schools and monasteries
Kyaung Kone Village	- affecting the houses and yards - concerning that the project will be constructed across the village - affecting the source of water	- when the houses and yards are affected, a replacement should be made - discussions should be carried out to solve for the effected cases - build clinics and a storage for drinking water
Mway Taw Village	- affecting the farming land and houses	- affected cases should be compensated properly - improve the roads of the village

Muse		
Nan Pann Village	- affecting the houses and yards	- want the proposed project to be constructed away from houses and yards
Nan Kon Village		
Nan Sonn Village	- concerning that the garden yard (rubber, sugar cane) will be affected	- the affected cases should be discussed with the villagers and compensate properly
Kaung Khan Village		
Wane Mine Village		
Nan Onn Village	- affecting the farming land and grazing land	
Mhan Haunn Village		
Phat Mhan Village		
Mine Mine Village	- affecting the garden land, tea leaves farm	
Yaw Han Par Village		
Mandalaly (Myit Nge)		
Sar Toe Village	- affecting houses and agricultural land - concerning that the trees will be cut down due to the project	- when the land is used, it should be compensated according to the current price
Danone Village	- affecting farming land and houses	- when the land is used, it should be compensated according to the current price - improve the transportation system of the village
Nyaung Pin Ni Village		- when the land is used, it should be compensated according to the current price (or) a replacement should be made instead - improve the transportation system of the village
Nyaung Pin Zout Village	- affecting farming land, houses and concerning about the noise pollution and also worries if the station will be near	- when the land is used, it should be compensated according to the current price - improve the transportation system of the village - build new schools
Myit Laung Village	- affecting houses and land - concerning about the air pollution from the project	- build railway parallel to the road - when the land is used, it should be compensated according to the current price - improve the transportation system of the village - build new schools, library and clinics
Ashay Thar Yar Gone Village	- affecting houses	- when the houses and yards are affected, a replacement should be made - discussions should be carried out to solve for the effected cases - when the land is used, it should be compensated according to the current price - build a drinking water pool for the village - build clinics and fix the roads
Min Ywar Village	- affecting the farming land and houses - concerning about the transportation difficulty due to the project	- want the project to be carried out in a place away from the agricultural land - compensate properly to the victims - help with the electricity - improve the transportation system

Pyauk Sake Kone Village	- affecting houses and land	- compensate properly to the victims - fix the drainage system
Sin Bo Village	- affecting the farming land and houses - road traffic due to the project	- when the land is used, it should be compensated according to the current price (or) a replacement should be made instead - build schools and clinics
Pauk Chine Village	- affecting the farming land and houses - concerning that accidents might occur due to railway operation	- when the land is used, it should be compensated according to the current price - improve the transportation system
Min Su Village	- affecting the farming land and houses	
Saut Taw Wa Village	- affecting the houses and land	- when the houses and yards are affected, a replacement should be made - discussions should be carried out to solve for the effected cases - when the land is used, it should be compensated according to the current price - build drainage system - help with the development of the village
Kuitkai		
Nan Khone Village	- cutting trees	- compensate properly according to its current price
Nam Hpat Lun Village	- blockage of natural water sources - road traffic due to project	- build highway overpassing or pedestrian overpass - hold up warning signs along the main roads
Mhan Lone Village	- affecting farming land and grazing land for cows and buffalos	- write the warning signs with the local language
Pa Gyo Village	- accidents along the operation of railway	- guarantee the jobs for the villagers
Mandalay (Pathein Gyi)		
Than Ma Taw Village	- affecting land and houses - concerning that the pagodas will be affected	- build highway overpass or pedestrian overpass - hold up warning signs along the main roads with the local shan language
Thansin Kone Village	- accidents along the operation of railway - blockage of natural water sources	- discuss with the villagers in every important cases - compensate properly to affected area or people
Let Kaung Village	- road traffic due to project	- sell the train ticket with a reasonable price
Tha Le Kone Village	- affecting farming and grazing land for cows and buffalos	
Yan Kin Taung Village		
Lane Pin (Ashay and Anauk) Village		

