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Japan International Cooperation Agency

SHAN STATE INVESTMENT OPPORTUNITY



Survey Report

March, 2017

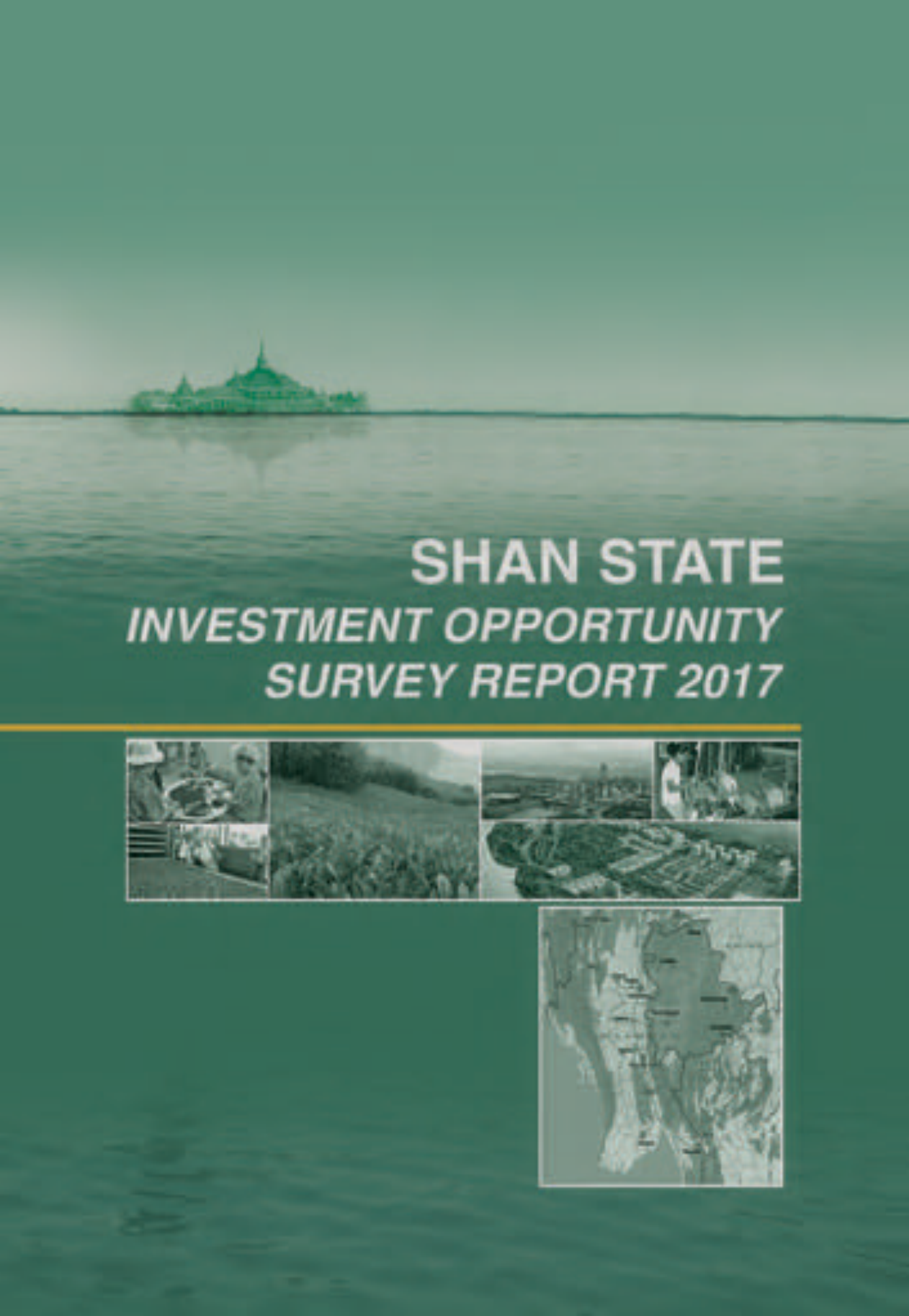
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Myanmar Marketing Research & Development Co., Ltd.



SHAN STATE

INVESTMENT OPPORTUNITY SURVEY REPORT 2017



SHAN STATE INVESTMENT OPPORTUNITY

SURVEY REPORT 2017



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Preface

Shan State is the largest state in area among states and regions of Myanmar, which has 155,796 km² (23% of the Myanmar land size) of vast and diversified land that enables huge potential for agriculture, food processing, tourism and other industries. It also shares long border line with neighbouring countries and acts as the most active gateway for border trade through Muse and Tachileik. In addition, appropriate climate at highlands encourages wide variety of income generating crops and agro-products such as vegetables, fruits, tea, coffee and other cash crops. It also brings growing number of tourists to the State's well-known touristic destinations such as Inle Lake.

In order to capture such potential more effectively, Shan State Investment Opportunity Survey has been conducted by Myanmar Investment Commission (MIC) and its secretariat Directorate of Investment and Company Administration (DICA), supported by Japan International Cooperation Agency (JICA) under its technical cooperation programme with DICA and implemented by Myanmar Marketing Research & Development (MMRD) from November 2016 to January 2017 in Shan State.

The Shan State Investment Opportunity Survey is simultaneously conducted with the Shan State Investment Fair, which was held on 10-11 February 2017 in Taunggyi, co-organized by MIC, JICA and Shan State Government, with the support of the Southern Shan State Chamber of Commerce and Industry (SSCCI), Japan External Trade Organization (JETRO) and MMRD. The Shan State Investment Fair, which was composed of Investment Seminar, Exhibition, Business Matching Event and Site Visit Tour, attracted 450 participants and shared various untapped potential investment opportunity information. Draft outcome of the Survey was presented in the Investment Seminar of the Fair.



