

**MINISTRY OF  
BORDER AFFAIRS**

**JAPAN INTERNATIONAL  
COOPERATION AGENCY**

**PREPARATORY SURVEY  
FOR  
THE INTEGRATED REGIONAL DEVELOPMENT  
FOR  
ETHNIC MINORITIES  
IN  
THE SOUTH-EAST MYANMAR**

**FINAL REPORT**

**- SUMMARY -**

**OCTOBER 2013**

**RECS INTERNATIONAL INC.  
NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS CO., LTD.**

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Currency Equivalents (average rate from April to June, 2013)

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Source: Bank of Tokyo Mitsubishi UFJ for the JPY-US\$ rate

Central Bank of Myanmar for the MMK-US\$ rate



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### **Abbreviations**

AC	Asphalt Concrete
AIT	Asian Institute of Thailand
ADB	Asian Development Bank
AV	Audio and Visual
BGF	Border Guard Forces
CBO	Community Based Organization
CIDKP	Committee of Internally Displaced Karen People
DEM	Digital Elevation Model
DKBA	Democratic Karen Benevolent Army
EIA	Environmental Impact Assessment
F/S	Feasibility Study
FTZ	Free Trade Zone
GIS	Geographic Information System
GDP	Gross Domestic Product
GRDP	Gross Regional Domestic Product
IDP	Internally Displaced Person
JICA	Japan International Cooperation Agency
KNU	Karen National Union
KRC	Karen Refugee Committee
MNP&ED	Ministry of National Planning and Economic Development
MOEP	Ministry of Electric Power
MP	Master Plan
MPD	Ministry of Public Works
NGO	Non-Governmental Organization
NMSP	New Mon State Party
REC	Returnees Empowerment Center
SRTM	Shuttle Radar Topography Mission
STS	Sub-Township
TS	Township
UNEP	United Nations Environment Programme
UHCR	United Nations High Commissioner for Refugees

### **Unit of Measurement**

<b>Area</b>		<b>Time</b>	
m <sup>2</sup>	square meter	sec, s	second
km <sup>2</sup>	square kilometer	min	minute
<b>Length</b>		h, hr	hour
mm	millimeter	d	day
m	meter	<b>Energy</b>	
km	kilometer	MW	megawatt
<b>Volume</b>		<b>Other</b>	
m <sup>3</sup>	cubic meter	%	Percent
<b>Weight</b>		degree	degree Celsius
kg	kilogram		
t	ton (=1,000 kg)		

### **Currency**

JPY	Japanese Yen
Ky.	Myanmar Kyat
US\$	United States Dollar



## **CHAPTER 1 INTRODUCTION**

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### **1.1 Background**

#### **(1) Political background and JICA policy**

The Union Government of Myanmar, under the new administration established in March 2011, has been pursuing policies for democratic governance and economic liberalization. Along these policies, the Government has been making further efforts to promote peaceful relationships with ethnic minorities constituting in fact substantive part of the Myanmar society, recognizing the conciliation with the ethnic minorities is an essential condition for the social stability and national integration.

Respecting these policies and associated measures taken by the new administration, the Japan International Cooperation Agency (JICA), the official agency for development assistance of the Japanese Government, has reviewed its cooperation policy with Myanmar, and started renewed efforts to support the people and the Government of Myanmar, focusing first on areas to meet the basic needs of the Myanmar people.

The JICA's support for ethnic minorities in Myanmar focused initially on the northern area of Shan State, but expansion of supports to other ethnic minority areas has been contemplated by JICA. This policy change reflects the recognition that the development of border areas where ethnic minorities live would be indispensable for the social stability and economic development of the Country as a whole. In fact, these border areas have high development potentials, taking advantage of relationships with neighboring countries.

The Union Government of Myanmar reached a cease fire agreement in January 2012 with the Kayin National Union (KNU) after the 63 year long conflicts. Following this, it is expected that large number of refugees in the border areas with Thailand and internally displaced persons (IDPs) will be coming back to settle in the Kayin State, where the KNU activities are based.

#### **(2) Initial JICA study for Kayin and Mon States**

To seek possibilities to support the return and settlement of refugees and IDPs, JICA conducted a basic study to collect information and confirm development needs related to the supports of ethnic minorities in Kayin State and Mon State. The study has found out that (1) high development potentials may be realized in this border area, taking advantage of the east-west economic corridor with Thailand if the social stability is restored, and (2) complementary development between Kayin State and Mon State may be realized to contribute to the national integration of Myanmar.

In Kayin State, however, basic infrastructure including road network is very poor, and to facilitate the

return and settlement of refugees and IDPs, access to settlement sites and basic infrastructure need to be much improved. Also, to secure livelihood opportunities for returnees, various economic activities need to be promoted by using rich local resources in both states. To meet these needs together, it is effective to support the integrated regional development for Kayin and Mon States together.

### **(3) Regional development policy and plans of Union Government**

The Union Government of Myanmar prepared a long term national development plan for 2000/01~2030/31, called the Grand Plan. Under the new administration, the Ministry of National Planning and Economic Development (MNP&ED) has given directions to Ministries and State and Region governments to prepare five-year plans and annual plans in line with the Grand Plan. The Kayin and the Mon State Governments have prepared their respective five-year plans. The Kayin State plan has been approved by the State government. Both plans may be modified through their integration into the National Plan and its approval at the Parliament.

The Union Government, under its localization policy, has given directions to State and Region governments to prepare reform plans complementary to the respective five-year plans as part of the economic structure reform in response to economic globalization. In preparing the reform plans, the State and Region governments are expected to effect a bottom-up approach for people-centered development. Specifically, a series of workshops should be conducted at different administrative levels with the participation of stakeholders including private businesses to examine existing conditions and needs and to reflect them in respective development plans.

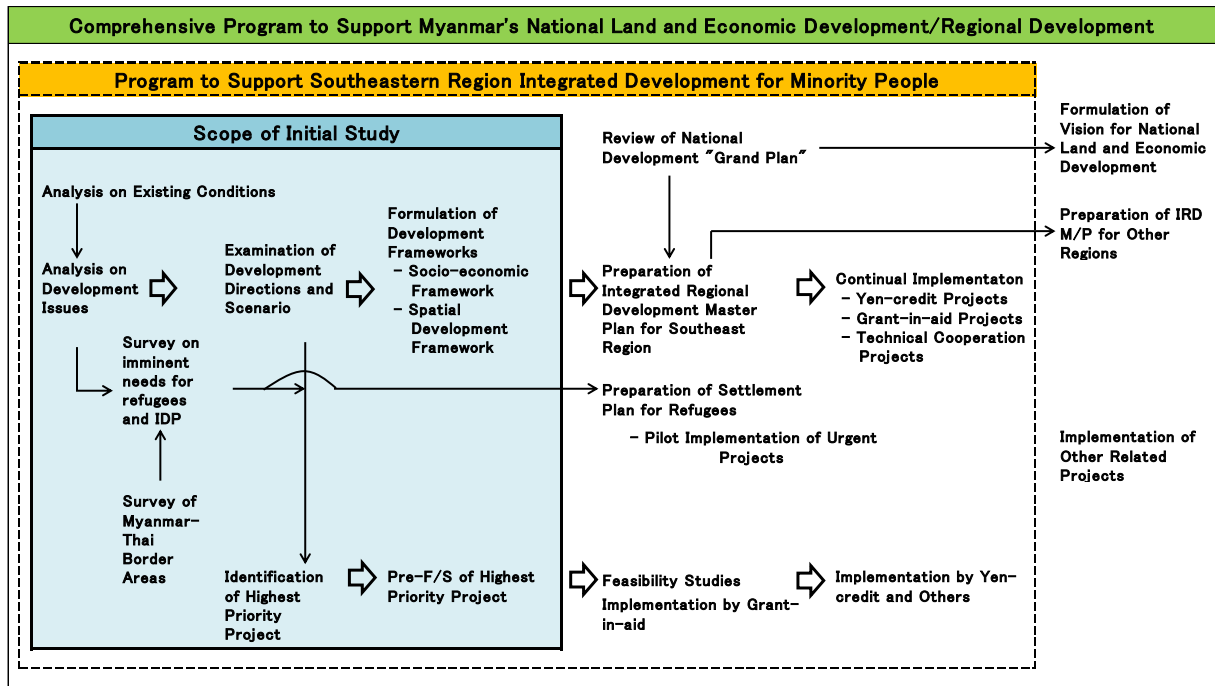
According to the State of Union address by the President, such a participatory approach to development planning constitutes initial part of the revision of the long term national development plan also by the bottom-up approach. Eventually, the 20 year plan for national development will be prepared for the period up to 2030/31.

## **1.2 Study Scope and Objectives**

### **(1) Study scope**

With the background outlined above, JICA has decided to extend further cooperation for supporting ethnic minority areas, focusing on Kayin and Mon States. As the first step, an initial study (the Study hereafter) will be conducted to examine existing conditions and development issues related to return and settlement of refugees and IDPs, and to formulate specific measures to support the integrated regional development of the two states and return and settlement of refugees and IDPs in line with the regional development.

The initial study constitutes the first step of a comprehensive program to support the regional development of Kayin and Mon States, which may be further extended to other ethnic minority areas. Possible scope of the comprehensive program and the scope of works of the initial study are illustrated in Figure 1.1.



**Figure 1.1 Overview of Comprehensive Program to Support Ethnic Minorities in South-east Region of Myanmar**

**(2) Study objectives**

Objectives of this initial study are defined as follows:

- (a) To clarify directions of regional development of the Southeastern region of Myanmar consisting of Kayin and Mon States to realize full potentials, and define the scope of works for subsequent integrated regional development master planning;
- (b) To conduct a pre-feasibility study of highest priority infrastructure project to be identified for its early realization by JICA support; and
- (c) To identify needs related to basic infrastructure facilities and livelihood activities to support return and settlement of refugees and IDPs.

## CHAPTER 2 CHARACTERISTIC OF SOUTHEAST MYANMAR AND ITS POSITION IN THE UNION OF MYANMAR

### 2.1 Characteristics of Southeast Myanmar

#### 2.1.1 Land and population

##### (1) Land

The Southeast Myanmar is defined here as the combined jurisdiction of Kayin and Mon States in the southeastern part of Myanmar. Kayin State is facing the border with Thailand in the eastern side and in the western side of Mon State are the Gulf of Mottama and the Andaman Sea. The southern side of the Southeast Myanmar also borders on Thailand.

The Southeast Myanmar stretches over approximately 510 km from the north to the south, and 125 km from the east to the west. The Region has a total land area of 42,538 km<sup>2</sup> or 6.29% of the whole Country (Statistical Yearbook 2011, Central Statistical Organization, Ministry of National Planning and Economic).

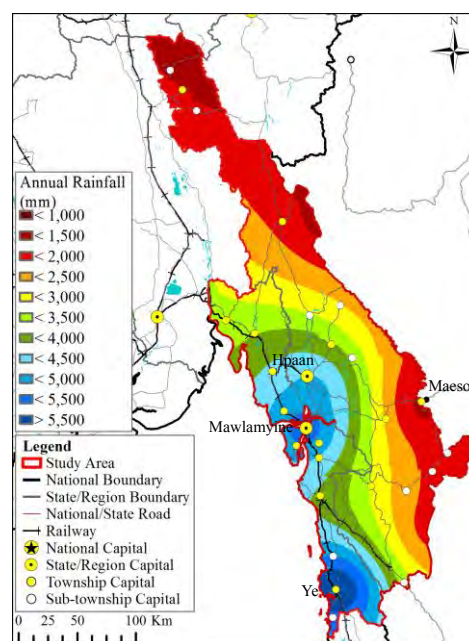
##### (2) Population

Population in Kayin State is 1,794,000 accounting for 3.03% of the national population as of 2009, and this share is much smaller than its land area share of 4.49%. Population in Mon State is 3,106,000 accounting for 5.25% of the national population, and this share is much larger than its land area share of 1.80%. The Southeast Myanmar, combining Kayin and Mon States, has population share of 8.28%, which is larger than its land area share of 6.31% of the respective national total.

#### 2.1.2 Natural conditions

##### (1) Climate

Distribution of annual rainfall in the Southeast Myanmar is shown in Figure 2.1. The low and flat land areas have around 4,000~5,000 mm of annual rainfall. Especially the southern part of Mon State receives higher rainfall. On the other hand, the eastern part of Kayin State over the

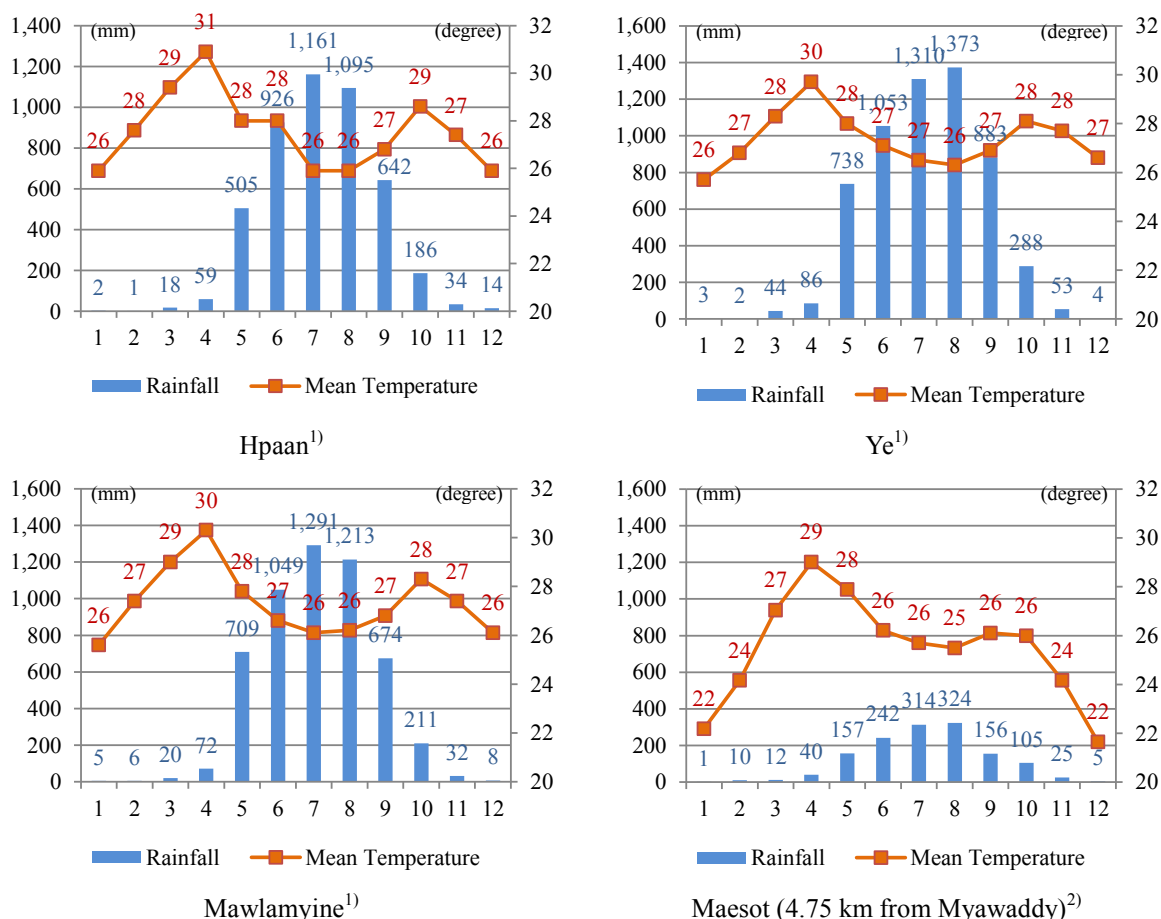


Source: Prepared by the JICA Study Team based on the data in Statistical Yearbook 2010

**Figure 2.1 Annual Rainfall in Southeast Myanmar**

mountains has lower rainfall with around 2,000 mm annually including the northern and southern parts of the State.