The following are the most important public concerns resulted by the household survey for the proposed project:

No.	Most Important Public Concern	% concerned
1	Worry about the damage of agricultural land, forest area, historical places and archeological sites	27.5%
2	Proper compensation to land use whether they don't have legal right about the land use (land grant) or not	21.56%
3	The blockage of rivers and water pollution	5.6%
4	Noise & vibration	1.56%
5	Discuss openly and transparency before starting any stage of project	12.81%
6	Ensure job opportunities for local people	8.4%

11.7. Summary Public Meeting about the Land Acquisition

From the above household survey and public meeting, it is found that some of the attendances are discussed about the proper compensation about land use. Moreover, they also wanted to know the about the compensation for land use whether they have legal right about the land use or not. The project developer only gives commitment for the proper compensation for affected land use after discussion with related local authorities and PAPs in accordance with relevant laws and regulations.

12.0. GRIEVANCE REDRESS MECHANISM

12.1. Introduction

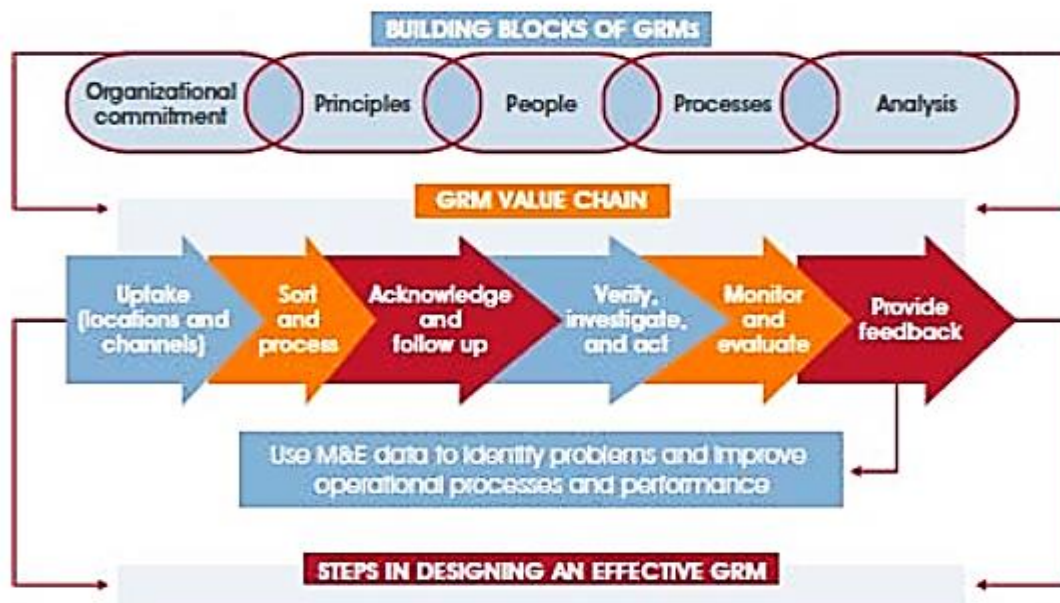
A grievance redress mechanism (GRM) will be made available to parties who have grievances or are not satisfied with any part of the resettlement and compensation process. These grievances could relate to the valuation of assets, amount of compensation paid, level of consultation, non- fulfilment of contracts, and timing of compensation, amongst others.

A grievance redress mechanism (GRM), consistent with the requirements of the IFC, WB will be established to prevent and address community concerns, and reduce risks. The GRM is also an integral part of the monitoring and information system. It aims to ensure that feedback is received, that the voices from the poor and marginalized groups are heard, and that the issues raised are resolved effectively and expeditiously. It helps ensure that vulnerable households are treated equitably.

