

A Survey on the Competitiveness of Natural Rubber Companies in Mekong sub-Region

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Abstract

In recent years, the demand of natural rubber for tires has been increasing as the rapid motorization in developing countries such as China and India. The main countries of producing natural rubber are Thailand, Indonesia and Malaysia. However, the planting and cultivation of natural rubber in the Mekong sub-Region countries has been dramatically expanding. This paper analyzes the competitiveness of natural rubber companies that produce TSR in Cambodia and that produce RSS (Ribbed Smoked Sheet) in Myanmar. These companies have much advantage in production costs and have some disadvantage in terms of qualities and deliveries.

1. Introduction

In recent years, the demand of natural rubber for many kinds of industrial goods has been rapidly increasing. The supply of natural rubber has been increasing mainly in Thailand and Indonesia under this condition. In addition, natural rubber planting has been dramatically increasing in Cambodia, Laos, Myanmar and Vietnam from the middle of 2000's. After the seven years of planting and cultivation period, the harvest of natural rubber sap of these new planting trees has been starting.

The surveys on the natural rubber industries in Cambodia and Myanmar are limited. In Cambodia, the natural rubber industry has been addressed as one of the important strategic industries in the national economic development plans since 1990's. The statistical data on the natural rubber production has been recorded by The General Directorate of Rubber Plantation, Ministry of Agriculture, Forestry and Fisheries of Cambodia. The Japan Rubber Manufactures Association (2007) made the survey on the quality of primary processed natural rubber, and Yamaguchi University (2008) studied the possibility of the ODA (Official Development Assistance) loan for the natural rubber industry. In Myanmar, the clone test of natural rubber was held by the Applied Research Center for Perennial Crops supported by UNDP (United Nations Development Programme) in 1990's. The statistical data on the natural rubber production has been recorded by The Central Statistical Organization of Myanmar. This paper focuses on the competitiveness of natural rubber industries in Cambodia and Myanmar in the aspects of QCD (quality, cost and delivery).

Natural rubber is used for making a wide range of products such as tires, belts, shoe soles, medical gloves and parts for electronic equipment. Approximately 70% of primary processed natural rubber is used to produce automobile tires. In recent years, the consumption

of natural rubber has been increasing due to the increase of the demand of automobiles in newly developing countries such as China and India.

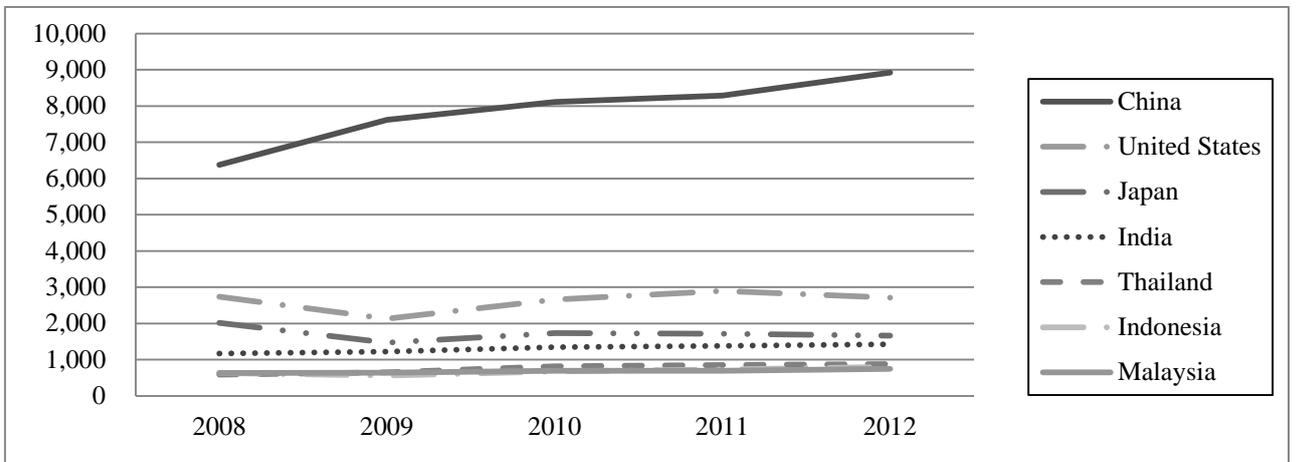


Figure 1. Consumption quantity of rubber (thousand tons)
Source: Posty corporation (2013)