Climatic data for the Southeast Myanmar at main four sites are shown in Figure 2.2, where the data at Maesot in Thailand are taken as a proxy of data at Myawaddy. Rainfall at Maesot is smaller although the seasonal distribution of temperature and rainfall are similar to the other areas. The rainfall is concentrated mainly during the rainy season with monsoons from around May to October, and the dry season usually has extremely small rainfall. Thus, the climate in the Southeast Myanmar has distinct rainy and dry seasons.



Source: 1) Statistical Yearbook 2010, Central Statistical Office, Myanmar

2) Meteorological GIS data created by Asian Institute of Technology, Thailand

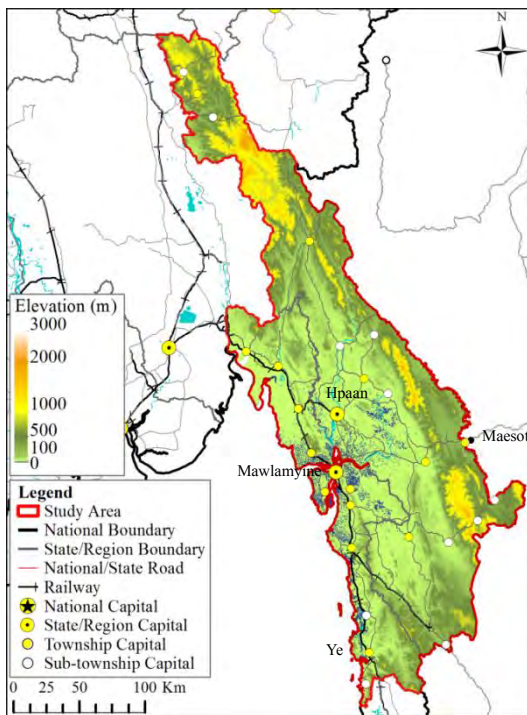
**Figure 2.2 Climate Data for Southeast Myanmar at Main Four Sites**

## (2) Topography and vegetation

Figure 2.3, Figure 2.4, and Figure 2.5 show the elevation, slope and land use/land cover maps in the Southeast Myanmar, respectively. The lowland areas having slope less than 3% extend to the center of the Region from Mawlamyine. The distribution pattern of these lowland areas is largely the same as distribution of agriculture land.

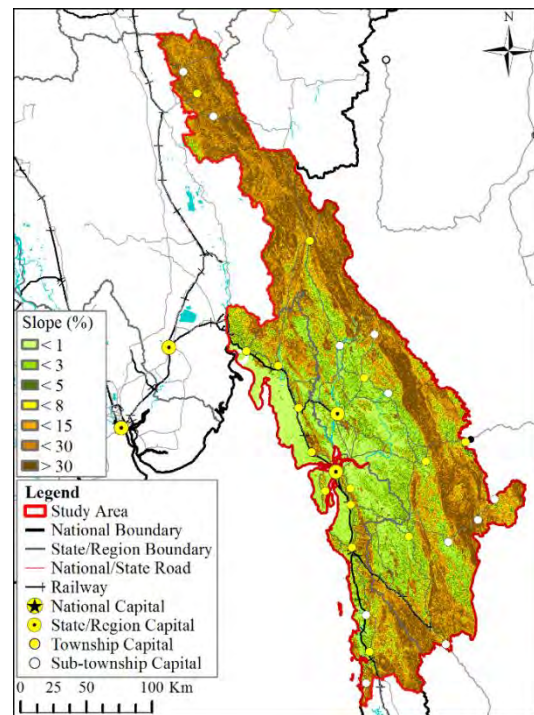
The high elevation areas with more than 500 m are distributed in the northern part of the Southeast Myanmar from Hpaun, and the mountains stretched to the south in the eastern part of Kayin State near the Thai border. This mountain range also stretches to the south in the eastern part of Kayin State close to the Thai border. In the southern part of the Southeast Myanmar, the mountain area has

generally about 500-1000 m elevation distributed from the north to the south. The distribution patterns of these high elevation areas determine largely distribution patterns of the evergreen forests and deciduous forests.



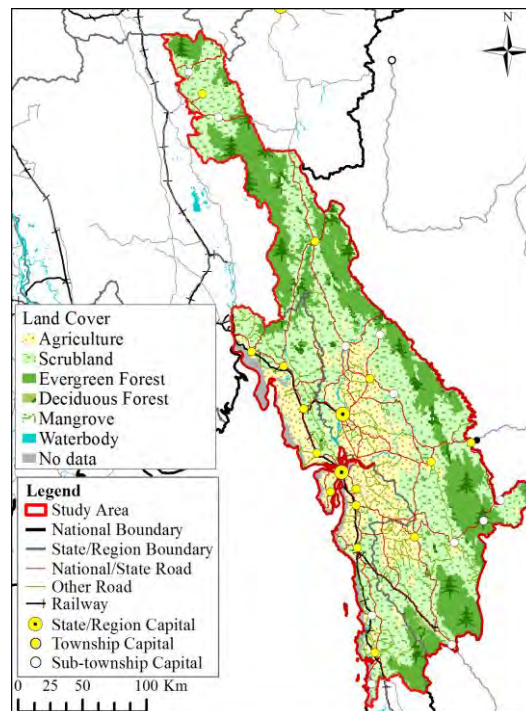
Source: Digital Elevation Model created by Shuttle Radar Topography Mission

**Figure 2.3 Elevation Map of Southeast Myanmar**



Source: Digital Elevation Model created by Shuttle Radar Topography Mission

**Figure 2.4 Slope Map of Southeast Myanmar**



Source: UNEP, 2001

**Figure 2.5 Distribution of Vegetation in Southeast Myanmar**



### 2.1.3 Economy

#### (1) GRDP

Data on the gross regional domestic product (GRDP) in Kayin and Mon States were obtained from the respective State Governments for 2010/11 as shown in Table 2.1. Based on these data, the per capita GRDP is calculated to be Ky.535,000 in Mon State and Ky.375,490 in Kayin State in 2011/12. The calculated per capita GRDP correspond to 80.3% and 56.3% of the per capita GDP of Myanmar, respectively.

**Table 2.1 Gross Regional Domestic Product Estimated by Kayin and Mon State Governments, 2010/11**

No.	Sector	Kayin		Mon	
		Amount (million Kyat)	Share (%)	Amount (million Kyat)	Share (%)
1	Goods	420,484	61.7	1,067,150	63.6
1.1	Agriculture	223,434	32.8	512,835	30.6
1.2	Livestock & Fishery	48,030	7.0	157,391	9.4
1.3	Forestry	4,042	0.6	4,028	0.2
1.4	Mining	6,500	1.0	5,166	0.3
1.5	Processing & Manufacturing	104,139	15.3	221,174	13.2
1.6	Electric Power	5,012	0.7	13,406	0.8
1.7	Construction	29,327	4.3	153,150	9.1
2	Services	108,475	15.9	305,341	18.2
2.1	Transportation	70,891	10.4	262,515	15.6
2.2	Communication	2,385	0.3	6,696	0.4
2.3	Financial Institution	97	0.0	704	0.1
2.4	Social & Administrative Services	14,963	2.2	11,169	0.7
2.5	Rental & Other Services	20,139	3.0	24,256	1.4
3	Trade	152,931	22.4	305,738	18.2
	<b>Total</b>	<b>681,890</b>	<b>100.0</b>	<b>1,678,229</b>	<b>100.0</b>

Source: Respective State Governments

#### (2) Agriculture

##### 1) Cultivated area and irrigation

The total cultivated area in Kayin State is 1,124,000 ha as of 2009/10, corresponding to 3.33% of the total cultivated area in Myanmar in the same year. This share is larger than its population share (3.03% in 2009) and smaller than the land area share (4.49%). The irrigated area in Kayin State has even a smaller share of 1.06% in the national total.

The total cultivated area in Mon State is 1,705,000 ha as of 2009/10, accounting for 5.06% of the total cultivated area in Myanmar also in 2009/10. This share is slightly smaller than its population share (5.25% in 2009) and much larger than its land area share (1.82%). The irrigated agricultural land in Mon State accounts for 3.08% of the total irrigated area in Myanmar.

##### 2) Rice production

Contribution of the Southeast Myanmar to the national production of rice is rather small. As compared to the national rice production of 32.58 million ton in 2010/11, rice production in the Southeast Myanmar is 935,487 ton in Kayin State and 1,292,065 ton in Mon State in 2011/12. The total production corresponds to about 6.84% of the national rice production, the share slightly larger than the land area share. The total rice production in the Southeast Myanmar is still more than double the self-sufficiency level in the Region.

### **3) Fishery**

Ayeyarwady Region and Tanintharyi Region are two most important fish producing areas in Myanmar. Production of fish and shrimp is close to 900,000 ton in Ayeyarwady Region and about 650,000 ton in Tanintharyi Region in 2009/10. Despite its long coast lines, Mon State produces only about 150,000 ton of fish and prawn in the same year.

### **(3) Industry**

#### **1) Kayin State**

In Kayin State, small industries hold the largest share with 82% (761 out of 930), followed by large industries with 11% and medium industries with 7% in 2011/12. Compared to the national average, the share of small industries is higher in Kayin State.

In terms of the number of industries, manufacture of food and beverages hold the largest share with 46% (430 out of 930), followed by other and miscellaneous industries with 21%, household goods production industries with 18%, mineral production industries with 11% and clothing & wearing apparel industries with 1%. As for employees, food and beverages industries also hold the largest share with 36% (1,838 out of 5,060), followed by clothing & wearing apparel industries with 25% and household goods production industries with 18%. It should be noted that the share of employees in clothing & wearing apparel industries is much larger than that of the number of firms.

Gross production value amounted to 26,134 million kyat. Food and beverages hold the overwhelming share with 85% (22,299million kyat).

#### **2) Mon State**

Mon State has much larger number of industries (2,183) in 2011/12 than that of Kayin State (930). In terms of size of industries, small industries hold the largest share with 84% (1,832 out of 2,183), followed by medium industries with 10% and large industries with 6%. Compared to the national average, the share of small industries is higher in Mon State.

In terms of the number of sub-sector industries, manufacture of food and beverages hold the largest share with 56% (1,231 out of 2,183), followed by workshops and miscellaneous industries with 17% and construction materials with 14%. As for employees, food and beverages industries also hold the largest share with 53% (4,449 out of 8,455), followed by construction materials with 18% and workshops and miscellaneous industries with 17%. In Mon State, clothing & wearing apparel industries do not play an important role.

Gross production value amounted to 14,338 million kyat. Food and beverages hold the largest share with 49% (7,041 million kyat). Gross production of industries in Mon State is smaller than that of Kayin State, although the number of firms is larger than that of Kayin State.

## **2.2 Position of Southeast Myanmar in Union of Myanmar**

### **2.2.1 Natural and physical conditions**

The Southeast Myanmar is a narrow stretch of land between the Andaman Sea in the west and Thailand in the east. It has a narrow strip of coastal lowland separated in the south from flood plains of the Zami River, a tributary of the Thanlwin River, by the low Teanghyo mountain range. The northern part of Kayin State to Hpapun is characterized as mountainous areas higher than 1,000 m

elevation. In the southern part of Hpapun are flood plains of the Thanlwin River. The lowland area in the eastern part of the Region is separated by the Dawna mountain range near the Thai border.

The Southeast Myanmar has large annual precipitation, generally larger than most other parts of the Country. This is due to the narrow land strip facing the Andaman Sea and inland mountain ranges. The climate in the Region, however, is characterized by distinct rainy and dry seasons, which makes the Region favorable for cultivation of certain crops. Despite the large annual precipitation, double cropping of rice is possible only under irrigation, while mixed cropping combining paddy and field crops may take advantage of residual soil moisture after the rainy season.

### **2.2.2 Socio-economic conditions**

The Southeast Myanmar is economically less developed than the national average as shown in smaller per capita GRDP than the per capita GDP of Myanmar, although these data need to be further examined. The cultivated area in the Southeast Myanmar corresponds to 8.39% of the total cultivated area in Myanmar, larger than its land area share (6.31%). Rice production in the Southeast Myanmar accounts only for 6.84% of the total rice production in Myanmar, although it is still more than double the self-sufficiency level in the Region.

Small industries are more dominant in the Southeast Myanmar with 81.7% share, while the share of small industries is 72.0% in Myanmar both in 2011/12. Sub-sector structure is less diversified in the Southeast Myanmar with the food and beverage sub-sector accounting for 46.5% of the total employment.

### **2.2.3 Position of Southeast Myanmar in national development**

The Southeast Myanmar is located between the most developed part of Myanmar including the Yangon Metropolitan Area and its eastern neighbor of Bago Region and Tanintharyi Region at the southern end of the Country. Tanintharyi Region is economically more developed than Kayin and Mon States due to large scale plantations of rubber and oil palm with their processing plants. A new deep sea port and industrial development have been started in Dawei of Tanintharyi. Mon State is in the position to link between these more advanced regions.

To prevent Tanintharyi Region to become a segregated area developed with large and dominantly foreign capital, regional development of the Southeast Myanmar is critically important. By combining Kayin and Mon States, the resource base will expand to support self-reliant regional development, and complementary development between the two states is conceived. Regional infrastructure and industrial clusters development can be planned encompassing the two states. Also, relationships with neighboring regions and countries should be reflected in the regional development in such a way to contribute to the national land and economic development of Myanmar as a whole.