The GRM will be accessible to diverse members of the community and stakeholders. Multiple types of media, including face-to-face meetings, written forms, telephone conversations, or e-mail, will be available for raising issues, concerns and grievances. A description of the GRM must be included in project information materials.

The GRM will handle any grievance arising from the project, including land acquisition activities, ethnic group issues and labor practices. The design of the GRM will be included in the project administration manual (PAM). Grievances must be sorted, categorized, and logged and reported disaggregated by sex and ethnicity. After investigation and agreement on the action plan, remedial activities will be monitored and evaluated. Staff and community members involved in project implementation will be trained in the GRM in order that they in turn are able to provide quality advice to any affected household seeking help. All costs involved in resolving the complaints (meetings, consultations, communication and reporting/information dissemination) will be borne by the executing agency.

The GRM aims to resolve concerns promptly, in an impartial and transparent process tailored to the specific community, and at no cost and without retribution to the complainant/s. The GRM is based on the following six principles: fairness; objectiveness and independence; simplicity and accessibility; responsiveness and efficiency; speed and proportionality; participatory and social inclusion. While still following the principles and processes described below, the respective PMOs have since established GRMs according to their institutional arrangements and using available technologies.



Source: World Bank, Feedback Matters: Designing Effective Grievance Redress Mechanisms for Bank-Financed Project p.3

The GRM will be communicated to different stakeholders. It is intended that information about the GRM be disseminated widely in meetings and through pamphlets and brochures in Myanmar language, and ethnic languages as needed/relevant. Specifically, information will be provided about how and where to lodge complaints/grievances. Villagers will be encouraged to seek clarification or remediation through the mechanism if they have any questions or complaints/ grievances.

Sub-project specific safeguard instruments (ESMP, RAP, IPP) will describe the GRM in detail based on the following procedures for addressing grievances:

Stage 1: An initial stage, within the local village or township level, in which any person/s aggrieved by any aspect of the project can lodge an oral or written complaint/grievance to the implementing partner/operator. The implementing partner/operator should keep a written record of complaints/grievances raised by villagers and their resolution; they should inform the District DRD or MR’s PMO of such complaints and resolutions.

If the complaint cannot be resolved within 15 days of receipt between the aggrieved person/s and the implementing partner/operator, it should be escalated to the second step of the process.

Stage 2: If the aggrieved person is not satisfied with the outcome of the initial stage, she/he/they can lodge the complaint to the District DRD or MR’s PMO. During the dialogue

process the issues raised will be reviewed, and the parties will agree upon actions for resolution. The dialogue will seek a resolution to the grievance as long as all the parties involved are amenable to the process. The District DRD or MR should keep a written record of complaints/grievances raised by villagers and inform the State/Region and National PMOs of such complaints.

If the complaint cannot be resolved within 15 days of receipt between the aggrieved person/s and the District DRD or MR it should be escalated to the third step of the process.

Stage 3: If the aggrieved person is still dissatisfied following review by the District DRD or MR, the case should be referred to the respective State/Region and/or National PMOs. The State/Region and/or National DRD should keep a written record of complaints/grievances raised by villagers and inform the NEEC (or equivalent body when established) and World Bank of such complaints.

If the complaint cannot be resolved within 20 days of receipt between the aggrieved person/s and the District DRD or MR's PMO, the aggrieved person/s may proceed to legal proceedings in accordance with the GoM's laws and procedures.

Respective PMOs will keep a record of all complaints received, including a description of issues raised and the outcome of the review process. A grievance database template will be prepared to ensure that all key information is captured. Written feedback will be provided to aggrieved persons or parties to the dispute throughout the GRM process. For the off-grid component, the DRD has set up a GRM using social media. Facebook is by far the most popular social media in Myanmar, used by people on their mobile phones in even the most remote areas. The DRD Communications and Grievance Team has set up a Facebook page to provide information to the public and for people to contact the project through Messenger. This is provided as an alternative focal point for grievances. Regular monitoring of the effectiveness of the GRM will be included in the monitoring and evaluation (M&E) approach for the Project. In undertaking the regular M&E activities, the following questions will be raised:

- Does the project have clear, formal, and transparent internal mechanisms and rules for addressing grievances?
- Do project officials responsible for grievance redress have the authority to take or demand remedial action?
- Are officials responsible for grievance redress obliged to take action on all grievances?
- Do project-affected people feel that they can lodge grievances without fear of retaliation?