Based on the Economic Policy issued in July 2016 under the new government, "Investment Policy" was formulated and issued in November 2016, which identifies foreign investment is incredibly crucial for national development and promises to improve investment climate for attracting responsible foreign investment. The Investment Policy welcomes 8 types of businesses including, Agro-based industries with productivity-enhanced and value-added, and Tourism related investment, both of which exactly Shan State has maximum potential. Furthermore, our new Myanmar Investment Law enacted on 18 October 2016 will provide potential investors with better investment climate and streamlined regulatory framework, as well as enhancing investment in less developed but developing area such as Shan State.

We hope this Shan State Investment Opportunity Survey Report helps investors to consider investment in Myanmar in particular Shan State.

With best wishes,

U Aung Naing Oo
Secretary
Myanmar Investment Commission
Director-General
Directorate of Investment and Company Administration

Background of the Shan State Investment Opportunity Survey

Foreign Direct Investment (FDI) is considered as an engine of growth and highly prioritized in Myanmar. The Myanmar Investment Commission (MIC) is responsible for Promotion of Investment.

In order to achieve balanced economic development as the national agenda, regional investment promotion is considered to be important but its strategy and implementation have not been fully materialized. With an agenda to address these issues, "Mandalay Investment Opportunity Survey and Investment Fair" was successfully conducted in 2015.

Building on the results of "Mandalay Investment Opportunity Survey and Investment Fair 2015", MIC and the Japan International Cooperation Agency (JICA), which currently dispatches a JICA Expert as an advisor on investment promotion in Directorate of Investment and Company Administration (DICA) of Ministry of Planning and Finance jointly organizes the "Shan State Investment Opportunity Survey and Investment Fair 2017".

Located in north eastern part of Myanmar, Shan State is bordered by Kachin State to the north, Sagaing and Mandalay Regions to the west, Kayah State and Kayah to the south while sharing border with Laos to the east, Thailand to south-east and China to the north-east, which acts as the most active gateway for border trade through Muse¹ in particular and Tachilek. With the area of over 60,155 sq. miles, Shan State is the largest constituent unit of Myanmar with 23% of total land area.

Apart from being the trading hub of Myanmar, Shan State offers various types of investment opportunities due to its location in Myanmar and strategic linkages as the regional hub between China and Thailand. The region also provides raw materials for different industries including food processing and agro-based products. Therefore, providing linkage between the potential investors and the local business partners can trigger unprecedented economic developments to the region.



For this purpose, Myanmar Marketing Research and Development Co., Ltd. (MMRD) was contracted with JICA and conducted the Survey and Fair in order to identify untapped opportunities for investment in Shan State area with evidence, to promote the identified investment opportunities in and Shan State for potential investors, and to enhance linkages between Shan State local business and foreign/domestic investors.


Executive Summary

One of the largest states in Myanmar (in area), Shan State occupies a strategic geographic location in the country. It is an active gateway for border trade and a high potential area for investments in sectors such as tourism and hotels, trading and manufacturing. Other sectors which also carry a lot of potential include agriculture, cement and mineral processing. Agri-products such as maize, fruits, garlic from the State have been exported to China, Thailand, and coffee, tea to the U.S and Europe.

Shan State also has large acres of land which could be extended to develop agriculture zone, industrial zones, entertainment, recreation and leisure centers, and resorts, among others.



Despite the abundant opportunities, there has been limited foreign and local investment in the state. According to Directorate of Investment and Company Administration (DICA), as of January 2017, US\$ 735 million had been invested in the state from 13 FDI's, mostly in electrical power generation, and MMK 627 billion had been invested by 59 Myanmar citizens, mostly in the hotel and tourism sector. According to the notification under the new Investment Law 2016, 55 townships in Shan State have been designated as the Development Zone (1) and (2) which can enjoy tax exemptions for seven (7) years and five (5) years respectively.



According to business perspective of the investment opportunity survey, 45% answered that Shan State has attractiveness for investment incentives currently. Responses on investment environment on Macro-economy, regulatory framework, infrastructure, labour, land and access to finance are fair. Better respond was made on Logistics. Current situation of the respondents' businesses is slow but 60% of them expected that there will be good business prospects in the next three years. Most have the opinion that high potential businesses for investment are agro-based value-added products production, hotels and tourism sector and agri business.

Shan State has experienced electricity and labour shortages, as well as security concerns which have hindered its development. The region must prioritize on the following:

- 1) Improvement in peace and stability situation in the state
- 2) Expansion and development of existing industrial zones, and further development zones to create job opportunities
- 3) Transformation of the production of primary agricultural products into food processing
- 4) Local and international investment in regional electrification

The Shan State Government is encouraging investments in Shan State by allowing land, supplying electricity, managing infrastructure development and quick investment permit to attract foreign and local investment. DICA (Taunggyi Branch) and other line departments are improving their services to investors. Generally investment environment in Shan State is found better prospect.

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nation
AH	Asia Highway
B2B	Business - to - business
BOT	build, operate and transfer
CSO	Central Statistical Organization
DICA	Directorate of Investment and Company Administration
FDI	Foreign Direct Investment
FIL	Foreign Investment Law
FY	Fiscal Year
GDP	Gross Domestic Product
JICA	Japan International Cooperation Agency
IZ	Industrial Zone
JETRO	Japan External Trade Organization
KII	Key Informant Interview
MCDV	Myanmar Comprehensive Development Vision
MIC	Myanmar Investment Commission
MMK	Myanmar Kyat
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MMRD	Myanmar Marketing Research and Development Ltd
MPT	Myanmar Posts and Telecommunications
SEZ	Special Economic Zone
SMEs	Small and Medium Enterprises
UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry
US	United States

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SHAN STATE

INVESTMENT OPPORTUNITY SURVEY REPORT 2017

1

Macroeconomic Overview of Shan State



1. MACROECONOMIC OVERVIEW OF SHAN STATE

This section provides a brief overview of Shan State's economy. The information is presented from the perspective of government officials interviewed for this research.