The trend of the consumption quantity of rubber is shown in Figure 1. The main consuming country is China, followed by United States and Japan. The consumption of rubber has been dramatically increasing in China.

Although rubber trees are native to Brazil, the main plantation areas spread in Southeast Asian countries. The trend of the production quantity of natural rubber is shown in Figure 2. The main producing country is Thailand and Indonesia, followed by Malaysia, India, Vietnam and China. In recent years, the planting and cultivation of natural rubber has been expanding all over the Mekong sub-Region including Cambodia, Laos and Myanmar.

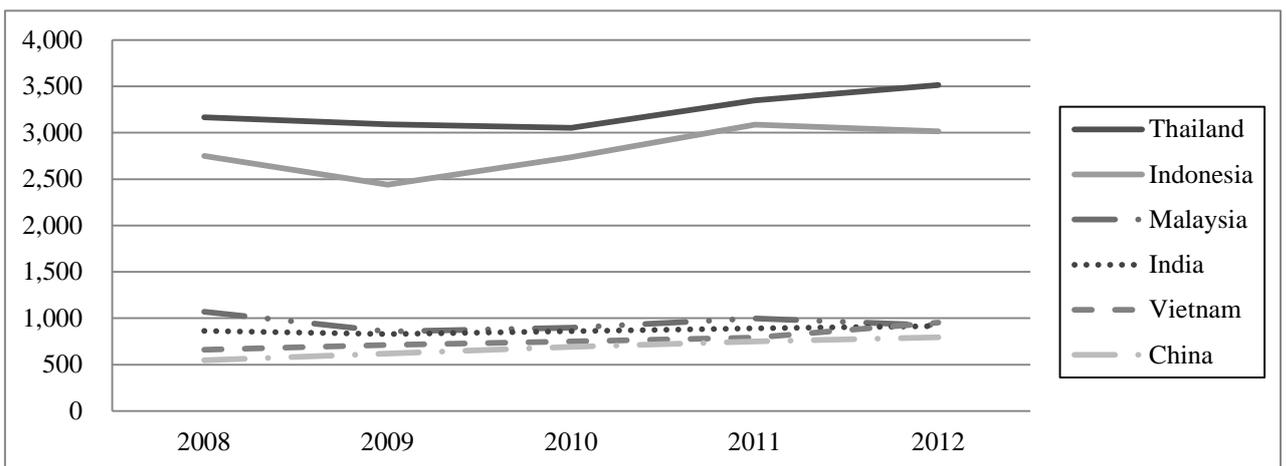


Figure 2. Production quantity of natural rubber (thousand tons)
Source: Posty corporation (2013)

This paper focuses on the competitiveness of companies that produce TSR (Technically Specified Rubber) in Cambodia and that produce RSS (Ribbed Smoked Sheet) in

Myanmar. This paper describes 1) the current situation of natural rubber industries in Cambodia and Myanmar, 2) main factors of the competitiveness of companies in natural rubber industries, 3) the competitiveness of natural rubber companies in Cambodia and Myanmar.

2. Natural rubber industries in Cambodia and Myanmar

2.1. Natural rubber industries in Cambodia

The plantation and cultivation of natural rubber in Cambodia was started in 1898. The plantation area had been expanded to 28,000 hector in 1940's, 56,048 hector in 1964, and 70,000 hector in 1970. However, natural rubber plantations were damaged by the civil war in 1970's. The new government was established in 1993, and the natural rubber industries were chosen as one of the important industries in the First Five Year Socioeconomic Development Plan.