- Are project beneficiaries aware of their right to file a grievance and of the grievance redress procedure in general?
- Are there internal processes in place to record, track, and monitor the grievances and the action taken on them?
- Does the GRM provide timely feedback (written or otherwise) to the petitioner on actions taken?
- Is there an appeals process in place that GRM users can access if they are not satisfied with how their grievance has been resolved?

Grievance redress monitoring indicators may include:

- Number of complaints/ grievances registered.
- Percentage of grievances resolved.
- Percentage of grievances resolved within stipulated time period.
- Time required to resolve complaints.
- Percentage of complainants satisfied with response and grievance redress.
- Percentage of project beneficiaries that have access to the GRM.

12.2. Grievance Redress Committee (GRM)

In order to address grievances, a Grievance Redress Committee (GRM) will be formed for dealing with any grievances as they arise. This should include representatives from project developer (MR), representatives from Village Administrative Office of nearest project sites, representatives from other related departments (if necessary), representatives from Township Administrative Office, and representative from Village Administrative Office and PAPs as shown in the following table. It should also include an independent valuer if the grievance is in relation to compensation amounts.

Table 12.1- Grievance Redress Committee (GRM)

No.	GRM Members	Quantity	Remark
1.	Representative from Township Administrative Office	1	
2.	Representative from Village Administrative Office	1	
3.	Representative from Land Use Department	1	if necessary
4.	Representative from Forest Department	1	if necessary
5.	Representative of MR Office (Administration Department, Naypyidaw)	1	
6.	Representative of the MR Office (Upper Myanmar)	1	

7.	Representative from Construction Contractors and/or Subcontractors	1	
8.	Representatives of PAPs	1	
9.	Independent valuer	1	

12.3. Role and Responsibility of GRM Team

The proposed GRM follows the existing approach taken for managing complaints about local issues by members of the public in Myanmar. Residents' complaints or concerns are generally taken to local government (village and township level) representatives for resolution; therefore this system is integrated into the GRM.

In their capacity as implementing agencies, the MR will establish a Public Complaints Unit (PCU) within the PMU early during project implementation prior to the start of planning and design of sub-projects and prior to negotiations for land acquisition. The PCU will deal with complaints from affected people and stakeholders throughout implementation of the project. This can include nearby residents, construction workers, and will involve village and township level government. PMU staff (in particular the social and gender specialists), and the contractor's land negotiators will have roles to play in explaining and helping community members use the GRM.

The PMU will be responsible for ensuring the setting up and coordination of the GRM at a local level and will staff the PCU. The loan implementation environmental and social consultants will coordinate its set up and the gender and social specialist will be responsible for the day to day PCU activities: maintaining the grievance register, organizing investigations, acknowledging and communicating results to the affected person, and monitoring for the closing out of the issue. The PMU will be the key contact point for local government representatives who may require information about the project or who have an issue they would like to discuss. The PMU will issue public notices and leaflets in local languages early in the subproject design process to inform people and organizations within the project area of the GRM. The PCU's phone number, fax, address, email address will be disseminated.

The PMU will maintain a complaints database which indicates the household making the grievance, the nature of the issue, the date the report was received and also dealt with and the result. Dispute receipt and resolution will be reported regularly in project quarterly reports.

Grievance redress mechanism will ensure PAPs that they will be provided with the appropriate compensation payment and that all administrative measures are in line with the law. The

grievance redress procedures will provide opportunity for PAPs to settle their complaints and grievances amicably. The procedure to be adopted will allow PAPs not to lose time and resources from going through lengthy administrative and legal procedures.