## **CHAPTER 3 REGIONAL DEVELOPMENT POTENTIALS OF SOUTHEAST MYANMAR**

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### **3.1 Economic Corridors Development**

#### **3.1.1 East-west economic corridors**

##### **(1) Original alignment**

The east-west economic corridor in the Southeast Asia as designated by ADB as the Asian Highway No.1 links the Danang port of Vietnam, through Laos and the northern Thailand, to Yangon. It enters the Southeast Myanmar at Myawaddy, passes through Kawkareik, Hpaan and Thaton, turns to the north and the northwest entering Bago Region and reaches Yangon. From the national point of view of Myanmar, this is a national artery, but from the regional development point of view, it may only serve marginally to the development of the Southeast Myanmar.

##### **(2) Alternative alignments**

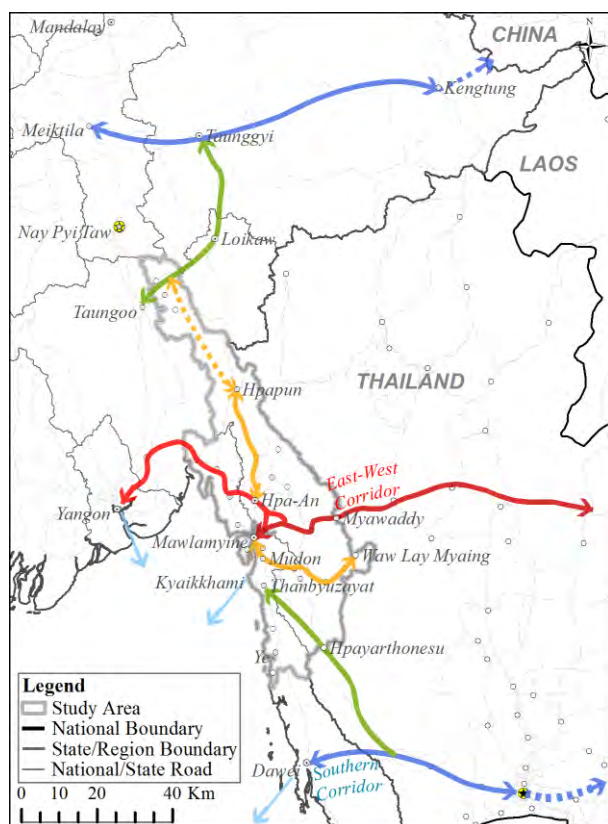
To serve the regional development of the Southeast Myanmar better, a few alternative alignments of the original east-west economic corridor are conceived (Figure 3.1). All of them will improve the access from the original corridor to the city of Mawlamyine, the regional capital of the Southeast Myanmar, either directly or through the neighboring cities of Mudon or Thanbyuzayat. In the south of Mawlamyine, a new regional port is conceived at Kyaikkhami. Therefore, these alternative alignments will constitute new economic corridors having major ports at both ends of the routes, once a regional port is established at Kyaikkhami.

A1 route improves the link between Kyarkalay on the original east-west economic corridor to Zarthapyin and connects to Mawlamyine (Figure 3.2). A2 route improves the link from Hlaingkwe on the original corridor, crosses the Haungtharaw River by a new bridge to be constructed, through Winka, Hparthein and Kadar, to Mudon. A3 route improves the link also from Hlaingkwe, through Winka and Metharaw, crossing the Attran River by a new bridge to be constructed, passes Setthwei and reaches Thanbyuzayat. This route may be linked through Kadar to A2 route as well to reach Mudon.

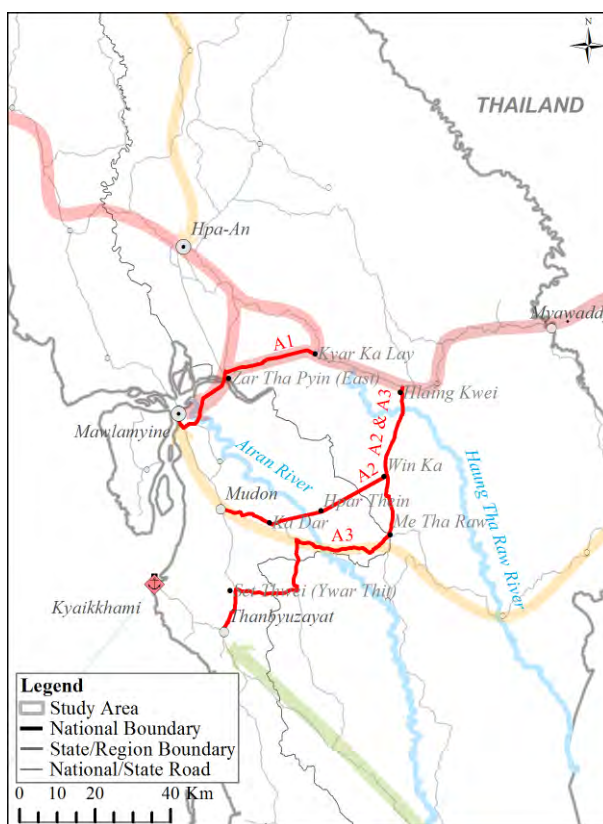
A2 route may be extended from Mudon to Kyaikkhami to provide an apparently shortest link from the original corridor to the new regional port. This extension route, however, will have to cross the Wagaru canal excavated along the existing access road, and the canal width is about 350m near Kyaikkhami. The canal may be crossed near Kunthat where the canal width is about 150m, but this location is close to Thanbyuzayat so that the distance of access road will not be much reduced.

It may be more realistic to upgrade the existing Thanbyuzayat - Kyaikkhami road to AC pavement

with two lanes to ensure good access. The Mudon – Thanbyuzayat road will also be upgraded to AC pavement with four lanes as traffic of heavy vehicles will increase as the Kyaikkhami regional port is established. An access road from the existing Thanbyuzayat – Kyaikkhami road to the port area should be newly constructed.



**Figure 3.1 Arterial Network**



**Figure 3.2 Alternative Routes of A1, A2, and A3**

### 3.1.2 Southern economic corridors

#### (1) Original alignment

The southern economic corridor of the Southeast Asia designated by ADB links the southern areas of the Southeast Asia from Ho Chi Minh City in Vietnam through Phnom Penh in Cambodia, passes through Bangkok and reached Dawei in Tanintharyi Region of Myanmar. A deep sea port is planned to be constructed at Dawei, and the road link within Myanmar to the port is being improved. This corridor by itself will not contribute directly to the regional development of the Southeast Myanmar, although some development from the Dawei area along the coast may affect the Southeast Myanmar development.

#### (2) Alternative southern economic corridor

An alternative alignment of the original southern economic corridor has been proposed, which will serve the Southeast Myanmar development better than the original corridor. It leaves the original southern economic corridor in Kanchanaburi of Thailand, proceeds to the northwest through Sangkhlaburi and reaches Three Pagoda Pass on the border with Myanmar. On the Myanmar side, it links Hpayarthonesu on the border with Thailand to Thanbyuzayat, and reaches further to

Mawlamyine.

From Thanbyuzayat, it is linked to Kyaikkhami, where a new regional port is conceived as described above. With this new port, the entire route from Bangkok to Kyaikkhami will constitute a new economic corridor having major ports at both ends of the alignment.

### **3.1.3 Additional regional economic corridors**

#### **(1) Economic corridor in the north**

The northern part of Kayin State is not served by any existing or conceived economic corridor at present. It is accessed from the Yangon-Naypyitaw highway through Taungoo of Bago Region to Thandaunggyi and Leiktho. The link from Taungoo, through Thandaunggyi and Leiktho, to Yardo on the border with Kayah State constitutes part of a future artery that links near Taunggyi the artery linking Kengtung of Shan State and Meiktila of Mandalay Region. The latter artery will provide an important alternative to the Muse-Lashio-Mandalay artery to link Myanmar with the Yunnan province of China.

#### **(2) North-south artery**

There exists only one north-south artery serving the Southeast Myanmar. It constitutes part of the national artery linking Yangon, through Bago Region and Mon State, all the way to Myeik in Tanintharyi Region. It serves as the north-south artery of the Southeast Myanmar from Kyaikto in the north to Ye in the south through Mawlamyine, more or less along the coast of the Andaman Sea.

#### **(3) New regional east-west corridor**

The Thai border at Wawlay STS, one of the planned settlement sites, is expected to be formally opened in the near future. To lead the development momentum from this border area into the interior, and also to expand the opportunities for development of Sukali STS, which at present is located at a dead end, a road link to Kyaikdon should be improved. This may be further extended to Kyainseikgyi, and is connected to A2 and A3 routes mentioned above. Thus, another east-west economic corridor should be established serving the upper southern part of the Southeast Myanmar.

#### **(4) New regional north-south corridor**

The northern part of Kayin State is segregated from the rest of Kayin State or the Southeast Myanmar due to disrupted roads between Thandaunggyi TS and Hpapun TS through mountainous and conflict affected areas. The access from the central part of Kayin State to the southern part is disrupted during the rainy season by extensive flooding of the Haungtharaw River, a tributary of the Gyaing River, and the Zami River, a tributary of the Attran River. The latter may be improved in steps as tributaries of these rivers are developed and managed. Eventually, the southern part of the Southeast Myanmar will be connected to Hpaan better through Hlaingkwe, Metharaw and Kyainseikgyi, all the way to Hpayarthonesu.

In view of its location and magnitude of the city of Hpapun, it is very important for the development of Kayin State and the Southeast Myanmar to establish and strengthen the link between Hpaan and Hpapun. Due to the existing security conditions and presence of different armed ethnic groups on both sides of the link, a careful approach would be necessary to providing direct links between the two cities. First, a ferry connection may be improved between Kamamaung and Myainggyingu. Eventually, a bridge should be established at the site to strengthen the link.

## **3.2 Development of FTZ and Industrial Estates**

Just linking cities and areas by conceived transport arteries would not make economic corridors. Economic activities should be encouraged to develop along the conceived arteries. In particular, free trade zones (FTZs) may be established at border towns, and industrial estates may be located in other cities.

### **(1) Free trade zones**

As the minimum wage is raised in Thailand, some labor intensive industries in Thailand may be relocated to other countries where labor costs are still low. Myanmar will have to compete with these countries with low labor costs in attracting such industries for relocation. It is highly likely that some industries existing in the Maesot area of Thailand decide to relocate to areas on the Myanmar side.

Labor intensive processing may be undertaken on the Myanmar side, and final products may be produced on the Thai side to ensure product quality. The final products may be sold by using the established marketing channels. To facilitate the establishment of this model, the Myawaddy area may be designated as a free trade zone. As prerequisites, infrastructure facilities in Myawaddy should be much improved including water supply and power supply.

The model to be applied to Maesot and Myawaddy may apply also to Three Pagoda Pass on the Thai side and Hpayarhonesu on the Myanmar side. The border area disputed between Myanmar and Thailand may be designated as a free trade zone and jointly managed by the two countries for mutual benefits. The Kayin State Government, however, prefers to establish a FTZ on the Myanmar side.

It is expected that industries to be located in the FTZ in Hpayarhonesu and associated industries outside the FTZ would provide many and diversified employment opportunities for returning refugees and IDPs in the settlement areas that are being prepared in the Hpayarhonesu STS. Increasing number of migrant workers are also expected to come back to work there.

### **(2) Industrial estates**

Once the Kyaikkhami regional port is established, possibilities will be enhanced for “import processing” type industries to be located in the Southeast Myanmar. This type of industries process imported raw materials and intermediate goods into final products for marketing in the regional, domestic and even the Thai market. Examples include production of plastic household goods from imported synthetic resins, processing of imported steel sheets and bars into final construction materials.

This model may be established both in the immediate hinterland of the Kyaikkhami port and in other industrial estates as well. For instance, those manufacturing industries producing for regional and domestic market may be located in the port hinterland, and other industries producing for the Thai market may be located in the industrial estate in Hpaan. The “import processing” type industries associated with the Kyaikkhami regional port will enjoy distinction against “export processing” industries that are expected to be established in association with the Dawei deep sea port.

The Kyaikkhami regional port would facilitate import of household commodities and production input such as fertilizer and agro-chemicals to increase agricultural productivity. It would facilitate export of regional products such as cement, wood and bamboo products, and concentrates of antimony and other mineral resources as well as some agricultural products.

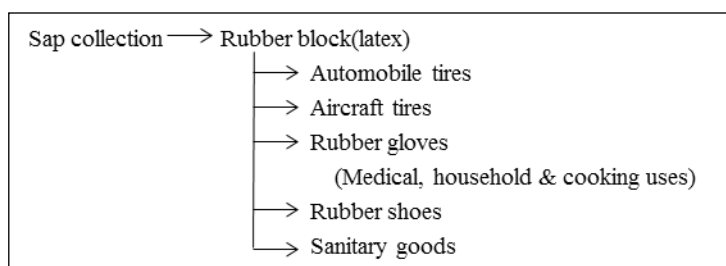
### 3.3 Industrial Clusters Development

#### 3.3.1 Rubber industrial cluster

A prototype exists already for the rubber industrial cluster. Rubber sap collection is a livelihood activity that can be undertaken by unskilled labor including the poor, and production of latex and its derivative products constitutes an indigenous industry. At present, automobile tires are produced at factories in Thaton and Bilin for export as well as domestic markets. Thus, the existing rubber industrial cluster encompasses the livelihood activity, through indigenous industry and export industry.

The existing rubber industrial cluster needs to be deepened with more diversity of final products and markets. Reliance on a single type of products for export and export destination makes it vulnerable to changes in international market and financial conditions.

Latex derivative final products need to be diversified. Possibilities include rubber shoes, rubber gloves for medical, household and cooking purposes, and sanitary products



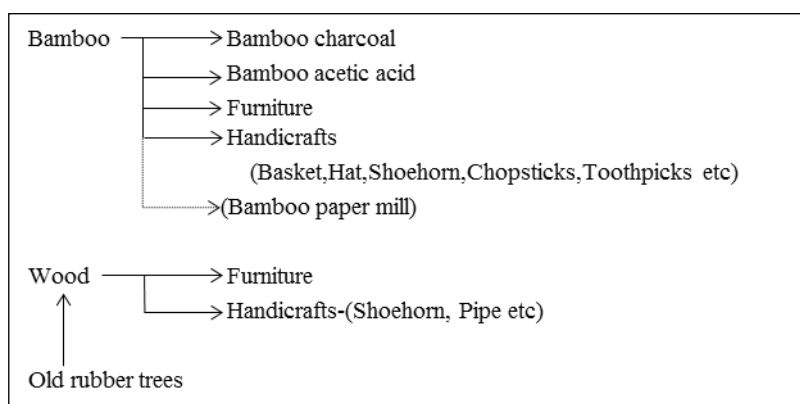
(Figure 3.3). Diversification of export markets for automobile tires is also important.

**Figure 3.3 Possible Scope of Rubber Industrial Cluster**

#### 3.3.2 Wood and bamboo works industrial cluster

Existing wood and bamboo products can be effectively utilized to establish a wood and bamboo works industrial cluster. In particular, wood and bamboo furniture provides a base for the industrial cluster development. Raw material base may be expanded if a mechanism to utilize old rubber trees is established. This would integrate the two promising industrial clusters for complementary development. Existing wood handicrafts may also be incorporated in the cluster including wooden canes and pipes produced in Chaungzon.