The production of natural rubber had been decreasing in 1990's and early 2000's (see Figure.3). The main reason is the lack of fund for replanting of natural rubber trees because of the fall in the international market price of natural rubber in 1990's (Hirohata (2010)).

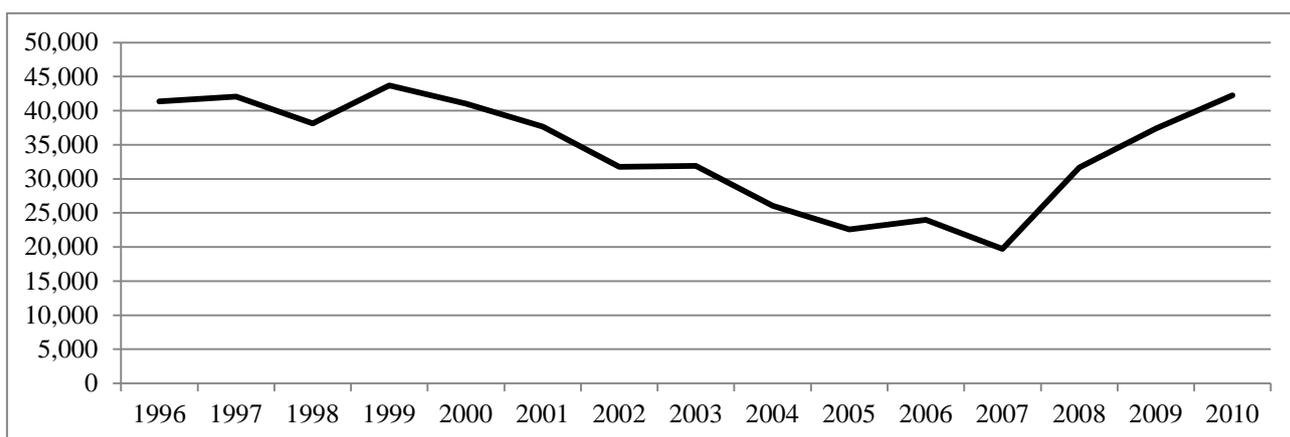


Figure 3. Production volume of primary processed natural rubber in Cambodia (tons)

Source: General Directorate of Rubber Plantation (2006) and National Institute of Statistics (2008, 2012)

New planting of natural rubber has been dramatically increasing since the middle of 2000's because of the rise in the international market price of natural rubber. Table1. shows the planting area of natural rubber in Cambodia. There were seven state owned enterprises, named Boeng Keth, Chamcar Andong, Chup, Krek, Memot, Peam Cheang and Snoul natural rubber plantation. These enterprises were moved to public enterprises under the Ministry of Agriculture, Forestry and Fisheries in 1997. These enterprises had been already privatized by 2010. These enterprises have been getting to grips with replanting and new planting since the middle of 2000's. Farmers surrounding these plantations have been converting their products from soybean to natural rubber. In addition, foreign direct investment in the natural rubber sector has been increasing. Main investors are companies from Vietnam and China. These

companies got economic land concession of some thousands of hectares each (CDC (2013)).

Table 1. Planting area of natural rubber in Cambodia (hector)

Enterprise	2008	2009	2010
Boeng Keth	3,800	3,103	3,893
Chamcar Andong	4,133	4,894	5,188
Chup	14,855	14,188	13,516
Krek	3,951	4,454	5,020
Memot	4,903	4,782	5,582
Peam Cheang	4,315	3,730	3,502
Snoul	2,874	2,878	4,003
Subtotal	38,831	38,029	40,704
Others	60,864	89,695	140,729
Total	99,695	127,724	181,433

Source: National Institute of Statistics (2012)

2.2. Natural rubber industries in Myanmar

The plantation and cultivation of natural rubber in Myanmar was started in 1905. The plantation area had been expanded to 56,700 hector in 1940, 56,600 hector in 1960, 81,000 hector in 1980, and 180,500 hector in 2000.