12.4. Role and Responsibilities of GRM Committee

The duties and responsibilities of the Grievance redress committee includes;

- To assist PAPs in providing appropriate response to their complaints by referring to the legal procedures
- To communicate with property valuation committee and the project office on issues related compensation payment and valuation of properties and assets
- To ensure that the procedures followed by the property valuation committee are done according to the government regulations and guidelines.
- The procedures to be followed and adopted by the grievance redress (or arbitral tribunal members) should be;
- Transparent and simple to understand (or uniform) process for registering complaints
- Provide PAPs with free access to the procedures
- The procedure should be able to be activated rapidly or a time bound system of adjudication
- The response time between activating the procedure and reaching a resolution should be as short as possible
- Monitoring system that will inform project management about the frequency and nature of grievances

12.5. Dispute Resolution

In case a dispute is not resolved by Grievances redress committee (or arbitral tribunal), then if any of the Party disagrees, the last resort will be that the aggrieved party appeals the case to the ordinary courts of law. However, this is not a preferred option. The preferred option of dispute settlement ought to be the option of settling the dispute amicably because recourse to courts may take a very long time even years before a final decision is made and therefore, going to court should not be the preferred option for both parties concerned. In case grievances are not settled by locally established grievance settling mechanisms, the project will not be able to finance the legal fees.

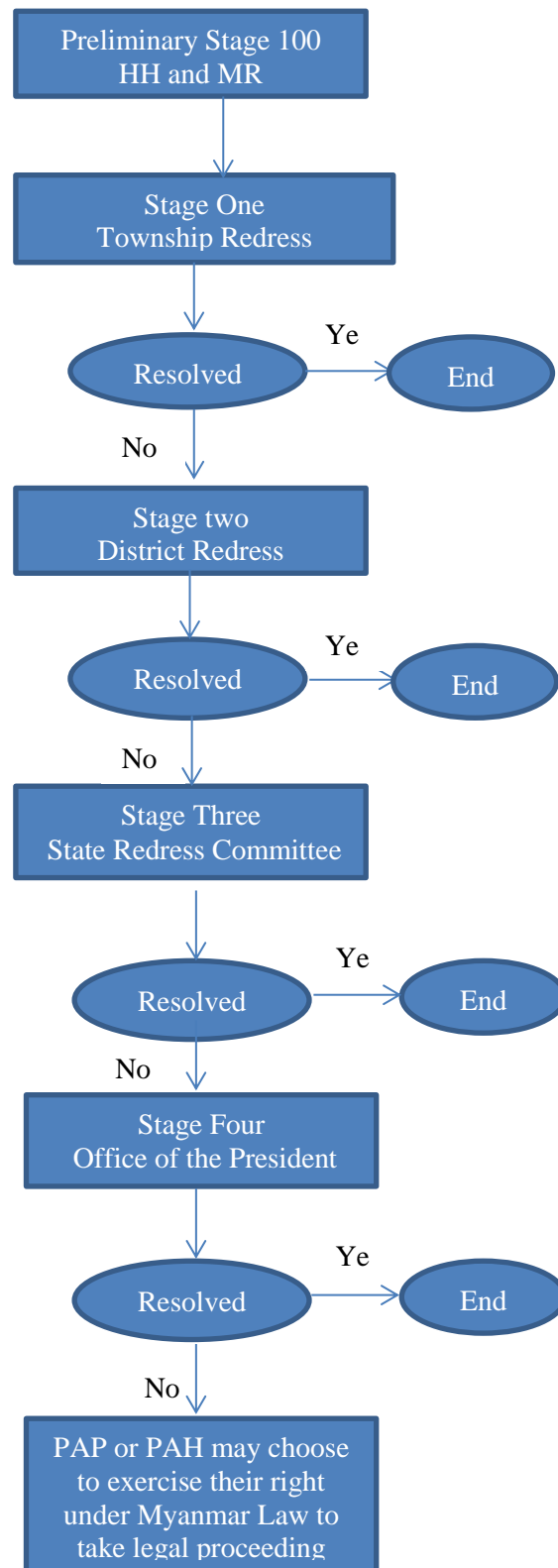


Figure 12.1. Grievance Redress Mechanism

12.6. GRM Steps and Timeframe

Procedures and timeframes for the grievance redress process are as follows:

Stage 1: Access to GRM. If a concern arises, the affected person may resolve the issue of concern directly with the contractor, or make his/her complaint known to either the PCU directly, or through the local village or township government, whichever level of authority he/she is most comfortable with;

Stage 2: Official Complaint to PCU. If a complaint is filed at local government level, the government representative will submit an oral or written complaint to the PCU. For an oral complaint the PCU must make a written record. For each complaint, the PCU must assess its eligibility. If the complaint is not eligible, for instance it is determined that the issue is outside the scope of the project, PCU will provide a clear reply within five working days to the affected person;

Stage 3: PCU Complaint Resolution. The PCU will register the complaints informing the respective local and district government, the PMU, contractors, and ADB. The PCU, with support of the social specialist and other PICs depending on the issue will take steps to investigate and resolve the issue. This may involve instructing the contractor to take corrective actions. Within seven days of the redress solution being agreed upon, the contractor should implement the redress solution and convey the outcome to the PMU and ADB;

Stage 4: Stakeholder Meeting. If no solution can be identified by the PCU or if the affected person is not satisfied with the suggested solution under Stage 3, within two weeks of the end of Stage 3, the PCU will organize a multi-stakeholder meeting under the auspices of the head of local government, where all relevant stakeholders will be invited. The meeting should result in a solution acceptable to all, and identify responsibilities and an action plan. The contractor should implement the agreed redress solution and convey the outcome to the PMU and ADB within seven working days. The invitees to this meeting will depend on the nature of the complaint. For example, if the complaints relate to health, land disputes, or labor issues, the appropriate specialist in this field will be invited to the stakeholder meeting. This may include officers from the Department of Agricultural Land Management and Statistics (land rights issues), Myanmar Chamber of Commerce (business/commercial issues), various non-government organizations (NGOs) (gender or equity issues), Ministry for Ethnic Affairs (if ethnic group household involved), Ministry of Health (health issues), Ministry of Environmental Conservation and Forestry (environmental issues), and Ministry of Labor (labor issues); and

Stage 5: District Administration Officer Resolution. If the multi-stakeholder meeting cannot resolve the problem, and the affected person remains unsatisfied, the PMU will set up a meeting with the District Administration Officer to identify a solution.

In respect of the GRM, the responsibilities of the PMU are as follows:

- (i) The PMU will instruct contractors and construction supervisors to refer any complaints that they have received directly to the PMU. Similarly, the PMU will coordinate with local government departments to capture complaints made directly to them;
- (ii) The PMU, as the focal point of the PMU, will log complaints and date of receipt onto a complaints database and inform the implementing agency and the contractor;
- (iii) The PMU will investigate the complaint to determine its validity and to assess whether the source of the problem is because of project activities, and identify appropriate corrective measures and responsible persons;
- (iv) The PMU will inform the affected person of investigation results and the action taken;
- (v) If a complaint is transferred from local government agencies, the PMU will submit an interim report to local government agencies on status of the complaint investigation and follow-up action within the time frame assigned by the above agencies;
- (vi) The PMU will review the contractor's response to the identified corrective measures, and the updated situation; and
- (vii) The PMU will undertake additional monitoring, as necessary, to verify as well as review that any valid reason for complaint does not reoccur.

