
Chapter 1

INTRODUCTION

After over half a century of gaining her independence in 1948, Myanmar still remains as an agricultural country, although almost all of her neighbors have successfully achieved a significant level of industrialization and structural changes. Perhaps, Myanmar is the only country in South-east Asia where the share of industry in total GDP remains more or less constant at around 10 per cent, indicating no significant structural changes of the economy over five decades.

Nevertheless, Myanmar has been craving for economic growth through industrialization since her independence. A group of Myanmar economists strongly argued that in spite of its relatively rich agricultural potential, industrial development should be the main thrust of Myanmar's economic strategy because, with the expanding population approaching the limits of available virgin land, and rapidly exhausting its natural resources such as forest reserves, more emphasis on industrialization and economic modernization would be needed to ensure a sustained growth and raise the level of living standard of the people in Myanmar.

The question is "how". The editor studied industrial situations in Myanmar in the previous two volumes of this series.¹ Myanmar's industrial sector is underdeveloped. Most manufactured products tend to be more resource-based, having little value added and technology inputs. They are foodstuffs, textiles, rubber, leather, ceramics, chemicals etc. Currently, over 80% of the value of manufacturing output falls into the food and beverages sub-sector alone. As a matter of fact, the internal structure of the manufacturing sector is characterized by the dominance of agro-based industries such as rice, oil, sugar and textile mills.

¹ Toshihiro Kudo ed. *Industrial Development in Myanmar: Prospects and Challenges* (2001: ASED No. 60, IDE-JETRO, Chiba, JAPAN) and Toshihiro Kudo ed. *Industrial Development in Myanmar (2): Prospects and Challenges* (2002: ASED No. 64, IDE-JETRO, Chiba, JAPAN).

Under such conditions, it may be neither possible nor desirable for Myanmar to seek for so-called leapfrog-type industrialization with heavy and high-tech industries. Rather, the country should utilize the endowed natural resources more effectively. In this volume, we tried to search a new industrial development strategy with the emphasis of agro-based industry, which can combine the industrial sector with natural resources. Myanmar has significant land and water resources, low cost labor, and ecological varieties together with proximity to markets in East Asia, Middle East, Southeast Asia and South Asia, which would seem to allow agro-based industry in Myanmar to rapidly develop into a major foreign exchange earner, if certain conditions could be met. This can be called NAIC-type development strategy, where NAIC means Newly Agro-based industrializing Country. The applicability of this strategy to Myanmar should be examined in detail.

In order to do so, we have to understand the current situations of agro-based industry of Myanmar. First of all, each chapter of this volume tries to describe them. Secondly, we should understand the public policies and strategies regarding the agro-based industry. Thirdly, based on these two factors, we will be able to identify the issues and constraints that Myanmar's agro-based industry is facing and to suggest ways and means for its further development. These are the objectives of the volume.

However, our study has not yet finalized. As a result, this book can be called an *interim report*. We intend to upgrade and revise the contents and analyses with further field surveys and other informations. Nevertheless, considering the extreme paucity of information on agro-based industry in Myanmar, we hope, this book may well serve as a basis for further discussion.

The structure and summary of each chapter are presented as follows.

Chapter 2 [Agro-based Industrializing Strategy] tries to envisage Agro-based Industrializing Strategy in Myanmar. Agro-based industries offer solutions to many problems in a developing country like Myanmar, such as rural unemployment, rural poverty and rural-urban migration.

In Myanmar, the industrial sector still consists mainly of industries dealing with the basic processing of raw materials. About 85% of the industrial production is food and beverages while the manufacturing sector produces less than 10% as of GDP. Therefore, Myanmar is still dependent on imports of even the most elementary manufacturing products that could easily be produced in the country. With its economic integration of ASEAN nations and future *plus three* (China, Korea and Japan) as well as with BIMST-EC, it is high time that Myanmar sought realistic strategies and policies to promote agro-based industries that has already spelt out in the national four economic objectives.