Utilization of abundant bamboo resources existing in the Southeast Myanmar may help to deepen the cluster. Possibilities include production of bamboo charcoal and bamboo acetic acid as well as bamboo chopsticks, toothpicks and handicrafts. A bamboo paper mill is a remote possibility that may be examined very carefully with respect to its possible adverse environmental effects. Possible scope of the



wood and bamboo works industrial cluster is illustrated in Figure 3.4.

**Figure 3.4 Possible Scope of wood and Bamboo Works Industrial Cluster**



### 3.3.3 Cashew industrial cluster

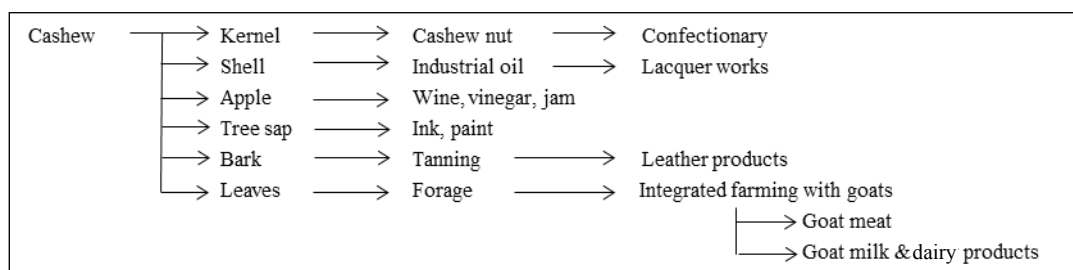
Cashew nuts production used to be a more significant industry in the Southeast Myanmar. Some cashew plantations have been converted to rubber plantations in recent years due to apparent superiority of rubber production for profitability. Still, significant areas remain under cashew trees in the Southeast Myanmar. Cashew profitability may be much enhanced if a cashew industrial cluster is established to produce not only cashew nuts but also a wide range of products for domestic and export markets.

A possible range of the cashew industrial cluster is illustrated in Figure 3.5. As shown in Figure 3.5, industrial oil may be extracted from cashew shells, which may be used for lacquer works and other purposes, cashew apples (fake fruits) may be used to produce wine and vinegar as well as jam, and leaves may be used as supplemental feed for goats. Tree sap and bark may also be used as indicated in Figure 3.5.

Since Myanmar has tradition of good quality lacquer works, cashew lacquer works may be particularly promising. While products and markets are being developed for Myanmar lacquer works made of cashew oil, cashew oil itself may be exported to Japan, where high quality cashew lacquer works are becoming increasingly popular. Traditional lacquer works used to be widely used in Japan for various household goods, but they have been largely replaced by synthetic products in Japan such as plastic and urea products. In Myanmar, lacquer works still find wide uses in daily commodities. Depending on the products and markets development, cashew lacquer works will find extensive uses in Myanmar, Japan and elsewhere.

Feeding goats with young cashew leaves will establish a form of integrated farming combining crop production and livestock raising. Goat meats are considered more tasty and preferable meat in Myanmar, and they can find lucrative markets in Thailand. Thus, establishment of cashew industrial cluster may contribute to the development of goat raising as well. Goat milk and its dairy products may also be marketed as healthier milk and dairy products if the marketing channels are established.

To avoid soil degradation particularly on slope land due to indiscriminate expansion of rubber plantations, cashew production should be re-activated by promoting the formation of the cashew industrial cluster to make it competitive economically against rubber production. Cashew production has an additional advantage that it can be combined with field crops production for mixed farming. For rubber production, only limited mixed farming is possible with pulses, pineapple and possibly other crops during early years of planting. Also, cashew trees make brighter and more pleasant landscape, while rubber trees tend to make closed and dark spaces.

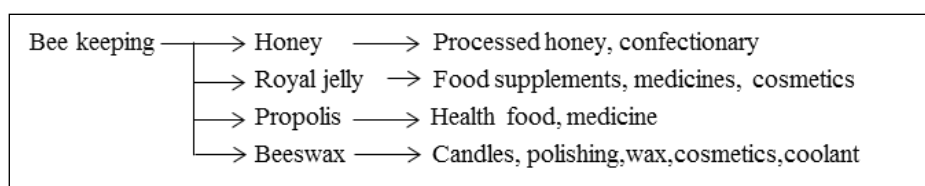


**Figure 3.5 Possible Scope of Cashew Industrial Cluster**

### 3.3.4 Other possible industrial clusters

#### (1) Apiculture industrial cluster

Thandaunggyi in the northern part of the Southeast Myanmar has been designated by the Union Government for apiculture as specialty industry. A national program may be initiated to form an apiculture industrial cluster on a wider geographic base beyond the Southeast Myanmar. At present, honey is produced by a joint venture of the Livestock Department of the Union Government and the private sector, and the product is exported to Thailand. If the product line is expanded to include propolis, royal jelly, beeswax and their derivative products for the same export market first, the apiculture industrial cluster as a whole may eventually establish comparative advantage in the export market (Figure 3.6).



**Figure 3.6 Possible Scope of Apiculture Industrial Cluster**

#### (2) Tourism industrial cluster

Tourism industry has a high potential for development in the northern part of the Southeast Myanmar. It may be promoted as an industrial cluster by creating complementary relationships with other economic activities. Examples are to combine eco-tourism capitalizing on rich forest resources with artificial tourist attractions such as a Lipton tea museum and participatory tea picking, and to develop branded organic robusta coffee to be enjoyed only by tourists visiting the areas.

Tourism industry in the central and southern parts of the Southeast Myanmar may also be promoted by industrial cluster strategy. With the city of Mawlamyine as the regional tourism base and gateway, various tourism attractions are combined to define several tourism routes for complementary development. They include beach resorts along the Andaman Sea coast, mountain resorts on the Thai side accessible by the improved Hpayarthonesu – Thanbyuzayat highway, limestone caves and mountains, river cruise on the Thanlwin River and river front development with markets and greenery as well as historical districts in the city of Mawlamyine.

#### (3) Antimony industrial cluster

Antimony is currently exported to China without any processing, only after hand selection of ores having relatively high mineral contents. As the first step to establish an antimony industrial cluster, concentrates should be produced by flotation, while the reserve is confirmed of the antimony deposits. Once the antimony reserve is confirmed to justify the establishment of processing plants, a range of final products may be produced by the antimony industrial cluster in response to increasing demand in the international market.

#### (4) Wellness industrial cluster

The Southeast Myanmar produces a wide range of spices, condiments and potential health products. They include chilies, cardamom, turmeric, tamarind, betel nut and other local specialties. Additional non-wood forest products may be found useful by ethnic peoples having traditional wisdom. These products may be promoted along with the Myanmar tradition for cosmetic, medical and health

products. They may be promoted collectively in the form of wellness industrial cluster.

### **3.4 Urban Development**

#### **3.4.1 Regional cities development**

Development of larger cities holds a key for self-reliant development of any region, since such cities are where the regional economy meets the global economy. These cities may be called regional cities. Reduction of economic transaction costs by improved infrastructure in regional cities is a necessary condition for any region to compete in the global economy. In the Southeast Myanmar, the city of Mawlamyine will serve as the regional capital, but its urban functions may be much strengthened by complementary development with the city of Hpaan.

Mawlamyine may be specialized in tourism and related services and industrial development in the existing industrial estate and the Kyaikkhami port hinterland. Hpaan may be specialized more in indigenous resource based industrial development including rubber processing, cement manufacturing, mineral resources processing and agro-processing. Port side industrial development in Mawlamyine may induce indigenous industrial development in Hpaan for complementary development. Tourism provides another opportunity for their complementary development.

Existing road link between Mawlamyine and Hpaan should be further strengthened by upgrading the road section between Eindu and Zarthapyin. Two bridges over the Gyaing River and the Attran River will have to be re-built in the medium term future. A river port may be constructed on the Thanlwin River to serve the industrial estate in Hpaan in the immediate future, followed by the regional port development at Kyaikkhami to be used by industries in both Hpaan and Mawlamyine. A new international airport may be developed between the cities of Hpaan and Mawlamyine to serve the both cities within easy access.

The cities of Hpaan and Mawlamyine should be equipped with some higher order urban service functions such as advanced research and education, specialized health care and some specialized functions. In view of its functions as the regional tourism base and gateway, an international hotel school may be established in Mawlamyine. An advanced research institute may be located in Hpaan specialized in alternative technologies.

#### **3.4.2 Border towns development**

As the globalization proceeds and borders are opened for free trade between neighboring countries, the disadvantage of peripheries would become an advantage. To promote cross-border trade, border towns should be developed capitalizing on the development momentum on both sides of the borders. In the Southeast Myanmar, border towns should be developed at Myawaddy and Hpayarthonesu.

Myawaddy may take advantage of the existing industries and other socio-economic activities in Maesot on the Thai side, and realize more concentrated urban development in the limited territory. Urban development in Hpayarthonesu may take a more dispersed form in extensive land available. For both border towns, networking with urban centers on the Thai side will be important for complementary development.

#### **3.4.3 Urban hierarchy and city networking**

To provide various urban services to all the residents in the region effectively, a hierarchical structure

of urban centers should be established, where any urban center should provide a set of services designated at each level of the hierarchy. Also, for complementary development of larger urban centers, higher order service functions may be shared by them through the city networking. Such city networking often extends beyond the borders in the globalizing world. Mawlamyine, Hpaan and a few other larger urban centers in the Southeast Myanmar should be strengthened for higher order urban functions by networking with cities outside the Region including cities in Thailand as well.

## CHAPTER 4                      PLANNING FOR RETURN AND SETTLEMENT

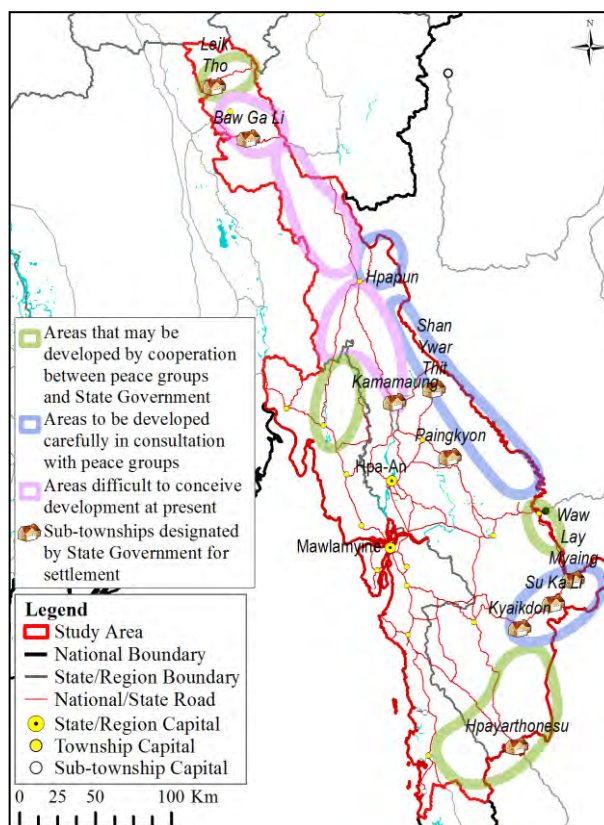
### 4.1 Planning Framework

The Kayin State Government started to prepare for return and settlement of refugees and IDPs and designated nine STSs for the purpose. The State Government has provided basic government and social facilities(e.g. administrative ,educational and health) and nominated personnel for each STS expected to receive returnees. Since the cease fire agreement between KNU and the Union Government was reached relatively recently after decades-long conflicts, however, there still exists some skepticism on the part of KNU peace groups for the intention of the Union Government, and limited resistance persists in some areas.

In Mon State, where the cease fire was agreed much earlier between NMSP and the Union Government, the Mon State Government has been working already closely with peace groups of NMSP and KNU having strong influence in some areas of the State. The good relationships between them were demonstrated by the first stakeholders’ meeting for peace and development successfully conducted on April 24, 2013. At the meeting, the peace groups and the State Government expressed their shared needs for development.

Through the discussions with various stakeholders including peace groups, State Governments, donors and NGOs as well as field surveys and data analyses, three types of areas have been identified, where different approaches may be taken to promote peace through development as shown in Figure 4.1. The recommended approach by type of areas is described below.

The first type areas are such areas that used to be conflict affected due to dominance by armed ethnic groups but are now stable under the respective peace groups having good relationships with the respective State



**Figure 4.1                      Area by Development Approach**

Governments. These areas include: 1) the southern area bordering on Thailand encompassing the southern part of Hparyarhonesu in Kayin State and the southeastern part of Ye in Mon State, 2) the area around the Myawaddy TS center, 3) the area between the Bilin TS center in Mon State and the border with Kayin State, and 4) the area in Thandaunggyi TS in Kayin State between Leiktho and the border with Kayah State.

The second type areas are such areas that are still sensitive and close consultation with ethnic groups are required to promote development activities. These areas include: 1) the border area in the north of Myawaddy TS center between the Dawna mountain range and the Thai border, 2) the area extending from Wawlay STS through Sukali STS to Kyaikdon, and 3) the border area to the east and the northeast of the Hpapun TS center.

The third type areas are such areas that are still conflict-stricken, and any development activities may not been undertaken for the time being except limited development activities supported by NGOs. These areas include: 1) the area in Thandaunggyi TS from Bawgali STS to the border with Kayah State, 2) the area between Bawgali STS to the Hpapun TS center, and 3) the area extending from the Hpapun TS center to the border with Mon State and Kamamaung STS in Kayin State.

## **4.2 Development Directions to Promote Peace**

### **4.2.1 First type areas**

Development in the first type areas may be promoted by cooperation of respective peace groups and the State Governments. The following supports may be provided for these areas:

- (a) Support of settlement areas initiated by the peace groups including the settlements in Hparyarhonesu initiated by KNU and the border areas in Ye initiated by NMSP;
- (b) Improvement of access to the area in Thandaunggyi TS in Kayin State between Leiktho and the border with Kayah State, together with provision of social facilities;
- (c) Improvement of access to the interior between the Bilin TS center in Mon State and the border with Kayin State, together with provision of social facilities; and
- (d) Provision of information function on the Myanmar side for refugees and IDPs to learn conditions of settlement areas and livelihood and employment opportunities, starting with one in Myawaddy.

### **4.2.2 Second type areas**

Development in the second type areas may be promoted by utilizing existing relationships with the Thai side. The following supports may be effective:

- (a) Improvement of access by roads on the Thai side and rivers along the Thai border;
- (b) Improvement of access from the Thai side and provision of utilities to facilitate investments through cooperation between Myanmar and Thai investors;
- (c) Improvement of social facilities on the Myanmar side possibly supported by the Thai government.