1.1 Brief Profile of Shan State

Figure 1: Map Shown Shan State in Myanmar



Source: MMRD Business Insight

Table 1: Key Facts and Figures of Shan State

Size	60,155.23 Square Mile (155,801.33 Square Kilometer)
Population	5,960,000 (2015 - 16) 4 th populated state (11.56% of union population) Population density - 37/km ²
Number of households	1,169,569
Number of districts	13
Number of townships	55
Capital	Taunggyi
Gross Domestic Product	7.5% of overall GDP (FY2015 - 16)
Major industries	<ul style="list-style-type: none">● Agriculture and agro based processing● Trading and logistics● Minerals and mining● Tourism

Located in the north eastern part of Myanmar, Shan State is bordered by Kachin State to the north, Sagaing and Mandalay Regions to the west, and Kayin and Kayah States to the south. Shan State borders Laos to the east, Thailand to the south - east and China to the north - east. Shan State is the largest constituent unit by geography of Myanmar with an area that covers over 60,155.23 square miles (155,801.33 Square Kilometer) - 23% of the total land area. According to the 2014 Myanmar Population and Housing Census, Shan State is largely rural by 76% and 24% urban.

Major cities in Shan State include Lashio city (Northern Shan) which has a population of 174,335, Keng Tung city (Eastern Shan) which has a population of 44,289 and Taunggyi city (Southern Shan) which has a population of 264,804. Taunggyi is the capital of Shan State, located 456 miles (716 km) north of Yangon.

Shan State generally has a tropical climate with low temperatures as it falls in the hilly region. In the coldest months of December and January, the average temperature of the region is 21°C (70°F) to 26°C (80°F). The highest temperature in Konglung, Lashio, Hsipaw and Nyaung Shwe towns in low valleys is 37°C (100°F) at daylight. Rainfall is over 60 inches in the hills and over 40 inches in the valleys. South - west monsoon brings rainfall into the state and waves of whirlwind from the South China Sea produce rainfall in late monsoon.

Shan State is the trading hub of Upper Myanmar, connecting the country with China and Thailand, both of which are major trading partners. The distance to the China border is 778.9 km from Taunggyi to Muse, and 698.5 km to the Thai border from Taunggyi to Tachileik.

1.2 Administrative Structure

On account of its large geographical area and ethnic complexities, the administrative structure of Shan State is different from that of other states/ regions in the country. The state is divided into three regions - Southern, Northern and Eastern Shan - with 13 districts and 55 townships in total. Southern Shan where the capital city located is divided into 22 townships, 35 towns, 240 wards, 419 village tracts and 4893 villages. Shan State has the largest number of ethnicities in the country by 34 which are being home to Shan, Burma, Han-Chinese, Wa, Lisu, Danu, Intha, Lahu, Ta'ang, Pa-O, Taungyo, Ahkha ethnics etc.

Table 2: Administrative Structure of Shan State

Shan State	District	Township	Town	Ward	Village Tract	Village
Southern	3	22	35	240	419	4,893
Northern	7	23	32	180	707	4,724
Eastern	3	10	18	77	193	2,912
Total	13	55	85	497	1,319	12,529

Source: Shan State Government documents

Figure 2: Map of Administrative Structure of Shan State



Source: MMRD Business Insight

1.2.1 Self - Administered Regions

There are five self - administered zones and one self - administered division in Myanmar. The self - administered zones and divisions, which are overseen by governments known as leading bodies, and sit below the regional governments. Under the constitution of 2008, these leading bodies have legislative power over 10 areas, including development affairs, public health, water and electricity but none have yet promulgated a law.

Four self - administered zones and one self - administered division are situated in Shan State and one self - administered zone is located in Sagaing Region.

The location of self-administered zones in Shan State is shown in Figure 1. Danu self-administered zone is located Pindaya, Kokang self-administered zone is located in Laukkai, Pa-O self-administered zone is located in Hopong, Pa Laung self-administered zone is located in Namhsan and Wa self-administered division is in Hopang in Shan State. Naga self-administered zone is located in Lahe Township in Sagaing Region.

Figure 3: Shan State Map with Districts and Self-Administered Areas



Source: MMRD Business Insight

Table 3: Brief of Shan State by Three Regions (2015 - 16)

	Southern Shan	Northern Shan	Eastern Shan
Size (Sq ml)	21,652.97	23,655.70	14825.64
Population	2,405,983	2,520,258	898,191
Per Capital GDP (Kyats)	629,414 (USD 524)	612,682 (USD 510)	552,249 (USD 460)
Overall GDP share	43 %	43 %	14 %
Major industries	<ul style="list-style-type: none"> ● Agriculture and agro based processing ● Trading and logistics ● Minerals and mining ● Tourism 	<ul style="list-style-type: none"> ● Electricity ● Road construction ● Hotel tourism ● Agriculture and livestock 	<ul style="list-style-type: none"> ● Agriculture ● Livestock ● Hotel & tourism ● Mining

Source: Shan State Government

1.3 Economy

Shan State is strategically located in Myanmar - it is among the country's main centers of trade with the largest trade zone, Muse, accounting for 75% of total border trade and 20% of total trade. Shan State also contributes to employment generation and economic development in Myanmar. The economy of Shan State is primarily based on agricultural production for most of the population along with industrial manufacturing, trading and tourism.