Since 1988, when Myanmar has pursued a market-oriented economic system, 27 new business-related laws were promulgated and 9 existing laws were amended to encourage the development of private as well as state owned enterprises. The number of industries and number of workers throughout the 1990s has increased remarkably. However, despite such tremendous increase in number, it is found that the performance in terms of capabilities and utilization of the existing industry is still very inefficient compared to other countries.

According to the World Bank Study and the Asian Development Outlook in 1997 and 1998, performance of industries, especially under the state sector are very weak in all accounts. The level of technology is still in the machine industry stage, the electronic age has not yet developed. Industrial management itself has not gone beyond traditional factory management. Most state owned plants are in a dilapidated state due to shortage of spare parts and neglect of maintenance. No facilities or institutions exist to provide training, to upgrade technology and to promote overseas markets. There are no financial institutions to help small industries, except the newly founded commercial banks, which can provide only limited help to industries.

Looking at the structure of the industry, industrial enterprises are classified into 3 groups: large, medium and small, based on capital, annual production, power used and most importantly, the numbers of employees. Majority of the enterprises, particularly in the private sector compared to the state-owned and co-operatives are found to be small and

medium sized. Food and beverages industries dominate in the private sector, followed by clothing, construction materials, mineral products and industrial raw materials.

Those existing industries hardly connect or link with each other and do not form meaningful clusters. Tractor plants, ceramic plants, glass factories have been established, but they remain stand alone entities, instead of forming a chain of connected industries, each stimulating the others and thus contributing to cumulative industrial growth.

Foreign Direct Investment plays a dominant role in bringing in new technology, employing a large number of people and helping provide export-led development in the Southeast Asia countries. Facilitating the smooth flow of FDI to Myanmar should be the prime task of Myanmar's industrialization.

The government has established the Myanmar Industrial Development Committee (MIDC) in order to encourage rapid industrialization process in 1995 with the following 5 objectives:

- 1) Development of industries with agriculture as the base;
- 2) Enhancement of quantity and quality of industrial products;
- 3) Development of new machinery and equipment;
- 4) Production of machinery and equipment of industrial use;
- 5) Creation of condition for transforming into an industrialized state.

Since its formation the following achievements are made:

- 1) Formation of 13 industrial zones;
- 2) A number of exhibitions, conferences and seminars for exchange of market information;
- 3) Myanmar Industrial Development Banks (MIDB);
- 4) Establishment of Myanmar Industrial Co., Ltd. for the purpose of trading;
- 5) Formulation of industrial development plan in line with the 5-year Short Term Plan.

Agriculture sector was and is still the most important sector of Myanmar's economy as well as it is the main source of livelihood for nearly three-quarters of the rural population. Since the government initiated the market-oriented economy, agriculture sector has been occupying the larger share of the export as well. An advisory board that will advise, oversee and monitor the development of the government's policy and the implementation on economic development with special attention to agro-based industries should be established.

Chapter 3 [Rice Industry] focuses on rice industry in Myanmar. It is often said that the most important thing is "rice" in Myanmar. Rice is not just a crop for Myanmar people; it is a driving force for the development of the nation. This chapter goes into great details in describing the rice industry in Myanmar, tries to find out constraints in rice production, rice mills, internal and external trade etc. and to present some policy recommendations for the development of rice industry.

Because of its agro-ecological conditions and successful policy environment, Myanmar was the leading rice exporting country in the world during the prewar era with the export volume of 2.5 million ton; up to now this volume has not been regained. This chapter explains the reasons why it has not reached such a volume. The author describes the history of rice in various periods from the ancient Myanmar king era to the present era. The readers can learn the lessons from the history.

This chapter also explains the importance of rice mills and the roles they play in increasing rice production. Rice also has various by-products, which are often eaten by Myanmar consumers such as Mohinga and vermicelli. Rice is also one of the leading earners of foreign exchange, but the export of rice is currently controlled by the government. Marketing and pricing of rice is also explained in this chapter.