Access to these areas from the interior or the central part of Myanmar or the Southeast Myanmar should not be undertaken in the near future until the border areas develop and establish stable peace conditions on their own.

### **4.2.3 Third type areas**

Development of the third type areas may be undertaken very carefully and rather slowly by the initiative of respective peace groups supported by NGOs and possibly with limited support by the Kayin State Government. In the meantime, ownership for land and other resources should be clarified for these areas between peace groups and the State Government, while comprehensive agreements are sought between KNU and the Union Government.

## **4.3 Principles for Development for Peace**

While political dialogues are proceeding for peace agreements between ethnic groups and the Union Government, development activities should be promoted selectively to facilitate the process. Comprehensive peace agreements should not be taken as a prerequisite to development activities, but rather such development activities that will contribute to peace should be implemented in parallel with the political dialogues.

To plan and implement such development activities that will contribute to the peace process, the following principles should apply.

### **4.3.1 Settlement areas development**

In anticipation of return of refugees from Thailand following the cease fire agreement, the State Government has been preparing settlement areas in the nine designated areas. At the same time, the State Government clarifies on various occasions that the return should be voluntary and any returnees are free to choose when and where to return and settle. These efforts and policy by the State Government are commendable. Settlement areas, however, should be prepared in anticipation of return not only of refugees but also of IDPs and migrant workers as well.

Those IDPs, who had been forced to live deep in mountain forests, may return to planned settlements earlier if minimum living conditions are satisfied, while it may take longer time and more favorable living conditions to be satisfied before the refugees on the Thai side decide to come back. As any settlement sites start to develop, increasing number of refugees and migrant workers will come back. It is important to plan and develop settlement areas in steps starting with settlement of IDPs.

### **4.3.2 Provision of information**

It is vitally important to provide proper information to refugees and IDPs to encourage their voluntary return. Important information covers opportunities for settlement and livelihood in settlement areas and other places such as industrial estates as well as policy and material supports by the Governments for returnees. Function to provide such information to returnees should be established in border areas on the Myanmar side.

Refugees on the Thai side should be encouraged to come back even temporarily at their own wills to obtain the information. Some of them may decide to move to other places for settlement including their original villages, but others may return to the Thai side. The information will be disseminated by those temporary visitors as well and more voluntary return may be promoted. It is important that refugees and IDPs are provided with proper information, and their return is left to their own voluntary decisions.

The main role of the State Governments is to prepare land, facilities and services for returnees in

anticipation of their return and to be ready to provide guidance and material supports when needed by returnees such as transportation and initial food provision. Skill training and other supports to prepare returnees for livelihood and employment are additional roles of the State Governments directly or in cooperation with donors and NGOs.

#### **4.3.3 Border areas development**

In some border areas, ethnic groups are effective in serving the people including provision of social services from the Thai side. These areas may be developed initially by utilizing the existing relationships with the Thai side. The road links from the Thai side and within the border areas should be improved, while the improvement of road links from the interior or central part of Myanmar and Kayin State should be undertaken more carefully. Development activities may be undertaken by cooperation between the Myanmar and the Thai investors, possibly supported by the Thai government. Even joint development and management of water resources in the border river basins may be undertaken.

#### **4.3.4 Issue based dialogues between peace groups and State Government**

Critical issues between peace groups and the Union Government have been discussed in political dialogues to pursue comprehensive agreements between them. This will inevitably take a long time. While pursuing such comprehensive agreements, issue based dialogues may be undertaken between peace groups and the State Governments. Probably, the most critical issue is related to the ownership of land and other resources.



## **CHAPTER 5    PLANNING FOR REGIONAL DEVELOPMENT OF SOUTHEAST MYANMAR**

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### **5.1    Objectives, Basic Strategy and Vision**

#### **5.1.1    Problem structure analysis**

##### **(1) Analytical procedure**

The existing conditions in the Southeastern Region of Myanmar consisting of Kayin and Mon States have been analyzed by sector. The position and characteristics of the Southeast Myanmar have been clarified as summarized in Chapter 2. Some positive characteristics of the Southeast Myanmar are noted in relation to other regions. Still, the Southeastern Myanmar faces various problems, which combined would work as constraints to the regional development.

Many of these problems are interrelated to cause undesirable phenomena as observed at present. A problem structure analysis is a method to clarify these interrelationships in a macroscopic way. The analysis, usually undertaken during the initial stage of the development planning, would allow a broad perspective without getting into details to identify more essential factors and major problems to be alleviated through planned development efforts. The analysis is used here to define development objectives and basic strategy for the Southeast Myanmar regional development.

First, problems facing the Southeast Myanmar are enumerated. Some specific problems may be combined to define a major problem so that the analysis would not lapse into too much detail. Most problems are expressed in generic terms to imply related sector problems.

With all the major problems identified, a problem structure has been constructed as shown in Figure 5.1. In the figure, more important problem factors and phenomena are shown, expressed in generic terms to imply many detailed or sector specific problems. The figure also shows causal relationships between the identified problems, focusing only on main interrelationships.

##### **(2) Problem factors and phenomena**

###### **1) Problem factors**

As shown in Figure 5.1, problem factors are classified into three kinds. Inherent natural problems consist of mountainous topography, elongated territory, and extreme mal-distribution of water resources. Insufficient local governance capacity is a transitional problem due to the fact that localization of governance is a relatively recent phenomenon in Myanmar. Three other problem factors are results of decades-long conflicts between the Union Government and armed ethnic groups.

## **2) Problem phenomena**

Three broad problems may be identified, which should be alleviated through planned development efforts: economic, social and environmental problems. The economic problems are represented by limited indigenous industries, resultant insufficient employment problems, and associated low income levels.

The social problems in the Southeast Myanmar are associated with out-migration. They have their own structure as outlined. First, out-migration not only causes social disruption, but also over reliance on remittances on the one hand, and labor shortages on the other. These problems combined results in lack of incentives to increase production, and inactive local communities.

The environmental problems have two aspects: forest resources and water resources. Forest resources have been degrading due to lack of proper environmental management, allowing deforestation by slash and burn practices, illegal timber extraction, indiscriminate conversion to rubber plantations and other inadequate practices. Due to extreme seasonal mal-distribution of water resources, the Southeast Myanmar experiences extensive flooding during the rainy season, while during the dry season, water shortages are observed in many places. Overall, the water resources in the Region are under-utilized.

## **(3) Problem interactions**

Two important problem interactions are observed from Figure 5.1. One is related to the access. The Southeast Myanmar has mountainous topography especially in Kayin State, and the road access to the interior and peripheries is generally difficult except the areas along main artery roads. Improvement of the road access has been largely difficult or deliberately restrained in some areas during the conflict period. Moreover, the road access has been further constrained by extensive inundation of road sections and bridges during the rainy season.

The poor road network as shown in the problem structure is a root cause of undeveloped economic activities constraining the market access. This situation has been aggravated by extensive flooding due to the extreme mal-distribution of water resources and the lack of proper environmental management as shown also in the problem structure.

The other important problem interactions are associated with out-migration. The insufficient employment opportunities as shown in the problem structure is a direct cause of employment seeking out-migration, but the presence of armed ethnic groups and the uncertainties due to security threat also contribute to this phenomena in a fundamental way. The out-migration of labor force causes, on the one hand labor shortages, and on the other, over-reliance on remittances from the migrant labors. The latter tend to suppress the development of indigenous industries, as the local residents have higher purchasing power to buy imported goods than in the case relying on cheaper local products.

The labor shortages combined with the difficulties in market access as shown in the problem structure results in the lack of incentives to increase production. This, in turn, tends to lead to the inactive local communities as shown also in the problem structure. The degrading traditional lifestyles and value and the inadequate social facilities and services shown in the problem structure also contribute to this.

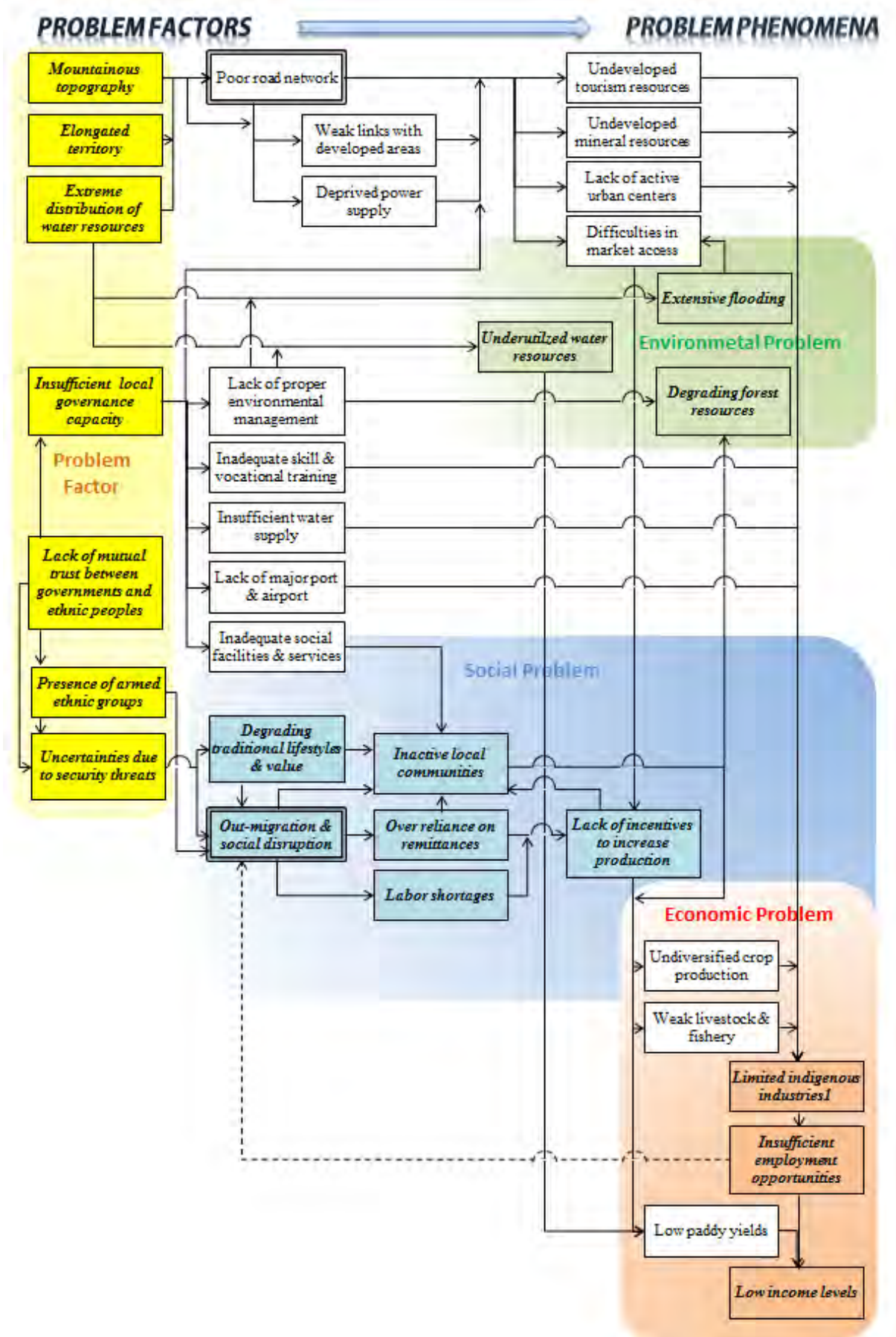


Figure 5.1 Problem Structure of Southeast Myanmar Region

## **5.1.2 Objectives and basic strategy for regional development of Southeast Myanmar**

### **(1) Objectives for regional development of Southeast Myanmar**

Three problem phenomena have been identified by the problem structure analysis. Corresponding to these, three objectives may be defined for regional development of the Southeast Myanmar. They are proposed to be expressed as follows.

- (a) Economic objective: To diversify employment and income opportunities to improve livelihood, increase local capital accumulation, and enhance competitiveness of regional economy in the globalizing economy;
- (b) Social objective: To revitalize local communities to initiate new economic activities, effect better environmental management, and enhance local governance capacity; and
- (c) Environmental objective: To protect and enhance the environmental quality to ensure sustainable economic development, safeguard the traditional lifestyles and value, and ensure lasting peace.

### **(2) Basic strategy for regional development of Southeast Myanmar**

Basic strategy for regional development of the Southeast Myanmar may be established in reference to the problem factors at the root of many interrelated problems analyzed by the problem structure analysis. They are: 1) security problems exist together with lack of mutual trust between governments and ethnic peoples; 2) localization policy newly introduced by the Union Government has not been effected yet locally; and 3) reflecting this, environmental and resources management is inadequate and rich resources have not been effectively utilized. Therefore, the following are proposed as three components of the basic strategy.

- (a) Improving security conditions through sharing development and security related information with all stakeholders to cultivate mutual trust among them,
- (b) Establishing mechanism for broad-based participation of all stakeholders in the process of development planning and implementation, and
- (c) Promoting alternative socio-economic activities, which are less resource intensive and environment friendly, combining traditional practices and modern technology.

## **5.1.3 Vision for regional development of Southeast Myanmar**

A vision should be established for regional development of the Southeast Myanmar that can be shared by all the stakeholders including local residents, ethnic groups, supporters of the regional development such as donors and NGOs, and officers and experts of the State Governments. The following vision is proposed, reflecting the characteristics of the Region with rich natural and cultural resources and in line with the regional development objectives defined above.

### **Vision for Regional Development of Southeast Myanmar**

Realization of robust and resilient socio-economy adapting to changing world and open to the global society supported by abundant natural resources, diverse economic activities and rich cultural heritage.

This vision will be represented by:

- (a) Transport and logistic infrastructure of the first quality linking the Southeast Myanmar to neighboring regions and countries,
- (b) Industrial clusters to produce a variety of products having comparative advantage in the global market,
- (c) Environment friendly socio-economic activities combining traditional wisdom of peoples with modern technology,
- (d) Active communities of mixed ethnicity with revitalized conventional cultural activities that residents are proud of and visitors can enjoy,
- (e) All of the above embraced in rich natural environment under proper management by local communities and local governments to ensure sustainability.

To make concerted efforts for the regional development involving all the stakeholders, it is useful to establish common concepts applicable to the regional development that can be shared by all the stakeholders. Important common concepts are presented as shown below to facilitate sharing by all the stakeholders for both Kayin and Mon States.

**Regional development of the Southeast Myanmar  
with Kayin and Mon States is to be pursued through:**

Knowledge development,  
Agriculture of high quality,  
Youth initiative and participation,  
Industrial clusters,  
Natural resources management,  
Mixed ethnicity, and  
Organizational strength, all for  
National integration.