12.7. Grievance Mechanism Procedures

At the beginning of the individual RAP processes, PAPs will be informed about how to register grievances or complaints, including specific concerns about compensation and relocation. The PAPs should also be informed about the dispute resolution process, specifically about how the disputes will be resolved in an impartial and timely manner.

All attempts shall be made to settle grievances amicably. The grievance redress mechanism is designed with the objective of solving disputes at the earliest possible time, which will be in the interest of all parties concerned and therefore, it implicitly discourages referring such matters to the National level government authorities or National level courts for resolution.

Compensation and resettlement plans (contracts) will be binding under statute. The Grievance Committee shall maintain records where grievances and complaints, including minutes of discussions, recommendations and resolutions made, will be recorded.

The procedure for handling grievances should be as follows.

- (i) The affected person should file his grievance in writing, to the Village Leader. The grievance note should be signed and dated by the aggrieved person. Where the affected person is unable to write, he should obtain assistance to write the note and emboss the letter with his/her thumbprint.
- (ii) The Head of Village Administrative Office or Village Leader shall notify the Grievance Committee and respond within 14 days during which any meetings and discussions to be held with the aggrieved person shall be conducted. If the grievance relates to valuation of assets, an independent value shall be requested to revalue the assets, and this may necessitate a longer period of time. In this case, the aggrieved person must be notified by the VOC’s head or Village Leader that his/her complaint is being considered.
- (iii) If the aggrieved person does not receive a response or is not satisfied with the outcome within the agreed time, he/she may lodge his/her grievance to the Local General Administration Department.

Table 12.2. Township, district and state level committees for the grievance redress mechanism.

No	Committee Member	Member Role
Township Level Redress Committee (TRC)		
1	A person elected from citizen	Chairperson
2	A person elected from experts	Member
3	A person elected from CSOs	Member
4	Deputy admin officer – township level (General Administrative Department)	Member
5	Township level YCDC officer	Member
District Level Redress Committee (DRC)		
1	A person elected from citizen	Chairperson
2	A person elected from experts	Member

3	A person elected from CSOs	Member
4	Deputy admin officer – district level (General Administrative Department)	Member
5	District level YCDC officer	Member
State Level Redress Committee (SRC)		
1	The president appointed mayor as a minister	Chairperson
2	One representative for each district	1 to 4 Members
3	Appointed from government	4 Members

CHAPTER 13.0. CONCLUSION

The construction and operation of Muse-Mandalay Railway will provide improved transport service, and will serve as one of the import-export corridors of the country. During the railway project development, there will be socio economic impacts, such as loss of farmland, house and income.

For the proposed railway alignment project, RAP cannot conduct during FS stage because comprehensive RAP needs accurate alignment for cut-off date declaration, detailed census and socio-economic survey in accurate areas for resettlement and valuation of assets for compensation. So, Resettlement Political Framework (RPF) or Political Framework for RAP will prepare during FS stage because if RAP is conducted without exact alignment during FS stage, it will have some social tensions such as higher in land price in unwanted locations and some social problems due to sudden population influx and wrong information to land acquisition (this may cause serious social tension). Moreover, it will be impractical to cut-off date declaration and detailed census and socio-economic survey for inventory resettlement and asset valuation without the exact railway alignment. So, political framework will be conducted instead of RAP and this political framework will be similar as RAP exact for some items that cannot be conducted during FS stage.

A Resettlement Political Framework (RPF) or Political Framework of RAP is required for projects with subprojects or multiple components that cannot be identified before project approval. This instrument may also be appropriate where there are valid reasons for delaying the implementation of the resettlement, provided that the implementing party provides an appropriate and concrete commitment for its future implementation. The policy framework should be consistent with the principles and objectives of World Bank's OD 4.30. RPF will be the guidelines and roadmap for RAP in project implementation stage.

The objective of this report is to minimize the risks from the railway project by avoiding displacement of people. The RAP designs compensation procedures and relocation, establishes compensation measures for losses incurred and it also establishes income restoration measures and resettlement assistance.