The region is endowed with agricultural and forest products - the primary crops grown in Shan State are peas, corn, tomatoes, cabbage, garlic, oranges and avocados. Livestock and fresh water fisheries are also important to the region's economy. Shan State is an important storage, processing and distribution hub for agriculture and livestock products. The region is also home to wineries, sugar mills and food processing factories. Minerals and precious materials are also produced in some areas including Wa and Pa-O' self - administrative regions.

36.6% of Shan State's GDP is from services sector. Tourism also forms a substantial part of Shan State's economy. The picturesque Inle Lake, the ancient Kakku pagodas, the Pindaya limestone caves and trekking spots in Kalaw are popular with tourists. The Inle Phaungdaw Oo Pagoda Festival is famous and there are boat race competitions of one - legged rowers.

Due to its strategic location in the east of Myanmar, Shan State has strong border trade with China and Thailand, transporting primary goods such as rice, corn, fermented peas, cigarettes, sesame, green tea, black tea and minerals.

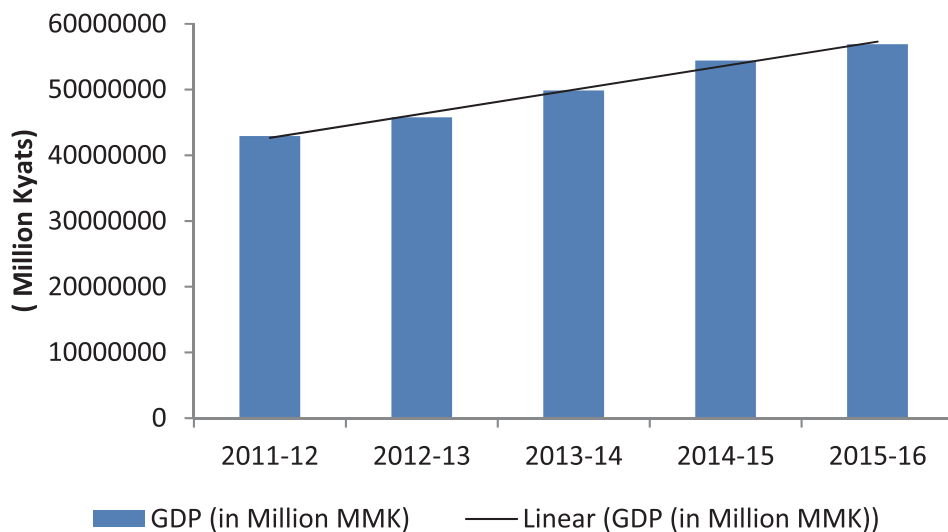
With thriving agricultural exports, trade and transportation as well as tourist destinations, Shan State contributes significantly to Myanmar's economy. The region contributes around 7.5% of Myanmar's GDP, behind Yangon Region (22%) and Sagaing Region (11.6%) and Mandalay Region (11.4%) in during FY2015-16. The regional government plans to achieve an average growth of 5.3% during its five - years term (FY2011-12 to FY2015-16) with regional GDP per capita of MMK 726,659 for FY2015-16.

Table 4: Contribution of Shan State

Fiscal Year	FY2011-12	FY2012-13	FY2013-14	FY2014-15	FY2015-16
Contribution to Myanmar's GDP (In Current Prices)	7.3%	7.3%	7.5%	7.4%	7.7%

Source: Ministry of Planning and Finance

Figure 4: GDP of Shan State



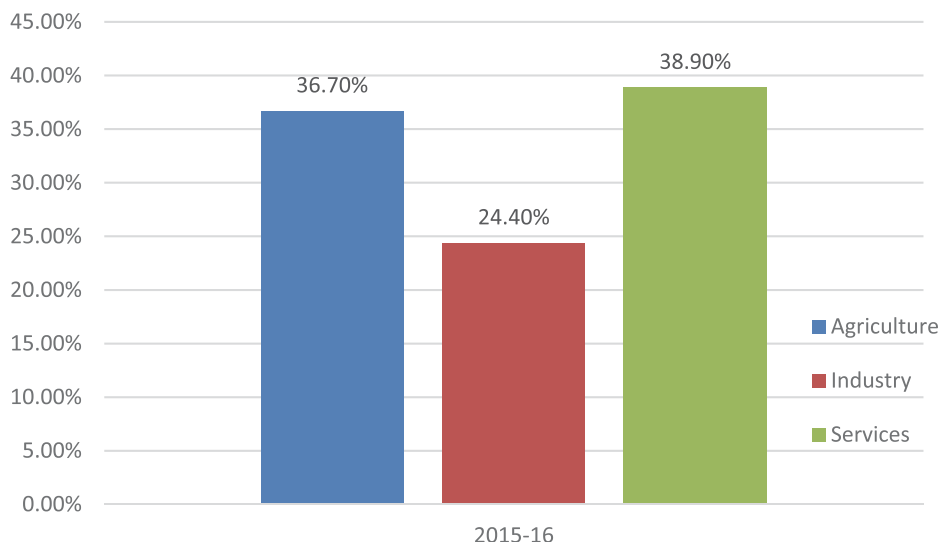
Source: Ministry of Planning and Finance

The key sectors which contribute to Shan States GDP include agriculture, industries and services. Agriculture includes agriculture farming, livestock, and fishery and forestry sectors. Industry includes energy, mining, processing and manufacturing, electric power and construction. Services cover tourism, transportation, communication, financial institutions, social and administrative services, rentals and other services including trade.