**Knowledge development** means utilization of traditional wisdom of the peoples in the Southeast Myanmar in combination with advanced technology to support the development of alternative socio-economy, which is environment-friendly and less resource intensive. **Agriculture of high quality** should be established to produce goods for export market and to increase income levels significantly for the majority of the residents. **Youth initiative and participation** is an essential condition to create lively and peaceful societies full of worthy opportunities for the youth.

**Industrial clusters** represent an important means to realize self-reliant regional development based on indigenous resources, integrating efforts by ordinary residents, industrialists and investors supported by the State and the Union Governments. **Natural resources management** would ensure sustainability of alternative socio-economic activities.

**Mixed ethnicity** is taken to be a positive factor as it would contribute to diversity of human resources, economic activities, social systems and infrastructure facilities and enhance resilience and robustness of the Southeast Myanmar. It is a source of dynamism for the regional development. **Organizational strength** is realized by increased capacity of local governance in cooperation with local communities. Participatory development is a means to complement the limited capacity of public administrations.

Regional development of the Southeast Myanmar to be pursued through these concepts, integrating efforts of all the stakeholders in Kayin and Mon States would contribute to the **National integration** by strengthening links between the Yangon Metropolitan Area and a new industrial zone of the

Tanintharyi region centering on Dawei, and substantiating the economic corridors passing through the Southeast Myanmar.

## **5.2 Development Scenario**

### **5.2.1 Development phasing**

A series of activities to be undertaken and events to take place over the planning period up to 2035/36 is described in this section as the development scenario for the Southeast Myanmar. To describe the Southeast Myanmar regional development scenario, the planning period is divided into phases and activities and events in each phase are described. The following phasing is defined:

- (a) Preparatory phase: up to 2014/15,
- (b) Phase 1: 2015/16-20/21,
- (c) Phase 2: 2021/22-25/26, and
- (d) Phase 3: 2026/27-35/36.

### **5.2.2 Preparatory phase: up to 2014/15**

#### **(1) Overview**

The integrated regional development master plan for the Southeast Myanmar will be completed in 2014, and urgent projects to prepare for the early return of refugees and IDPs implemented with the planning will also be started. One of the urgent projects will facilitate returnees to obtain proper information related to options and opportunities available on the Myanmar side as well as installation supports. Based on the master plan, improvement of infrastructure and public facilities in several planned settlement areas will be started. Supported by the provision of proper information, initial return of refugees and IDPs will begin on a voluntary base.

Local government capacity should be enhanced steadily during this phase. As part of it, participatory mechanism to plan and implement community facilities should be pilot implemented to activate local communities. Such a mechanism may be established for planned settlement sites first.

#### **(2) Socio-economy**

Preparatory works will be initiated to establish new economic activities in agriculture and industry. In agriculture, productive reforestation will be actively carried out with fruit and cashew trees on many hills and slope land cleared by slash and burn practices. Mixed farming combining tree crops and field crops will be expanded in areas where water availability is relatively favorable. Integrated farming combining crop cultivation and livestock raising will also be expanded, including cashew cultivation and goat raising. These activities should take advantage of expanding export markets in Thailand.

In industry, skill training will be started for new products that may be produced by mixed farming and integrated farming activities. They include cashew based products such as lacquer works, cashew apple wine and vinegar. New products may develop based on abundant bamboo resources such as bamboo charcoal and bamboo acetic acid. Improvement of existing handicrafts will also be conducted selectively aiming at export or other specific target markets.

Local and domestic tourism will develop steadily as access to some tourism sites is improved by initial improvement of selected roads. Investment to tourism facilities in Mawlamyine, Hpaan and a few

other locations will increase steadily. Proactive marketing for international tourism may be started by some travel agents linked with international agents.

### **(3) Spatial development**

Urgent improvement of key artery roads will be initiated, including the Hpayarhonesu ~ Thanbyuzayat road and sections of the east-west economic corridor linking Myawaddy, Hpaan and Thaton. Access roads to selected settlement sites will be improved. Feasibility studies for major facilities constituting the future transport and logistic network will be initiated including the Kyaikkhami regional port. Initial dialogues with Thailand will be undertaken on joint development of border areas with joint water resources development and management.

Urban infrastructure will be improved selectively in Mawlamyine and Hpaan. In Mawlamyine, restoration of some historical districts should be planned to enhance their tourism value. In Hpaan, some recreational and amenity facilities may be introduced to improve the conditions for industrial location in the existing industrial estate as well as for residents. A link between Hpaan and Hpapun should be strengthened first by improved roads and ferry services on the Thanlwin River.

### **5.2.3 Phase 1: 2015/16-20/21**

#### **(1) Overview**

Development administration will be further devolved to local governments. Priority should be accorded to Kayin and Mon States having the integrated regional development master plan of their own prepared in the previous phase.

During this phase, returns of refugees and IDPs will accelerate, supported by fully operational information and installation services established during the preparatory phase. Participatory planning and implementation will be continued and expanded for public facilities in settlement and other communities. Such a mechanism will be institutionalized and community development committees or community based organizations will be established in steps throughout the Region.

#### **(2) Socio-economy**

Productive reforestation initiated during the preparatory phase will be continued and expanded. New plant species may also be introduced in line with land suitability. The new mixed farming and integrated farming pilot implemented in the preparatory phase will expand, and proactive marketing of products of these activities will be undertaken.

Rubber based final products will diversify such as rubber gloves for household and cooking uses, rubber shoes and sanitary rubber products, and the rubber industrial cluster will be established with a variety of export goods. Skills for cashew based manufacturing as well as mechanism for raw materials collection will be established, and a cashew industrial cluster will start to be formed. Bamboo and wood works industrial cluster will also start to be formed. As part of national program, apiculture in Thandaunggyi may diversify its products for export and constitute a part of the national apiculture industrial cluster.

A free trade zones will be designated in Myawaddy and Hpayarhonesu to capitalize on low labor costs. The existing industrial estates in Hpaan and Mawlamyine will develop steadily with increasing number of manufacturing industries.

Domestic travel agents will associate directly with international travel agents to develop a variety of

tour products for international tourism. Mawlamyine will establish as the tourism gateway and the regional tourism base. Sightseeing boat tours between Mawlamyine and Hpaan will resume, and associated facilities will be provided along the Thanlwin River.

### **(3) Spatial development**

Major facilities in the transport and logistic network of the Southeast Myanmar will start to be implemented during this phase. The east-west economic corridor will be strengthened with improvement of bridges and some road sections. Alternative branch arteries to Mawlamyine will be improved. A feasibility study of the first stage development of the Kyaikkhami regional port will be completed, followed by detailed design, and the construction of the first stage will start toward the end of this phase.

With the improvement of artery roads, access to settlement sites will be further improved. As the eastern part of the Dawna mountains develop and stabilize, access to the settlement sites from the western side of the Dawna Mountain Range will start to be improved. The border with Thailand at Wawlay will be formally opened, and the improvement of road from Sukali to Kyaikdon will start to bring the development momentum to the interior. An agreement with Thailand will be made on joint development and management of the border river in Myawaddy District.

Urban hierarchy will start to develop first with strong urban functions of Mawlamyine and Hpaan. A few additional urban centers will start to develop rapidly. A link between Hpaan and Hpapun should be strengthened with a new bridge across the Thanlwin River.

## **5.2.4 Phase 2: 2021/22-25/26**

### **(1) Overview**

The number of returning refugees and IDPs will reach a peak at the beginning of this phase, but returns of migrant workers will continue as the Southeast Myanmar develops rapidly. Consequently, the Southeast Myanmar will become a net in-migrating region within this phase. More broad based participatory planning and implementation will be undertaken as part of localization of development administration covering the entire Region.

### **(2) Socio-economy**

Production from the productive reforestation areas with various fruit and cashew trees will increase rapidly as trees reach productive ages. The cashew industrial cluster will be fully established with quality cashew nuts and lacquer works for export market, and other products for local markets. Goat meat and milk products will establish as export goods mainly for Thailand. The bamboo and wood works industrial cluster will also be fully developed. Other industrial clusters will start to develop based on tourism and wellness industries utilizing characteristic products in the Southeast Myanmar.

The free trade zones in Myawaddy and Hpayarthonesu will develop utilizing not only low cost labor but also locally available raw materials such as cement, rubber, antimony and other mineral resources. The industrial estates in Hpaan and Mawlamyine will develop fully with light industries. As a new port develops at Kyaikkhami, an industrial estate will start to develop in its hinterland with “import processing” type industries processing imported raw materials and intermediate goods into final products for domestic market. Those processing for export market in Thailand may locate in the Hpaan industrial estate.



### **(3) Spatial development**

The artery roads will be fully upgraded, and access to settlement sites will be further improved accordingly. The transport and logistic network will be fully established with the completion of major facilities including the Kyaikkhami regional port, FTZs in Myawaddy and Hpayarthonesu, and industrial estates in Hpaan and Mawlamyine as well as the port hinterland.

Urban hierarchy will be further developed with clear functional division between major urban centers. Mawlamyine, Hpaan and a few other urban centers may be equipped with some higher order functions. Mawlamyine will be specialized in international tourism related services and port based industries. Hpaan may be a center of advanced education and research. Other higher order functions may include specialized health care, wellness industries and alternative technology development.

Based on the agreement with Thailand, the joint development and management of river basin on the border basin may be initiated as a pilot case of joint development and management of border areas under the management of local governments. Physical integration of the Southeast Myanmar will be largely attained by resolution of missing links such as links between the northern part to the rest of the Region. Tributaries of major rivers will be developed and managed to reduce flooding along middle and downstream reaches, and road conditions will be further improved accordingly.

#### **5.2.5 Phase 3: 2026/27-35/36**

##### **(1) Overview**

Returns of refugees, IDPs and migrant workers will be completed at the beginning of this phase, and all the returnees are comfortably settled, accommodated in respective settlement and other communities. Mechanism and practices of participatory planning and implementation will be established throughout the Region and fully operational as integral part of development administration.

##### **(2) Socio-economy**

Export products of agriculture are diversified with fruits, cashew products, goat meat and milk products, bamboo products, and specialty products characteristic of the Southeast Myanmar such as spices and condiments, health products, cosmetic and medical products as well. Additional industrial clusters will be established based on mineral resources to produce final goods for export. Some export products will establish fame in the global market.

##### **(3) Spatial development**

The transport and logistic network will be fully operational linked with neighboring regions and countries as major economic corridors of the Southeast Asia. The Southeast Myanmar will be physically integrated with resolution of all the missing links including the link between the northern part to the rest. With the water resources development and management of river tributary basins, major flooding will be reduced to manageable magnitude to improve further links between different areas in major river basins.

The urban hierarchy will be extended to neighboring regions and countries to form a city network, in which higher order urban functions are shared for mutually complementary development. Joint development and management of border areas will be continued as model development cooperation applicable to other regions in Myanmar.

#### **(4) Ultimate image**

The Southeast Myanmar will be characterized by the following by the year 2035/36.

- (a) In-migrating region having the average income higher than the national average with diversified employment opportunities,
- (b) Model region for alternative socio-economic activities, which are less resource intensive and environment friendly, characterized by many viable industrial clusters and sustainable resource utilization and management by participation of peoples,
- (c) Tourism center of Myanmar with a variety of tourism resources and tour itineraries for both international and domestic tourists, embracing rich cultural heritage of ethnic peoples, supported by the gateway function of Mawlamyine with renovated heritage districts and an international hotel school,
- (d) Center for alternative technology with advanced education and research facilities including an alternative technology research center in Hpaan,
- (e) Agricultural area specialized in mixed farming combining tree crops and field crops and integrated farming combining crop production and livestock raising to attain high productivity without relying much on high use of agro chemicals, fertilizer and other external input,
- (f) Regional society open to the global society characterized by the logistic networks linked to neighboring regions and countries, city networking to share higher order urban functions, cosmopolitan atmosphere accommodating peoples of diverse socio-cultural backgrounds, and bright and pleasant landscape provided by rich forest resources and productive greenery,
- (g) Self-reliant region based on the utilization of indigenous resources by and for the benefit of local peoples under the effective development administration through cooperation between government and local communities

## **CHAPTER 6      RECOMMENDATION FOR SUBSEQUENT STAGE**

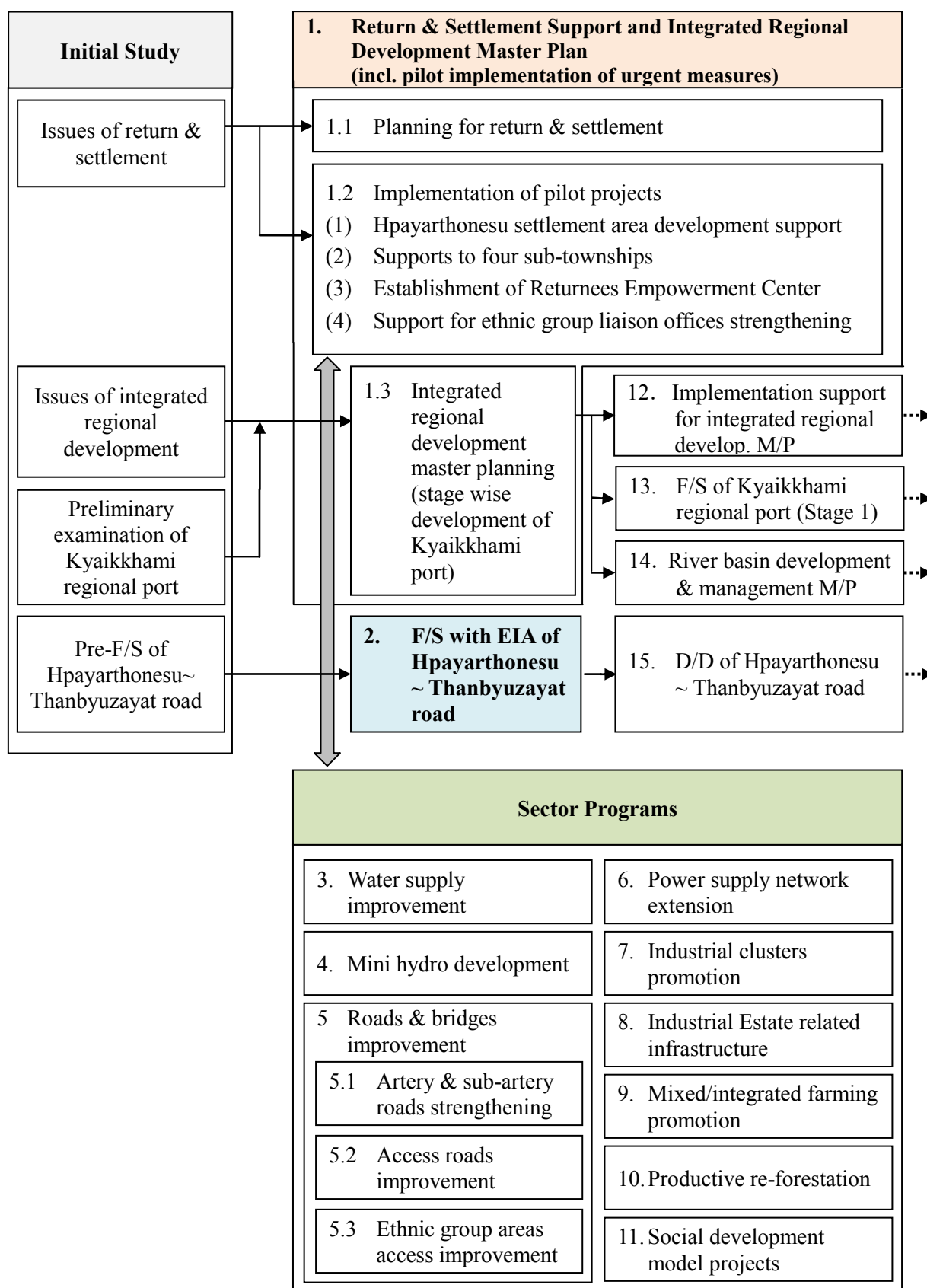
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The projects and programs described in this chapter have been proposed by the JICA Study Team only as candidates for possible implementation. They should be discussed with stakeholders including ethnic minority groups as well as local residents, and their implementation will be subject to the result of the discussions. It is necessary to solicit opinions about this chapter widely and consider continuously in next phase.