The preparation of this report is based on the World Bank policies on involuntary resettlement. The construction of the railway project will displace some households that are located along the route; and on the other hand, it will also contribute to the improvement of the livelihood of the local populations that are crossed by the road project, contribute to the growth and development of trade and urban centers, improvement of crop and livestock production and its marketing network.

In implementation phase, the most important thing is to involve the right PAPs in compensation process because most of the agricultural lands in rural areas in southern part of Myanmar does not have legal permit for land use and can cause dispute about the land ownership. Compensation of land use that does not have legal permit is also one of the most public concerns during public consultation meetings. The developer also needs to draw up some portion of RAP after the project has been granted and getting the detailed design for railway alignment & related facilities. The other essential things are who will make the compensation during implementation phase and it is also necessary to make clear cut for the responsible party for compensation. So, it is necessary to clear cut who will make the compensation and implement the RPF and RAP before any start of the project implementation. The participation of local leaders and PAPs in disseminating information and resolving disputes will be important once RAP implementation starts.

Annexes

Annex 1
Land Acquisition Forms
Inventory of Project Affected People

Region ----- District ----- Township ----- Village Tract ----- Village -----

Type of Activity: -----

Serial No.	Name of head of HH	No. of persons in HH	Agricultural Land			Assets					Crop			Income/Business loss	Other losses	
			Total irrigated land (acre)	Land to be acquired (acre)	Loss as % of total	Permanent structures (acre)	Temporary structures (acre)	Residential land (acre)	Other types of land (type, acre)	Other assets	Paddy (acre)	Field crops (acre)	Trees (no.)	Income type		

Annex 2
Entitlement Form

Region----- District ----- Township ----- Village Tract ----- Village -----

Type of Activity (Site Clearing, Railway Construction, Waste Disposal etc.)-----

Name of HH	Agricultural Land			Assets			Crop			Other		
	Acre	Unit cost (kyat)	Compensation in cash/in kind	Acre	Unit cost (kyat)	Compensation in cash/in kind	Quantity	Unit cost (kyat)	Compensation in cash/in kind	Quantity	Unit cost (kyat)	Compensation in cash/in kind

Annex 3
Farmers Action Plan

- Is consensus built as the MMR that the designed improvements provide best benefits to the members? Y/N
- Is consensus built as the MMR that the in-assistance from fellow farmers will be sufficient to mitigate income loss of negative affected farmers in one year? Y/N
- Will anyone’s residential plots be affected? Y/N
- Will anyone need to physically relocate? Y/N
- Are all members aware of the grievance mechanisms available under the project? Y/N
- Is it conceivable that anyone loses more than 10% of their income? Y/N

No	Name of HH	Facilities to be build that cause loss	Approx land loss (acre)	Loss of permanent structures	Loss of temporary structure	Loss of other access	Estimated loss in agricultural yield	Estimated income loss from agricultural land	Tree

Briefly describe how negative impacts that may fall on farmers are addressed

- Describe examples of how larger negative impacts are to be addressed
- Describe alternatives to further reducing impacts discussed and why they were rejected
- Minutes of the meeting where consensus is built on the Community Action Plan to mitigate temporary impacts should be attached.
- The Community Action Plan should be signed by the third party service provider, the representative of SLRD, village chief

REFERENCES

- World Bank Operational Manual OP 4.12 - Involuntary Resettlement
- World Bank OP 4.12, Annex A - Involuntary Resettlement Instruments
- World Bank Operational Directive 4.30
- IFC, Handbook for Preparing a Resettlement Action Plan
- Resettlement Policy Framework (RPF) for Municipal Services Improvement Project
- Revetement Policy Framework for South East Asia Disaster Risk Management (SEA DRM) Project for Myanmar
- Guidance Note on Land Issues (Myanmar)
- Resettlement Action Plan, Associated Engineering Consultants PLC, Ethiopian Roads Authority, March 2012