New planting of natural rubber has been dramatically increasing since the middle of 2000's because of the rise in the international market price of natural rubber. Figure.4 shows the planting area and harvesting area of natural rubber in Myanmar.

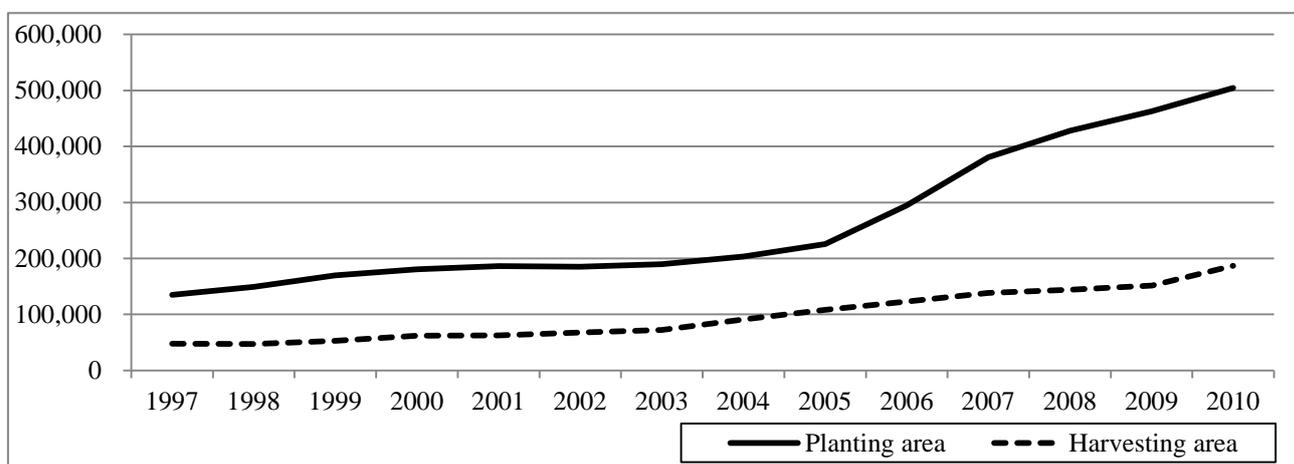


Figure 4. Planting and harvesting area of natural rubber in Myanmar (hector)

Source: Central Statistical Organization of Myanmar (2006, 2009, 2011)

The production volume of primary processed natural rubber in Myanmar has been dramatically increasing since the middle of 2000's because of the rise in the international market price of natural rubber. Figure.5 shows the production volume of primary processed natural rubber in Myanmar.

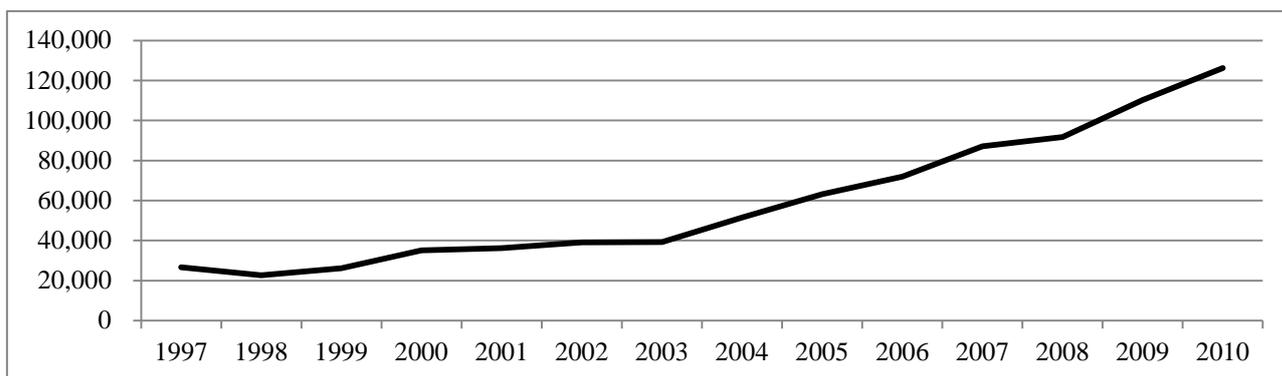


Figure 5. Production volume of natural rubber in Myanmar (tons)

Source: Central Statistical Organization of Myanmar (2006, 2009, 2011)

3. Competitiveness of companies in natural rubber industries

The competitiveness of companies in natural rubber industries depend on many factors. This paper focuses on QCD (quality, cost and delivery) as important factors of the competitiveness of companies.