The author highlights the huge potential of the country's rice production by removing some constraints such as limited use of chemical fertilizer, quality seed and agricultural machinery, and limited provision of working capital for farmers. Finally, this chapter presents the necessary recommendations for the development of Myanmar's rice economy. These

include area expansion, research and extension services, post-harvest technology, land policy, price policy, rehabilitation of rice mills, agro-inputs and market information.

Chapter 4 [Wheat Flour Industry] describes wheat flour industry. Though rice is the staple food for Myanmar people, wheat is also consumed as a supplementary diet. Wheat is still not yet considered as a major crop in Myanmar, but due to increasing demand for various usage of wheat flour, quite a large quantity is imported from abroad. At present, import of wheat is solely done by the private sector. The local production could only contribute 20% of the total requirement and demand for wheat flour.

There are various constraints on wheat production in Myanmar such as weather conditions, agronomic constraints and management difficulties. The national average yield level was stagnant for almost more than a decade. It is observed that per hectare yield of wheat in Myanmar is lower than the average yield of China, India, Pakistan etc. Production constraints also include poor irrigation situation, variety constraints and insufficient supply of chemical fertilizers. Due to high price of chemical fertilizers, farmers could not use them according to the recommended usage rate.

More research activities and experiments to support the development of wheat production should be done intensively in order to meet the domestic demand for wheat flour of Myanmar people.

Chapter 5 [Pulses Industry] deals with pulses industry in Myanmar. This crop presents a success story with production and trade liberalization in the framework of market economy since 1988. As Myanmar is an agro-based country, the agriculture sector contributes 35% of total export earning, of which the major share of 72% is taken by pulses. At present, 22 different types of pulses are grown in Myanmar, of which black gram, green gram, pigeon pea, chick pea and cow pea are major pulses.

After 1988, when the Socialist Economic System was replaced with the market-oriented economic system, trade of pulses was liberalized both in domestic market as well as for export market except for chick-pea.

By 1998, Myanmar became the third largest exporter of pulses in the world. The main export destination is India.

It is clear that the rapid increase of pulses production in Myanmar is largely due to the export market. Pulses are profitable crops for the farmers and have a comparative advantage than other crops like rice and maize, both in financial terms and in terms of natural resources. For example, growing one unit area of pulses requires only 20% of water compared to water required for growing one unit area of rice.

In order to enhance the world market share, increase of production and emphasis on quality control should be taken into consideration. Though Myanmar is a regular exporter to India, it has to compete with Malawi and Tanzania, often resulting in unstable export price. Exporting the special quality and first quality rather than the fair and average quality will secure stable export volume as well as getting a good reputation in overseas market. In addition, exporters need to precisely understand the consumers' preferences in detail.

Thus, Myanmar has to improve the quality of present exporting pulses and find new markets other than India. In addition, new species of pulses other than the existing traded species, which are commonly traded by other countries, should be developed to penetrate the export market. Myanmar also has to learn the processing technology and find the markets for processed form of pulses in the international arena.

Chapter 6 [Feed Industry] describes feed industry in Myanmar. Livestock and fisheries contribute 8% of GDP and unlike other developed agriculture-based country, Myanmar's agriculture is heavily reliant on 8 million cattle and buffaloes for land cultivation. In addition to this, feed industry nurtures the domestic animal population of 1.97 million sheep, 4.5 million goats, 57.13 million pigs and 71 million poultry.

With the emergence of market-oriented economy and rising population, the demand for feed for livestock is ever increasing. This chapter looks into the current status of livestock and fishery sector and explains current government policy to increase the production of both livestock and

fisheries. The chapter goes into details and explains the two feed sources from agriculture and fisheries, and the requirements needed to develop feed mills.

Establishing and developing the pasture is also highlighted in this chapter, since it produces nutritious animal feed. The importance of HRD is also emphasized in order to develop the feed industry. The author concludes the chapter with some policy recommendations.

Chapter 7 [Edible Oil Industry] looks into edible oil industry. In Myanmar oilseed crops are the second to paddy in terms of sown area. The main oilseed crops are sesame, groundnut and sunflower.