On the basis of outcome of this initial study, subsequent projects will be planned and implemented within the overall framework of integrated regional development to support the ethnic minorities in the Southeast Myanmar as shown in Figure 1.1. Immediately following the present study, two planning projects are expected to be undertaken by JICA: 1) full scale integrated regional development master planning for the Southeast Myanmar, and 2) return and settlement planning for refugees and IDPs in the Southeast Myanmar. Both planning projects may be undertaken with pilot implementation of urgent measures.

Other projects identified or proposed by the present study will be implemented in parallel with these planning projects. The Hpayarthonesu – Thanbyuzayat road development project is expected to be implemented earlier after upgrading of the pre-feasibility study conducted as part of the initial study. The Kyaikkhami regional port development project surveyed at a preliminary level as part of the initial study will be examined further in the integrated regional development master planning for its stage wise development. A feasibility study is expected to follow for its first stage development.

Additional projects may be planned and implemented partly in parallel with these projects. Candidate projects that may be implemented by the Government, possibly supported by JICA and other donors are proposed in this chapter (Figure 6.1). Correspondence between the proposed projects and their locations is shown in Table 6.1 for Kayin State and Table 6.2 for Mon State.



Source: JICA Study Team

**Figure 6.1** How the Integrated Regional Development to Support Ethnic Peoples in the Southeast Myanmar Will Proceed

**Table 6.1 List of Projects and Target Townships/Sub-townships in Kayin State**

	K01	K01-1	K01-2	K02	K02-1	K03	K03-1	K03-2	K04	K05	K06	K06-1	K06-2	K07	K07-1	K07-2
	Thandaunggyi	Leikho	Bawgali	Hpapun	Kamamaung	Hlaingbwe	Shanywarhit	Paingkyon	Hpaan	Kawkareik	Kyansaikgyi	Hpayarthonesu	Kyaikdon	Myawaddy	Sukali	Wawlay
<b>1</b>	<b>Return &amp; Settlement Support and Integrated Regional Development Master Plan</b>															
1.1							○	○				○			○	○
1.2																
(1)												○				
(2)							○	○							○	○
(3)														○		
(4)									○			○		○		
1.3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
<b>2</b>	<b>F/S with EIA of Hpayarthonesu ~ Thanbyuzayat road</b>															
Sector Programs																
3	○	○	○		○						○	○				
4							○	○								
5																
5.1		○							○	○		○		○		
5.2											○		○		○	○
5.3					○				○							
6						○			○	○						
7	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
8									○			○		○		
9						○			○	○	○	○		○		
10												○		○		
11								○								
12	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
13																
14				○								○				○
15												○				

Source: JICA Study Team

**Table 6.2 List of Projects and Target Townships/Sub-townships in Mon State**

	M01 Kyaikto	M02 Bilin	M03 Thaton	M04 Paung	M05 Mawlamyine	M06 Chaungzon	M07 Kyaikmaraw	M08 Mudon	M09 Thanbyuzayat	M10 Ye
<b>1 Return &amp; Settlement Support and Integrated Regional Development Master Plan</b>										
1.1 Planning for return & settlement		○								○
1.2 Implementation of pilot projects										
(1) Hpayarthonesu settlement area development support										
(2) Supports to four sub-townships										
(3) Establishment of Returnees Empowerment Center										
(4) Support for ethnic group liaison offices strengthening			○							
1.3 Integrated regional development master planning	○	○	○	○	○	○	○	○	○	○
<b>2 F/S with EIA of Hpayarthonesu ~ Thanbyuzayat road</b>									○	
<b>Sector Programs</b>										
3 Water supply improvement	○		○				○		○	○
4 Mini hydro development										
5 Roads & bridges improvement										
5.1 Artery & sub-artery roads strengthening	○	○	○		○			○	○	○
5.2 Access roads improvement							○			○
5.3 Ethnic group areas access improvement		○								○
6 Power supply network extension			○		○	○			○	
7 Industrial clusters promotion	○	○	○	○	○	○	○	○	○	○
8 Industrial Estate related infrastructure					○					○
9 Mixed/integrated farming promotion						○	○			
10 Productive re-forestation										
11 Social development model projects		○								
12 Implementation support for integrated regional develop. M/P	○	○	○	○	○	○	○	○	○	○
13 F/S of Kyaikkhami regional port (Stage 1)									○	
14 River basin development & management M/P		○								○
15 D/D of Hpayarthonesu ~ Thanbyuzayat road									○	

Source: JICA Study Team

## **6.1 Return and Settlement Support and Integrated Regional Development Master Plan**

### **6.1.1 Return and settlement planning (Project 1.1)**

A return and settlement plan is prepared for the four STSs that have been requested by the Kayin State Government and also Hpayarthonesu STS. Selected pilot projects will be implemented and outcomes of the pilot implementation will be reflected in the plan. Based on the classification of conflict affected areas into three types as identified by the initial study, development measures that may be implemented by the cooperation between the State Government and ethnic groups will be planned and partly pilot implemented. For the settlement areas planned in Hpayarthonesu STS will be planned in detail by participatory approach as described below for Project 1.2.

### **6.1.2 Implementation of pilot projects (Project 1.2)**

#### **(1) Hpayarthonesu settlement areas development support**

Development of planned and on-going settlement areas will be supported to facilitate return of refugees and IDPs. The first priority may be accorded to the settlement areas in preparation in Hpayarthonesu STS. These areas have been planned and initiated by KNU and the Kayin State Government is now supporting them. These settlements are located along or close to the planned alignment of the Hpayarthonesu – Thanbyuzayat road so that complementary effects are expected. The following activities are expected to be undertaken.

##### **1) Provision of basic infrastructure and social facilities**

A simple public water supply system will be provided by using springs nearby for each settlement. Public standpipes will be provided in residential areas of each settlement. Power supply will be provided, if possible, by using mini hydropower associated with the water sources. Otherwise, an independent diesel generator may be installed in each settlement.

Education and health facilities in the Hpayarthonesu STS center will be upgraded and expanded to provide services to increasing number of residents in the STS including returnees. A branch school and a clinic will be provided to serve the returnees in settlements. Other social and public facilities may be planned and implemented by participation of residents in each settlement as described below.

##### **2) Productive re-forestation on hills**

Hills around the settlement areas have been extensively deforested by slash and burn practices during conflicts and also in the process of developing settlement areas. Productive re-forestation should be undertaken on these hills near the settlement sites. Tree crops such as fruit trees and cashew trees should be examined. Provision of seedlings and technical extension for planting, growing, harvesting and processing should be provided to returnees.

The productive re-forestation should be started immediately by the initiative of the State Government in cooperation with peace groups. When refugees and IDPs come back, they should be allowed to undertake mixed farming in the re-forested areas, cultivating field crops in combination with tree crops. This will facilitate returnees to establish livelihood, attaining higher productivity. Terraced paddy production and rubber plantations are not recommendable on hills.

### **3) Land use planning**

A land use plan for settlement and surrounding areas should be prepared through joint efforts by KNU and the State Government working with residents in respective settlements. The land use plan should cover residential lots with home gardens, paddy cultivation areas along water courses on flat and gently sloping land, productive re-forestation areas, and protection areas with water sources.

### **4) Community development**

Community development in settlement areas by the KNU initiative will be supported. A community development committee or community based organization will be established in each settlement by participation of residents. The community based organization or committee should be established in the immediate future with early settlers and will develop as more people are coming back. Selection of tree species to be planted for productive re-forestation and also in home gardens may be among the subjects to be discussed in community based organization or at committee.

Participatory land use planning as mentioned above may also provide opportunities to strengthen the settlement communities. Additional social and public facilities may be planned by participatory approach and implemented by mobilizing community resources at least partly, supported by KNU and the State Government.

## **(2) Supports to four STSs**

Other settlement areas may also be selected for early support based on the agreement with relevant ethnic groups working closely with the State Government. In particular, limited support will be provided to the four STSs selected by the Kayin State Government for early implementation: viz. Shanywarhit, Paingkyon, Wawlay and Sukali. Possible supports for these STSs are suggested as follows:

- (a) Water supply expansion and/or community facilities for Wawlay and Sukali,
- (b) Water supply expansion with spring water and/or mini hydro power for Shanywarhit,
- (c) Access improvement from the Thai side to Winsaw and Tarlei and social facilities for Paingkyon, and
- (d) Improvement of river navigation with boat clinic, postal service boat, jetties and others for all the four STSs.

## **(3) Establishment of Returnees Empowerment Center (REC)**

Provision of proper information related to settlement areas and livelihood and employment opportunities is vitally important to encourage voluntary return of refugees and IDPs. Information on Government policy and support measures, and available supports by donors/NGOs will also be helpful for making decisions on return. The function to provide such information to returnees should be established in border areas on the Myanmar side.

Refugees on the Thai side should be allowed to come back even temporarily at their own wills to obtain the information. Some of them may decide to move to other places for settlement supported by the State Government, but others may return to the Thai side. The information will be disseminated by those temporary visitors as well and more voluntary return may be promoted. It is desirable that some skill training will be provided also to prepare returnees for livelihood or



employment activities after their return.

For these purposes, facilities called tentatively Returnees Empowerment Center (REC) should be established first in Myawaddy. The center may be established at existing facilities initially for the information function. As it may be expanded to provide the function to facilitate skill training, new facilities may be constructed. Stage-wise development, ownership and operation of the REC involving ethnic groups is proposed below.

### **1) Provision of information**

The information to be provided to returnees includes the following:

- i) Updated information of the peace process,
- ii) Landmine hazard maps and available mine risk education,
- iii) Latest information of areas that refugees and IDPs used to live,
- iv) Latest situations of planned settlement areas
- v) Procedure on return (immigration/ID issues)
- vi) Available support from international organization, donors, and NGOs
- vii) Employment opportunities of industrial estate in Myawaddy, Hpaan or other places

Information of (i) and (ii) may be disclosed to a limited extent as it can be sensitive. More information can be disseminated as the peace process progresses.

The following measures are useful to deliver the information to the people in need:

- i) Utilization of existing media such as radio,
- ii) Newsletters to be delivered to refugee camps as well as IDP communities,
- iii) Guide tours to settlement sites or industrial estates, and
- iv) Counseling for those who consider return.

Such information provision and various activities should be jointly conducted by the government and ethnic groups, supported also by the third parties such as UNHCR. The State Government is expected to dispatch appropriate staff to the center, and also staff from ethnic groups such as liaison officers should station at the center. This will facilitate the coordination process. For example, the newsletter or radio program can be jointly created by the staff. Such a coordination process can give good impression to prospective returnees, and thus accelerate the trust building.

### **2) Facilitation of skill training and other support activities**

The REC can facilitate communications between those who wish to support and the people in need. This facilitation function is useful for any international organizations, donors, and NGOs. They can easily obtain the latest information on return and settlement and also the returnee's needs. It helps them to decide what kind of support should be provided and in where. It will highly contribute to the donor coordination to avoid aid redundancy.

The same approach can be applied to employment and skill training. Not only the returnees but also private companies can get benefits from the REC. Their recruitment activities may be effectively undertaken through the center. Skill training will be provided by many donors and NGOs. In addition, those private companies based on the Myawaddy or the Hpaan industrial estate can provide practical skill training to the returnees in association with the REC. It may help those companies to recruit workers suitable for their needs and also to contribute to the local society to some extent.

### **3) Ownership and operating responsibilities**

The ownership of the REC may stay with the State Government as a formal institution, but its operation should be entrusted effectively to relevant ethnic groups that area in the position to work with refugees and IDPs to encourage their return and settlement. To make this model operational, a joint committee may be established by the State Government and ethnic groups.

The stationed staff from the government to the center may be state/district/TS officer who have had a work experience in related field. Liaison officers or equivalent staff from related ethnic groups may be the right person to station at the center. The liaison offices of ethnic groups may be strengthened as proposed below for the REC to perform its functions effectively. Also the third parties such as UNHCR and CBOs (KRC, CIDKP) may be involved in one way or another.

### **4) Possible supports to be provided**

To facilitate the establishment of the REC, the following supports may be provided:

- i) Provision of audio-visual equipment, computers and associated facilities,
- ii) Support for preparation of promotion materials for the nine settlement areas, other settlement areas planned and partly developed, industrial estates in Myawaddy, Hpaan and other places, policy and support activities by the State Government including registration, guidance, transportation, installation supports including rice and other materials etc., and
- iii) Capacity development for the staff such as providing communication and leadership trainings.

### **(4) Ethnic group liaison offices strengthening**

Liaison offices of peace groups have been opened one after another as a center to coordinate development activities by various stakeholders. They are potentially in the best position to collect and provide updated information on existing conditions in their respective jurisdictions including on-going and planned development activities. They may provide information on existing settlement areas, livelihood and employment opportunities, donor supports and other conditions useful for refugees and IDPs.

Existing and future liaison offices of peace groups should be networked with REC so that proper information will be produced and disseminated widely to prospective returnees. Some support activities proposed for REC may be effectively provided to liaison offices such as provision of audio-visual equipment, computers and associated facilities, preparation of promotion materials, and facilitation of skill training.

### **6.1.3 Integrated regional development master planning (Project 1.3)**

An integrated regional development master plan is prepared for the Southeast Myanmar combining Kayin and Mon States for the target year of 2030/31 with a vision to 2035/36 in line with the target year of the long-term national comprehensive development plan and the national comprehensive development vision. At the early stage of the master planning, the development vision, objectives and basic strategy proposed by the initial study will be discussed with the State Governments, ethnic groups and other stakeholders. The basic agreement on these would create momentum to pursue the regional development by concerted efforts by all the stakeholders.