There are three major types of products of primary processed natural rubber: Technically Specified Rubber (TSR), Ribbed Smoked Sheet (RSS) and condensed latex. Most of natural rubber companies produce TSR in Cambodia, and most of companies produce RSS in Myanmar under their historical background. Condensed latex has not yet produced in both countries.

First, the quality of TSR is defined by the chemical analysis under the international standard that examines 1) dirt content, 2) initial plasticity, 3) plasticity retention, 4) nitrogen content, 5) volatile matter content and 6) ash content. The grade of TSR is divided by TSR-L, TSR 5, TSR 10, TSR 20 and low grade. The quality of RSS is defined by visual checking compared with samples under the international standard. The grade of RSS is divided by RSS1, RSS2, RSS3, RSS4 and RSS5. In addition, some other factors such as contaminants, stability and homogeneity of products are also important other than the chemical analysis under the international standard.

Second, the production cost of primary processed natural rubber mainly depends on labor costs. Figure.6 shows the share of costs of typical natural rubber plantation in least developed countries. In this model, each cost is accumulated during 25 years operating period. The share of labor costs is 62% of total costs.

Third, reliable delivery system must be established. Infrastructure including roads and ports are important. In addition, the level of physical distribution costs and export taxes relates to the competitiveness of natural rubber companies.

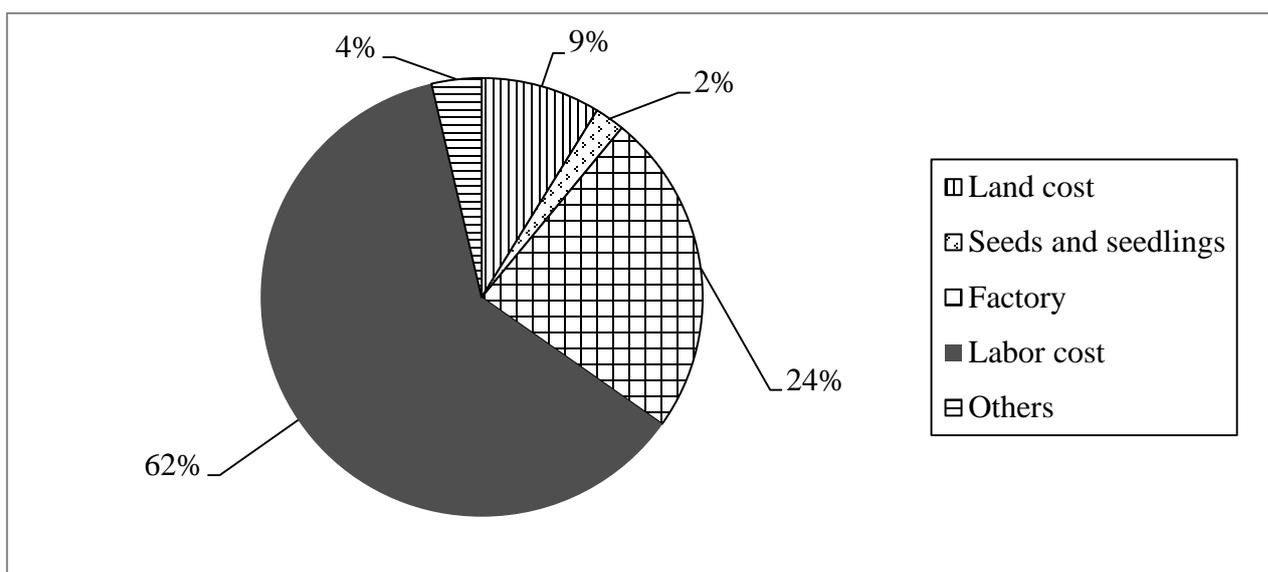


Figure 6. Share of costs of natural rubber plantation

Source: Hirohata and Fukuyo (2011)