Myanmar's consumption of edible oil is about 300,000 mt, of which 100,000 mt have to be imported. However, it is estimated that in the year 2002-03, production of edible oil will reach 490,000 mt, which exceeds the requirement needed by the country.

The chapter looks into the history of oilseed production from 1900 to 1988 and the current situation of oilseed crop production. Utilization of oilseed and oil mills is also explained with a quick reference to marketing of oilseeds.

In addition to the oil seed crops, the chapter details the oil palm development program. The oil palm estates are under development by the private sector in order to achieve self-sufficiency for edible oil in Myanmar.

Chapter 8 [Growth, Survival and Prospects of Sugar Processing SMEs] is the second paper on sugar industry in Myanmar in the ASED series. The previous paper appearing in Kudo ed. (2002) outlined the sugar industry as a whole, while the present paper focuses on the development of the private sector in Myanmar's sugar industry.

The production of non-centrifugal sugar or jaggery dates back to 15th century in Myanmar. The technology is simply the boiling of sugarcane juice in open pan to obtain a solidified and brownish yellow slab. It is known as OP technology. Modern white sugar factory employs vacuum

pan boiling of cane juice, hence being called VP technology. The earliest modern factory was built in 1840 but it was short-lived. The next successful factories followed in 1926 and 1934. From 1954 onwards, large-scale sugar factories have been operated by State Economic Enterprises (SEEs), while jaggery production was left as small scale and scattered private cottage industry.

Under the centrally planned economy, particularly after 1972, SEEs sugar production declined sharply. Private entrepreneurs sought the near substitute for sugar by separating centrifugal brownish sugar from jaggery in the locally fabricated centrifugal machines in 1973. Further steps were taken in 1984 to produce centrifugal white sugar out of syrup by installing vacuum pans and centrifugals. The first step was conversion of sugarcane into syrup (not going to jaggery stage) by cottage industry scale on sugarcane field. The next steps were the long-distance transport of syrup in iron barrel to Mandalay, the large city of assembly market for syrup, which was then traded and processed to produce white sugar in small and medium scale enterprises (SMEs) VP sugar plants.

After 1988, the centrally-planned economy was abolished and SME sugar processing plants grew rapidly in Mandalay and other cities. There are about 78 VP sugar plants and 720 centrifugal separation plant in Mandalay only. Sugar production was estimated to be 115,655 metric ton in private sector SMEs, representing nearly 50 % of market share in the country. These SMEs are resource-based and domestic market-oriented.

The development issues of the sugar processing SMEs are;

- (i) policy support and guarantee for long term investment in improvement, expansion and innovation for sugar industrial development,
- (ii) formulation of sound sugarcane and sugar pricing policies,
- (iii) efficient harnessing of energy,
- (iv) setting up a sound financing system, market information service, and agricultural extension services,
- (v) regulatory measures in manufacture and waste disposal by SMEs to prevent environmental pollution and health hazard, and
- (vi) institutional supports in HRD and capacity building for SMEs.

Chapter 9 [Cotton Textile Industry] looks into cotton textile industry as well as garment industry. Among the 13 manufacturing industries in Myanmar, textile industry ranks fourth in production value, after food and beverages, mineral and industrial raw materials manufacturing sub-sectors.

Since the commencement of market economy, large-scale private spinning mills are operating alongside with some thriving export-oriented garment industries established with foreign investment.

In the government sector, Myanmar Textile Industries (MTI) under the Ministry of Industry No.1 is the single, largest and modern textile industry in Myanmar. However, the production is not large enough to have a real impact on the consumers. The co-operative sector in textile production is rather insignificant with handlooms and powerlooms. The private sector virtually accounts for the largest share in textile production in Myanmar. It consists of small and medium weaving mills and home-hand spinning and traditional weaving looms in cotton growing areas.

The prices of the local yarns are competitive and substitute a portion of the imported yarns mainly from China and India. However, local yarns cannot completely take over the imported quality yarn market in the near future, because higher quality imported yarns are the essential raw materials for the finished cotton branded products.