The development scenario proposed by the initial study will be examined through consultation with stakeholders with respect to procedure of the regional development and timing of implementation of

specific projects. A better development scenario, which will be consistent and realistic, will be prepared through joint works of the stakeholders, reflecting their aspirations as well. Development frameworks will be formulated also through joint works of the stakeholders. In formulating a socio-economic framework, the population data and GRDP estimates provided by the respective State Government will be examined, and their projections will be made.

Specific projects proposed by the initial study will be formulated in more detail, and additional projects may be formulated as necessary. Those projects judged to be of high priority may be promoted separately for early implementation without waiting for the completion of the master planning.

Through the master planning involving the State Government, ethnic groups and other stakeholders, the relationships between them would be strengthened, and the ownership for the master plan is expected to be cultivated. This would facilitate the regional development by the State Government initiatives under the guidance of the Union Government. It is another important aspect of the integrated regional development master planning as a model to contribute to the establishment of such a new mechanism of development planning and administration by the local initiative in line with the Union Government policy.

## **6.2 Feasibility Study of Hpayarthonesu - Thanbyuzayat Road with EIA (Project 2)**

As mentioned, the Hpayarthonesu – Thanbyuzayat road development project studied at the pre-feasibility level as part of the present study may be taken up by JICA for early implementation. While initial implementation proceeds by PW, the pre-feasibility study will be upgraded and detailed design will follow. Comprehensive environmental impact assessment will be carried out as part of the F/S following the JICA guidelines as well as international standards. Its implementation is expected to be realized in the shortest time possible by the Japanese Government.

## **6.3 Water Supply Improvement Program (Project 3)**

Improvement of water supply was found to be the most critical need in many TSs, STSs and other communities visited by the JICA Study Team. Specific development needs vary among locations as listed in Table 6.3. Other TSs and STSs face water supply problems to a less degree.

**Table 6.3 Development Needs to Improve Water Supply in Different Locations**

Location	Development needs
Leiktho	Water source expansion for water supply in the STS center
Yardo	Development of alternative water sources and complementary use with mini hydro in the Thaukyegat River
Thandaunggyi	Development of water sources to expand water supply in the STS center
Bawgali	Development of alternative water sources in addition to springs currently used
Kamamaung	Expansion of pumping capacity to pump up Thanlwin River water
Kyaikto	Resolution of salt water intrusion into dug wells
Thaton	Expansion of water sources with dug wells to supply a new town
Kyainseikgyi	Expansion of water supply by dug wells
Hpayarthonesu	Expansion of public water supply by combining tube wells and planned use of springs
Ye	Expansion of public water supply by planned dug wells
Thanbyuzayat	Expansion of water supply by dug wells and tube wells
Kyaikmaraw	Expansion of public water supply by tube wells

Some development needs may be fully satisfied by river basin development and management as suggested above. This will take some time. Other needs may be satisfied in the immediate future and thus should be prioritized for early implementation.

## **6.4 Mini Hydro Power Development Program (Project 4)**

There exist many potential sites for hydro power development throughout the Southeast Myanmar. Larger potentials may be developed only after planning for river basin development and management as proposed above. Mini hydro power development may be undertaken without detailed studies to serve small communities respectively.

Possible sites identified include a tributary of Thaukyegat river to serve Yardo village, Yenbay river upstream to serve Shanywarhit, and a few sites to serve settlements for returnees. Also, MOEP has a plan to develop the Tharchay River with 25 MW to serve Paingkyon.

## **6.5 Roads and Bridges Improvement Program**

### **6.5.1 Artery and sub-artery roads strengthening project (Project 5.1)**

Many road sections and bridges along artery and sub-artery roads identified by the initial study for improvement will be implemented to strengthen the artery road system of the Southeast Myanmar. They may be packaged by artery or sub-artery road, and a feasibility study may be conducted separately for each road, followed by detailed design. Implementation of these artery and sub-artery roads may be supported by concessional loans.

### **6.5.2 Access roads improvement project (Project 5.2)**

Road sections and small bridges to serve the interior rural areas will be improved to ensure better access to artery and sub-artery roads for marketing of agricultural products as well as for daily use by residents. Some of them may be implemented by grant-in-aid assistance. Some others may be earmarked as subject road sections to be improved by the provision of road construction machinery and equipment by grant-in-aid.

### **6.5.3 Ethnic group areas access improvement project (Project 5.3)**

For such areas that used to be dominated by armed ethnic groups but are now stable and planned to be developed by cooperation between the ethnic groups and the respective State Governments, access should be improved as the priority. Access improvement should be followed by improvement of water supply, power supply and provision of social facilities. The following road sections should be covered as a matter of urgency in association with respective peace groups:

- (a) Theinseik – Laykay, about 34miles including new pavement of 20miles, in association with KNU;
- (b) Ye – Joohaproud, about 37 miles in association with NMSP;
- (c) Leiktho – Yardo, about 30 miles in association with KNU; and
- (d) Kamamaung – Myainggyingu, improvement of ferry services with a new ship and landing facilities, in association with KNU on the Kamamaung side and DKBA-BGF on the Myainggyingu side.

## 6.6 Power Supply Network Expansion Program (Project 6)

Power supply has not been covered by the initial study, but projects identified by earlier studied have been reviewed and a project list is proposed. These projects will be evaluated for priority by the integrated regional development master planning, and high priority projects will be identified. They would be supported for implementation in steps.

## 6.7 Industrial Clusters Promotion Program (Project 7)

To facilitate the establishment of the industrial clusters as suggested in Chapter 3, activities by the private sector should be supported. Initial support measures are proposed in Table 6.4 for selected industrial clusters.

**Table 6.4 Initial Support Measures to Facilitate Establishment of Industrial Clusters**

Industrial cluster	Support measures
Rubber industrial cluster	<ol style="list-style-type: none"> <li>1) Privatization of seedling provision</li> <li>2) Technical training to improve quality of sap collection and rubber sheets production</li> <li>3) Support for products and markets diversification</li> </ol>
Wood and bamboo works industrial cluster	<ol style="list-style-type: none"> <li>1) Encouragement of use of old rubber trees</li> <li>2) Experimental production of bamboo charcoal and acetic acid</li> <li>3) Skill training to improve quality of existing wood and bamboo handicrafts</li> </ol>
Cashew industrial cluster	<ol style="list-style-type: none"> <li>1) Skill training for new products manufacturing by using existing cashew trees</li> <li>2) Introduction of cashew tree planting as part of productive re-forestation on hills</li> <li>3) Support for integrated farming combining goats raising with cashew cultivation</li> </ol>
Antimony industrial cluster	<ol style="list-style-type: none"> <li>1) Confirmation of resource endowment</li> <li>2) Market development for antimony based final products</li> </ol>
Apiculture industrial cluster	<ol style="list-style-type: none"> <li>1) Introduction of national program to support cluster formation on broader geographic base</li> </ol>
Tourism industrial cluster	<ol style="list-style-type: none"> <li>1) Examination of complementary development with coffee and tea production in Thandaunggyi TS</li> <li>2) Formation of a variety of tour itineraries centering around Mawlamyine</li> <li>3) Strategic alliance with international agents for proactive marketing</li> </ol>

## 6.8 Industrial Estates Related Infrastructure Development (Project 8)

In the Southeast Myanmar, the Mawlamyine industrial estate has been operating, and the Hpaan and the Myawaddy industrial estates have also started operation partly. Further, new industrial estates are planned in Hpayarthonesu, Ye and Mawlamyine as well. Early supports are necessary for the Hpaan industrial estate and the Myawaddy industrial estate where transfer of factories existing in Maesot on the Thai side is expected.

In Myanmar, development of industrial estates is generally entrusted to developers, who develop respective sites and sell individual lots. Development of related infrastructure is not included in the developers' contracts, and thus tends to be delayed. For the Hpaan industrial estate, jetties on the Thanlwin River and the access road need to be improved. For the Myawaddy industrial estate, power supply needs to be improved as a matter of urgency.

## **6.9 Mixed and Integrated Farming Promotion Program (Project 9)**

The Southeast Myanmar is not considered high priority agricultural region in the national context, and in particular, its comparative advantage for rice production is rather low. Still, the Southeast Myanmar as a whole has attained rice self-sufficiency, and production increase is possible to maintain the self-sufficiency even with the increasing population including returning refugees and IDPs in the foreseeable future.

A unique cropping pattern has been established in the Southeast Myanmar, adapting to the very large annual rainfall on the one hand and the distinct dry season on the other. A typical cropping cycle is production of paddy during the rainy season, followed by cultivation of field crops such as pulses and oil crops as second crops by utilizing residual soil moisture after the rainy season. To cope with the harsh climatic conditions, tree crops and livestock are comparatively more important to reduce the risk of flooding and droughts.

The Union Government policy to increase paddy production promotes a high input-high yield model, which may not be suitable to the climatic conditions in the Southeast Myanmar. As the Region has a distinct dry season with practically no precipitation despite the large annual rainfall, double cropping of paddy would require significant irrigation development, which may not be undertaken in the near future.

To increase the agricultural production under these situations, mixed farming combining paddy and field crops and integrated farming combining crop production and livestock are comparatively more important in the Southeast Myanmar. Such models of mixed and integrated farming should be established through ingenious experiments. It is considered an important issue for the regional development of the Southeast Myanmar to pursue alternative socio-economic activities, which are not resources-intensive but environmental friendly.

To establish proper models of mixed and integrated farming suitable to the Southeast Myanmar through experiments, a technical cooperation implementation project may be undertaken. Technical issues to be addressed include diversification of second crops, partial introduction of farm mechanization, and small scale supplemental irrigation.

## **6.10 Productive Re-forestation Program (Project 10)**

In the Southeast Myanmar, there exist hills that have been cleared during the conflict and left unused, opened areas in reserve forests for rubber plantations and horticultural activities, areas cleared for settlement by slash and burn. These areas should be re-forested as a matter of urgency, and in principle, productive re-forestation should be undertaken by planting with fruit trees and cashew trees. Planting with rubber trees is not recommendable on slope land as rubber trees with shallow root zone tend to induce to top soil erosion.

Productive re-forestation would contribute to the return and settlement of refugees and IDPs. If the re-forestation is started immediately, the trees will grow to productive age during five years or so, when the return is accelerated and initial supports by the Government continues. The productive re-forestation should be undertaken by the Government, and once returnees settle, the management of re-forested areas should be entrusted to the returnees and mixed farming may be practiced there with tree crops to allow them to establish their economic activities.

The productive re-forestation may be first undertaken in the area along the road from Myawaddy to

Wawlay and Sukali, and the area around the settlement sites in Hpayarthonesu. The former will contribute to the expansion of the existing settlement in Mithalemnyia, and the latter should be undertaken as part of Project 1.2 (1) described above.

### **6.11 Social Development Model Project (Project 11)**

It is important that the regional development of the Southeast Myanmar will benefit not only returnees but local people widely including the poor so that nobody will be left out of the development. To ensure this, model projects for social development will be formulated and implemented. For initial implementation, such areas in Kayin and Mon States will be selected that are considered to be relatively poverty stricken. To ensure success of the initial projects, however, so that the model implementation would be continued and expanded, areas having relatively better access should be selected.

As candidate areas for the model projects, Paingkyon STS in Kayin State and Bilin TS in Mon State are suggested. Paingkyon STS was affected by decades-long conflict, but some refugees have started to return. Common social facilities to be shared by both existing residents and returnees may be provided. The interior of Bilin TS used to be dominated by KNU, but is now stable for development jointly with the State Government. The access road will be improved by Project 5.2, but an area of relatively good access should be selected for the initial model project.

Each model project may cover school, clinic, community hall and other public facilities, water supply, power supply and other infrastructure facilities.

### **6.12 Implementation Support for Integrated Regional Development Master Plan (Project 12)**

Once the integrated regional development master plan is prepared, its implementation should be promoted and management of project implementation should be supported to realize the development as planned. Also the participatory approach to development that will be pilot implemented during the master planning should be institutionalized. Such a participatory mechanism should constitute part of the development administration complementing the State Government administration, and strengthen the local administration.

This new mechanism would substantiate the localization policy of the Union Government, and serve as a model for development planning and administration to other regions as well. These follow up activities may be undertaken by a technical cooperation implementation project.

### **6.13 Feasibility Study of Kyaikkhami Regional Port Stage 1 (Project 13)**

The Kyaikkhami regional port development project will be further examined by the forthcoming integrated regional development master planning (Project 1.3) and its stage wise development will be planned. This may be followed by a comprehensive feasibility study for the first stage development with environmental impact assessment during 2014-15. Depending on the results of the feasibility study, detailed design may be undertaken during 2016-18. Construction works for the first stage development may be undertaken during 2019-22 so that the port operation will start in 2023 as envisioned. This is considered the earliest possible case for the Kyaikkhami regional port development.

## **6.14 River Basin Development and Management Master Plan (Project 14)**

The Southeast Myanmar suffers from major floods during the rainy season, which disrupt access to many areas in the Thanlwin River and its tributary basins. Major river basins should be developed and managed starting from upper catchment areas to alleviate flooding and use rich water resources to improve living conditions.

Five river basins have been studied at a preliminary level by the initial study. These basins contain conflict affected areas, areas where multiple ethnic groups are active, basin with a large dam planned, and border areas with Thailand. Early implementation of significant development is difficult, and careful planning should be undertaken first. Existing plans, on-going activities and intention of ethnic groups should be examined as part of the integrated regional development master planning, and priority for development should be assessed.

The river basins covered by the initial study are listed below together with related ethnic groups:

- (a) Megathat River, a tributary of the Zami River, for water supply, mini hydro power, and flood mitigation in association with KNU;
- (b) Bilin River for water supply, hydro power development, irrigation and watershed management in association with KNU;
- (c) Donthami River for water supply, mini hydro power, and watershed management in association with KNU;
- (d) Ye River for water supply and mini hydro power in association with NMSP; and
- (e) Megala River, a tributary of the Moei River, for water supply, irrigation and mini hydro power in association with DKBA-BGF.

Of these river basins, the Megathat River basin located in the upstream of the Zami River is expected to be a source of water supply to Hpayarthonesu, and its development and management would contribute to the improvement of road access in the downstream areas by alleviating floods of the Zami River. The Bilin River basin contains former conflict affected areas and a large dam is planned. A complete review of the existing plan will be necessary as the planned dam would necessitate a large number of people to be relocated. The Malaga River is a tributary of the Moei River on the border with Thailand, and therefore negotiation with the Thai side would be necessary for the development and management of the river basin.

## **6.15 D/D of Hpayarthonesu – Thanbyuzayat Road (Project 15)**

Following the F/S (Project 2), detailed design will be undertaken for the Hpayarthonesu – Thanbyuzayat road, to be followed by implementation with a concessional loan.