The region's GDP used to be mainly derived from primary products such as agriculture and forestry. During FY 2001 - 2002, for instance, agriculture accounted for 39.53% of Shan State's GDP. However, it was reduced to 36.68% in FY 2015 - 16, with increasing contribution from the industry and service sectors. The industry and service sectors could become important contributors to Shan State's GDP by nurturing and enabling the unutilized and young labor force in labor - intensive industries, increasing technical assistance in food processing and developing tourism destinations. Furthermore, foreign investors will potentially be more attracted by the industry and service sectors as they could develop the untapped market as well as providing employment to the local community.

A) Southern Shan State

Figure 5: GDP Contribution of the Southern Shan State by Sector in 2015 - 16



Source: Planning Department, Ministry of Planning and Finance

Taunggyi is the capital of Shan State and Southern Shan State has an estimated population of 2,405,983 as per the 2014 Myanmar Population and Housing Census. It is the region with the second largest population among the three regions. The per capita GDP in Southern state is 629,414 kyat in 2015 - 16 which is also the second largest amount of income by per person comparing to the rest of two regions. But, it is the fifth largest city in Myanmar and the name of districts included in this region are Taunggyi, Loi Lum and Lin Ke plus two self - administered zones and Da Nu. According to the 2015 - 16 GDP data in Southern Shan State by Planning Department, the agricultural sector has the highest share with 40 % while the industrial sector has 26 % and services sector contributes 33.8 %.

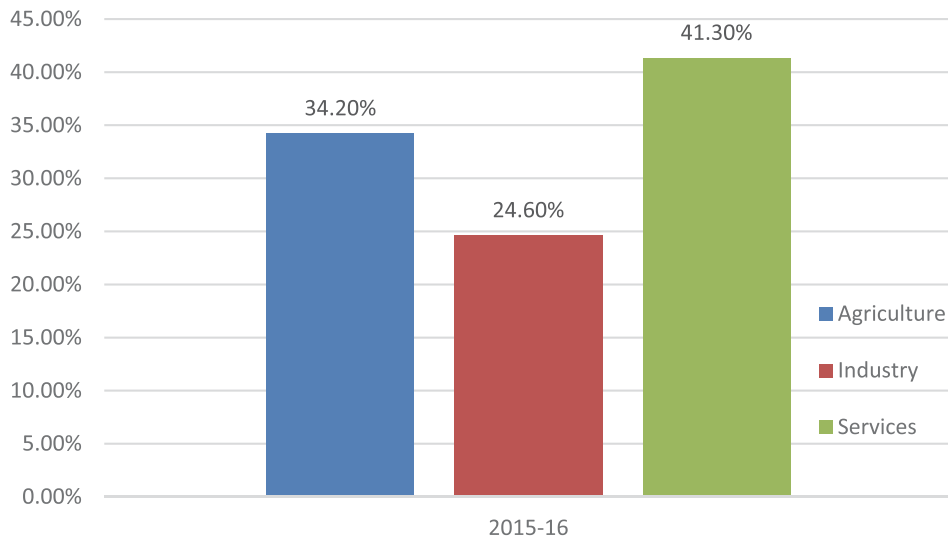
Southern Shan State mainly focuses on the agricultural sector. The Aye Thar Yar Industrial Zone in this region is not that developed as the land area for this industry is quite small. The challenges of this region are water scarcity and ground water is getting deeper and sustainability of Inle Lake.

The main contribution of Aye Thar Yar industrial zone is creating employment opportunities for about 2,000 workers. The potential businesses in Shan State are cement factories, mineral purifying factories, sugar factories, food processing of mango, tea leaves, coffee, and the production of grapes wine.

The potential businesses are the value added businesses of tea leaves, mango, avocado, potato, tomato, cabbage, garlics, and sunflowers (rainy and winter season), with proper quality control, it is possible to export them to neighboring countries where there is demand. The garlic harvested in Shan State is exported to Thailand mainly. The existing orange farm has challenges related to seed quality, the size of the fruits and the production rate has been decreasing and the expenses have been increasing. The local fruits cannot compete with the imported fruits from China. Therefore, since 2010, mango trees are replaced by orange trees. The farmers do not have knowledge about the market, they only have experience on how to plant and harvest. It is essential to make farmers aware of the products that are demanded in the market which will make them profitable. Myanmar is required to pay high tax to China on imports. There is a lack of cold storage facilities and vehicles, which has led to challenges such as high logistic cost and perishable. The potential businesses include 1) avocado farming for the Japan, China, and Thailand markets, 2) the production of oil from corn (CP), 3) mass production corn milling 4) the production of oil from fermented peas and 5) the production of value added dry tea leaves. In Ywar Ngan, an American firm produces and exports value added dry tea leaves which are processed with American machines.

B) Northern Shan State

Figure 6: GDP Contribution of the Northern Shan State by Sector in 2015 - 16



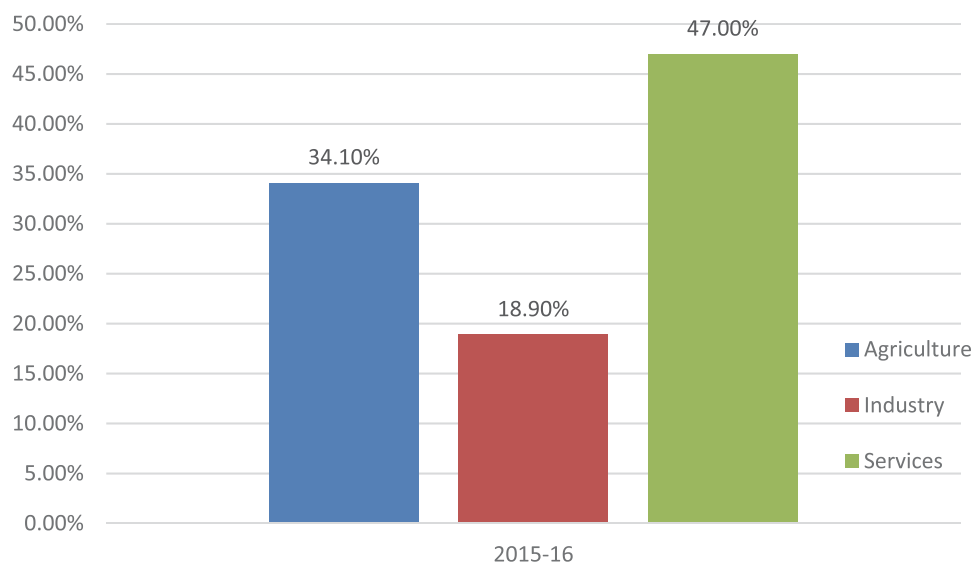
Source: Planning Department, Ministry of Planning and Finance