A variety of textile products are produced by the private textile industries for the domestic market. The largest product category/enterprise is the traditional longyi manufacturing enterprises, which are located mostly in Mandalay and Sagaing Divisions in Myanmar.

The chapter also describes the situation of garment industry. At present, it is estimated that there are about 400 garment factories in Myanmar, out of which 88% by joint venture companies and the remaining 4% by foreign companies. Most of the garment factories in Myanmar operate on a cut, make and pack (CMP) basis and import 99% of the required raw materials. Export destinations are U.S.A, EU and other developed countries.

There are major attractions for foreign companies to invest in the export-garment industry. Compared to neighboring countries, the property/factory establishment cost is cheap, labour wages are among the lowest in the world and there is a greater social stability than other countries in the region.

On the other hand, there are drawbacks such as inadequate supply of electricity, high cost of fuel due to reliance on own diesel generators, all foreign registered companies having to pay everything in dollars or FECs, high import cost of raw materials due to shipping and processing cost, long and unnecessary delays in obtaining permits for importing raw materials as well as for exporting the finished products and rigid and red tape procedures exercised by the departments concerned

Though there are weaknesses in the textile and garment industry, it could be a top foreign exchange earner as well as contributing an increase in employment in the country.

Chapter 10 [Facts about Myanmar Jute Industries] outlines the functions of Myanmar Jute Industries (MJI). MJI is one of State Economic Enterprises (SEEs) under Ministry of Agriculture and Irrigation. It is solely empowered to trade in jute, kenaf and allied fibres and in related value-added products. This chapter also explains MJI's future investment plans in kenaf-related projects.

Chapter 11 [Rubber and Rubber Product Industry] deals with rubber in Myanmar. Traditionally, growing rubber was confined only in the Mon State and Tanintharyi Division, but later on, special zones for growing rubber was designated and expansion was carried out not only in Mon State and Tanintharyi Division but in other suitable localities such as Kachin, Kayin, Shan, Rakhine, Bago and Yangon as well.

During the period of centralized economy, the government agency is the sole buyer and exporter of rubber. The grower had to sell his rubber on quota basis with the fixed price to the government agency, which provided the local consumption and exported the surplus. The growers can sell the remained rubber to the government agency or private dealers or

manufacturers. The dealer buys from the growers and sells to the government agency or manufacturer. In order to export, the dealer has to sell 45% to the government agency and the remaining 55% can be exported with the recommendation by the government agency.

Due to the development of industrialization, there is a sharp increase in natural rubber demand. There are 2 sectors in the manufacturing of rubber products, namely state-owned and private. Some small-scale private manufacturing factories have been set up to promote rubber-related industries. There are a total of 379 private enterprises in the rubber industry up to the year 1999.

Annual rubber consumption is increasing by about 3.8%. There is potential rubber development in Myanmar and a long-term plan is drawn up to establish 1.5 million acres by 2030.

In terms of ownership, the state owns only 8%, while 92% is owned by the private sector. Every endeavor will have to be made for the involvement of the private sector in replacing the unproductive rubber trees with high yielding rubber clones.

The Myanmar Perennial Crops Enterprise, a State Economic Enterprise under the Ministry of Agriculture, has been undertaking the promotion and development of plantation crops both in the government and private sectors. The organization conducts training for the staffs to improve their knowledge on rubber technology, undertakes the demonstration plots, organize field days and gives training to the private planters.

However, there are still many areas requiring further research and improvement. These include appropriate chemical fertilizer application, selection of agro-climatically suitable varieties, establishment of the seed gardens, utilization of most efficient and economical method of controlling weeds, and appropriate choice of intercrops. Intercropping provides not only food, vegetables and cash but also reduces the cost of weeding and enriches the soil.

Establishing a rubber plantation is not only a long-term investment but also a heavy investment. Therefore, collaboration between the large, medium and small holders will be needed as well as the government assistance to provide financial support to the planters.