Northern Shan State has a population of 2,520,258, the capital being Lashio. The per capita GDP of this region is 612,682 kyats which is the second highest amount compares to Eastern region. The major economic contribution of Northern Shan State is in the services sector which accounted for 41.3% of the state's GDP in the fiscal year 2015 - 2016. The highest total production within the services sector in this region comes from transportation.

In the agricultural sector of Northern Shan State, in terms of production volume, rice has the largest contribution of total GDP, followed by tea leaves plantations and maize plantations. The cash crop of maize is mainly exported to China while the production of tea leaves in this region is mainly consumed in the domestic market. Although the exports of maize and tea leaves are currently profitable for the local market, there are environmental concerns such as declination of soil quality and soil fertility in the area, if farmers in Northern Shan continue to practice slash and burn cultivation for these cash crops. According to the local businesses, the production of meat, dairy and a variety of eggs in this region present potential opportunity to transform the value added food processing industrial zones so as to promote exportable products and create jobs in the region.

C) Eastern Shan State

Figure 7: GDP Contribution of the Eastern Shan State by Sector in 2015 - 16



Source: Planning Department, Ministry of Planning and Finance

The capital city of Eastern Shan State is Keng Tung and the total area of its region is 14825.64 sq. miles. Total population of the region is 228,015 in 2015 - 16. The total GDP of this region was 3,554,500 billion kyat in the fiscal year 2015 - 2016 which makes up to 13.95% of the whole Shan State GDP. The per capita GDP of this region is 552,249 kyats. Gardening, cultivation of perennial crops and terrace farming are significant in this region. Border trade at Muse and Tachileik has strengthened the service sector, which contributes 47% of the state's GDP.

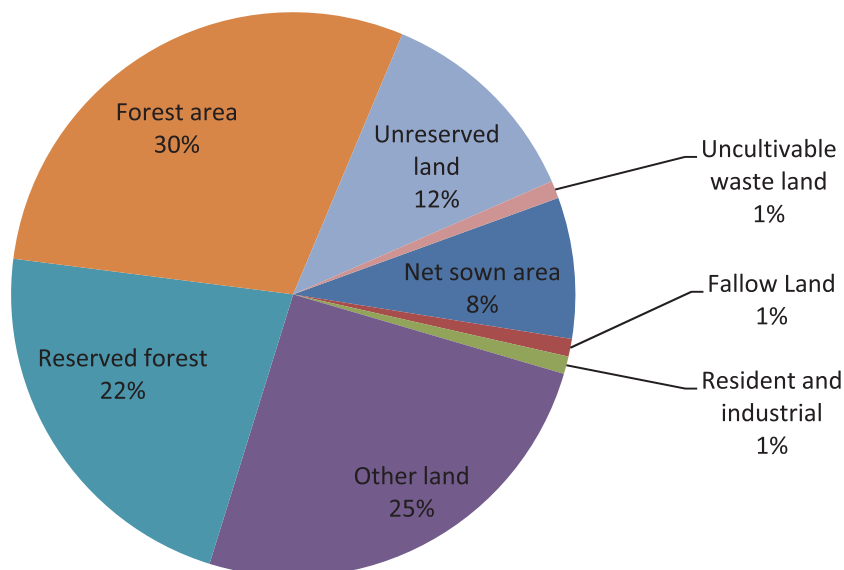
The main agricultural product of this region is rice, which is traded largely through Mong - La Township to China. The diversity of crops grown in this region has contributed to the wealth of the farmers and their livelihoods in the agricultural sector. Star beans, rubber and tea leaves are high potential crops in Keng Tung in Southern Shan - the process from primary production into production using high production techniques can help create job opportunities for local people.

Other crops grown in this region include maize, ground nuts, sesame, beans, potatoes, onions and chili. Livestock, mining and tourism sectors are also significant contributors to the region's economy. As the region is connected to the Thai and Chinese borders, tourism in particular could boost the local economy. Although China is a key country for the region in relation to border trade, difficulties in transportation, high toll costs, ethnic insurgencies which affect political stability and closing of border gates create significant challenges.

In Tachileik, mining purification is a promising enterprise. However, expensive and insufficient supply of electricity purchased from Thailand and labor migration to the same has created bottlenecks. Labor shortage in the area is likely to persist as Thailand's economy, high wages and peaceful environment are a major draw. Even though the region has an industrial zone, factories have been importing goods from Thailand due to which there is almost no production in factories. This has contributed to the collapse of manufacturing in the area, along with inadequate electricity and Myanmar goods not being comparable to Thai products. Transforming the agricultural food processing sector could potentially improve the industrial sector and create job opportunities.

1.4 Land Utilization

Figure 8: Land Utilization in Shan State



Source: Department of Agriculture, Ministry of Agriculture, Livestock and Irrigation

Table 5: Land Utilization of Shan State (acre) in 2015 - 16

Sr.	Type of Land	Southern Shan	Northern Shan	Eastern Shan	Total
1	Net Sown areas	1,310,878	1,230,784	475,569	3,017,231
2	Fallow land	91,229	344,087	25,383	460,699
3	Cultivable Waste Land	15,374,265	494,549	35,439	15,904,253
4	Reserved Forests	4,902,896	1,579,958	2,055,400	8,538,254
5	Other Forests	4,235,662	628,873	5,714,373	10,578,908
6	Other	12,618,098	3,282	3,354,439	15,975,819
	Total	28,209,730	4,281,533	9,997,90	38,207,420

Source: Department of Agriculture, Ministry of Agriculture, Livestock and Irrigation

There are six types of land classified under agricultural land utilization in Shan State, namely Net Sown Areas, Fallow Land, Cultural Waste Land, Reserved Forest, Other Forests and Other. The total net sown area in Shan State is 3 million acres. Among the three regions, Southern Shan State has the largest amount of land at 1.3 million acres, followed by 1.2 million acres in Northern Shan and 475,569 acres in Eastern Shan. Cultivable waste land areas are big as well - Southern Shan State has 15.3 million acres, Northern Shan State has 494,549 acres and Eastern Shan State has 35,439 acres. Presumably, other forest land can be used as agricultural land, but the soil will need to be tested for use as cultivable land. Nonetheless, fallow land and cultivable waste land can potentially be used as industrial land for new investors in particular regions of Shan State.

1.5 Agriculture

Table 6: Major Crop Cultivations in Shan State (Acre) 2015 - 2016

Sr.	Name of Crops	Unit	Shan (South)	Shan (North)	Shan (East)	Total
1	Rice	Acre	574,260	443,864	313,201	1331,325
2	Wheat	Acre	21,224	17,498		38,722
3	Corn	Acre	3,371	28		3,399
4	Oil Crops	Acre	255,485	168,895	29,983	454,363
5	Ground Nut	Acre	66,251	46,065	18,621	130,937
6	Sesame	Acre	23,026	10,095	5,858	38,979
7	Sun Flower	Acre	26,045	4,574	2,861	33,480
8	Bug wheat	Acre	124,290	80,956	2,409	207,655
9	Mustard	Acre	3,487	2,227		5,714
10	Rubber	Acre	1,128	81,382	100,884	183,394
11	Potatoes	Acre	43,511	7,699	3,475	54,685
12	Maize	Acre	251,611	335,928	49,321	636,860
13	Mango	Acre	15,179	2,382	2,760	20,321
14	Pulses and Beans	Acre	226,436	131,921	52,853	411,210
15	Coffee	Acre	10,691	15,061	1,883	27,635
16	Mandarin Orange	Acre	11,060	7,477	1,912	20,449
17	Tea	Acre	58,146	137,660	4,699	200,505

Source: Department of Agriculture, Ministry of Agriculture, Livestock and Irrigation

Shan State has had different varieties of major crops across regions; although some of the crops are common to all regions, they have been diverted into different crop types. Rice is grown in all three regions - Southern Shan has cultivated 574260 acres, Northern Shan has cultivated 443864 acres, while Eastern Shan has cultivated 313,201 acres according to the 2015 - 2016 data. Similarly, paddy, maize, pulses and beans, oil seeds, ground nuts, sesame, sunflower and other oil seeds, and rubber crops are common to all three regions in the state. Oil seeds and rubber in particular are grown extensively and are advantageous for investment - these commodities are mainly sold as primary crops in the domestic and international market, but could potentially be transformed towards value added food processing outputs with local and international investment. This would create job opportunities and pull communities out of poverty in the region, possibly even spilling over wealth to other regions.

Table 7: Production of Major Crops in 2015 - 16

Sr.	Crop	Unit	Production from Shan State			
			Shan (South)	Shan (North)	Shan (East)	Total
1	Potatoes	Ton	319,937	30,817	14,386	365,140
2	Maize	Ton	15,140,616	14,939,467	9,154,930	39,235,013
3	Mango	Nos. (000)	133,938	29,040	31,058	19,4036
4	Pulses and Beans	Ton	107,315	79,692	25,945	212,951
5	Coffee	Ton	1,561	3,591	88	5,241
6	Mandarin Orange	Ton	179,605	41,190	30,742	251,538
7	Tea	Ton	25,786	59,994	1,325	87,105

Source: Department of Agriculture, Ministry of Agriculture, Livestock and Irrigation

Fruits and vegetables are key produce of Shan State. The Myanmar Fruits and Vegetables Producers and Exporters Association (MFVPA)(Shan State) is based in Taunggyi and works with grower cluster groups. The nine key cluster groups include producers of avocados, cabbage, coffee, wheat flour, tomatoes, mangos, tea leaves, and potatoes in 12 townships. The association aims to build the capacity of the producers in terms of production, technology, and farm management to match standards in Asia and the world. The association provides marketing support, organizes national and state - level trade fairs, participates in international trade fairs showing Southern Shan's products, and provides business linkages and services for members and potential partners.

Tea consumption in domestic and international markets has increased - 1.5 tons of tea is exported to Germany and there is significant potential in the EU market in general. The Myanmar Fruits and Vegetables Producers and Exporters Association (MFVPA) organized the Avocado trade fair was held in Hopone Township from 9 to 12 of February 2017. Tea farmers are also capable and been certified as organic. The coffee grown in the state is regarded as world class; Ywa Ngan coffee for instance has been given Geographical Indication (GI), the same designation that protects if some other company want to produce and sell coffee products under the name of Ywangan coffee will now be charged a fee. However, a bulk of the product is sold in the domestic market; exports are challenging because semi - processing techniques are required and producers need more inputs such as fertilizers, pesticides and seeds. There is potentially an investment opportunity in the provision of fertilizers for fruits and vegetables.

Each sub - sector has capable, trained farmers and farmers' leaders; they have received technology support from USAID, FAO and GIZ. Local agribusinesses such as KBZ and Shwe Yaung Linn coffee, as well as agribusinesses in Heho, are looking for partnerships and joint ventures. The vegetables and seeds agribusinesses need investors as well; for instance, 4500 tons of potato seeds are required every year. Value added products like mango, potato and potato chips need investment. Vegetables production in general is a good investment opportunity - approximately 60% of the vegetable supplies coming from Southern Shan State are for local consumption. Investment opportunities also exist in the tourism sector, green technology, and solar driers for food processing and irrigation for trees, which are all important issues in the state.

Agriculture Zone in Shan State

Of the 3.5 million acres of vacant land available in Shan State, over 1.3 million acres are used to plant paddy, which accounts for over 37% of the total crop area. Seedless corn accounts for 16% of total crops, cultivated over 500,000 acres. The third most - grown crops are fermented beans and tea leaves. To support agricultural sector development, initiatives such as drawing up crop plans, development of agricultural zones by type of crop, exemplary plots for educating farmers, conducting research and establishing media and archive departments have been implemented. Marketing activities based on crop types and agricultural zones for paddy, seedless corn, wheat, rubber and vegetables are being developed local distribution and foreign export.

Table 8: Agricultural Zone in Shan State

Sr.	Crop Name	Unit	Shan South	Shan (North)	Shan (East)	Total
1.	Paddy	Acre	200	500	300	1,000
2.	Maize	Acre	100	300	100	500
3.	Wheat	Acre		100		100
4.	Rubber	Acre		100		100
5.	Vegetable	Acre	100			100
	Total	Acre	400	1,000	400	1,800

Source: Department of Agriculture, Ministry of Agriculture, Livestock and Irrigation

1.6 Water Resources

In Shan State, water from dams, lakes and reservoirs has been used for agricultural purposes. Embankments, drains and water gates are being constructed for flood prevention. According to Shan State government documents, there are a total of 695 dams/reservoirs in Shan State of which 115 dams are maintained by village tracts, 20 dams have been constructed by the Department of Progress of Border Areas and National Races, 129 dams have been constructed with village development funds and the remaining 391 are private dams. These dams benefit a total area of 229,060 acres. The 40 dams maintained by the Department of Irrigation have benefited areas spanning 58,241 acres. Moreover, 36 dams which support less than 5,000 acres of agricultural land have been transferred to the regional government and will be maintained by the Department of Irrigation. It was also found that 4 dams - the Zawgyi dam, the Nantpaung - lin water transfer dam, the Nant - kot dam, and the Nant - tabat dam - have been maintained with national funds. Although 114 village dams/lakes have been transferred to the Department of Irrigation, minor maintenance will require technology support and the major maintenance operations will need authorization from superior officials.

1.7 Livestock

There are three main purposes of livestock breeding in Shan State - agricultural farming, obtaining meat, dairy, eggs and animal skin, and the use of animal manure as an organic fertilizer.

Table 9: Livestock in Shan State in 2015 - 16

Sr.	Type of Animals	Southern Shan	Northern Shan	Eastern Shan	Total
1	Buffalo	370,811	353,961	76,079	900,851
2	Cow	982,630	618,372	160,498	1,761,500
3	Pig	655,030	1,497,102	381,901	2,534,033
4	Goat	32,443	63,600	28,997	125,040
5	Chicken	13,644,914	18,857,285	2,536,330	35,038,529
6	Duck	167,265	114,068	230,413	511,746
Total		15,853,093	21,504,388	3,514,218	40,871,699

Source: Planning Department, Ministry of Planning and Finance

Myanmar produces about 600 million kg of milk a year. The population of dairy cow is estimated at about 500,000 heads in Myanmar. There are opportunities in chicken, pork, sheep breeding and fisheries for export. The demand for fresh milk is much higher than the production in Myanmar. In Shan State, the climate is favourable for dairy cow.

Dairy imports are valued at about US\$ 100 million per year and the population of dairy cow is estimated at about 3,205 heads in Shan State. Investment opportunity includes dairy Industry, dairy Processing Factories, multi - purpose packaging and outfit.

Demand for milk and dairy products is growing with rising incomes, population growth, urbanization and changes in diets. Per capita consumption of milk is as follows:

- High (> 150 kg/capita/year) in Argentina, Armenia, Australia, Costa Rica, Europe, Israel, Kyrgyzstan, North America and Pakistan;
- Medium (30 to 150 kg/capita/year) in India, Islamic Republic of Iran, Japan, Kenya, Mexico, Mongolia, New Zealand, North and Southern Africa, most of the Near East and most of Latin America and the Caribbean
- Low (< 30 kg/capita/year) in Viet Nam, Senegal, most of Central Africa and most of East and Southeast Asia
- Myanmar - 26.3 kg/capita/year of milk and dairy products

Compared to other countries, Myanmar consumption level is in Low consumption category

Regarding Poultry farming, most of the farms in Shan State are small scale i.e. *Kyaukme* Livestock Breeding Zone 78 acres, 138 Farms and *Shan Yoma* Livestock Breeding Zone (1) with 429.67 acres, 165 Farms.

1.8 Mining

Minerals such as zinc, coal, lead and an assortment of ore, tungsten, antimony, gold, barite, gypsum, quartz, manganese dioxide and lime stone are being explored in Shan State.

However, Shan State is also lagging behind in terms of technology for mineral exploration, purification and production; there is a need for assistance in final goods and consumer goods production, export and marketing of minerals.

Figure 9: Major Mining Industries in Shan State



Source: Department of Mining, Ministry of Electricity and Energy