4. Discussions and conclusion

Seven large scale natural rubber companies in Cambodia produce TSR. The quality of their products is high in terms of the chemical analysis under the international standard. The share of top grade of TSR, CSR-L (Cambodia Specified Rubber), is 73.7%, on the other hand, the share of low grade products is very low (see Table.2). However, there are some issues on the quality of TSR in other evaluation items such as contaminants, stability and homogeneity of products.

Production cost is lower than Thailand. The minimum monthly wage of garment factory workers in Phnom Penh is 100 US dollars, and the average monthly wage of tappers is approximately 120 US dollars in natural rubber companies. On the other hand, the minimum wage per day of workers in Thailand is 300 hundred baths equal to 200 US dollars per month.

The distribution system is developed. Major national roads are paved and the facility of Sihanoukville port has been developed. However, exporting products to advanced countries must be transited at other ports such as Singapore port and Ho Chi Minh port.

Table 2. Share of production volume of TSR by quality in Cambodia

Grade	CSR-L	CSR 5	CSR 10	CSR 20	Low grade	Total
Share of production	73.7%	11.2%	14.8%	0.0%	0.3%	100.0%

Source: Japan Rubber Manufactures Association (2007)

Natural rubber planting and cultivation is mainly held by small holders in Myanmar. Approximately 40% of planters has under 20 hector for planting area, and approximately 50%

of planters has 20 - 50 hector. Small and medium sized companies produce mainly RSS. Some companies can produce high grade products (RSS1), however, most of companies produce low grade products (RSS4, RSS5).

Production cost is lower than Thailand. In recent years, many foreign companies are rushing into Myanmar. The price level has been rising, and the wage level has been going up in Yangon, however, it is still low in rural area where natural rubber trees are planted.

The distribution system has not yet developed. Most of roads are low cost pavement, and the facility of Yangon port has not sufficiently developed yet. Exporting products to advanced countries must be transited at other ports such as Singapore port.

Table.3 shows the competitiveness of companies in natural rubber industries in Cambodia and Myanmar, compared with Thailand, from the viewpoint of QCD. The quality of primary processed natural rubber is relatively high in Cambodia. However, more improvement in the removal process of contaminants and the washing process is required. The quality of primary processed natural rubber is relatively low in Myanmar. The effort to get the international certified quality standard is required. The production cost of both countries is lower than Thailand. Producers in both countries have strong competitiveness in the international market. The infrastructures for the delivery system of natural rubber are weak in both countries. The increase of the Government budget for public investment is expected. In addition, the productivity is also important for the competitiveness of natural rubber industries. The productivity is 1.05 ton per hector in Cambodia, and 0.75 ton per hector in Myanmar, relatively in 2011. The productivity is lower than Thailand. The productivity mainly depends on the natural condition such as the amount of rainfall and soil in planting areas. However, the development of high yield clone is also important for the improvement of the productivity.

Table 3. Comparison of the competitiveness of companies in natural rubber industries

Item	Cambodia	Myanmar
Quality	- High in the chemical analysis - Some issues such as contaminants, stability and homogeneity	- Relatively low in the visual checking - Some issues such as contaminants, stability and homogeneity
Cost	- Lower than Thailand	- Lower than Thailand
Delivery	- Infrastructure has been developed - Transit is necessary at other ports	- Infrastructure has not been developed - Transit is necessary at other ports

The demand of natural rubber would be increasing due to the increase of the demand of automobiles in newly developing countries in the future. The planting and cultivation of natural rubber has been continuously expanding in Cambodia and Myanmar. The production volume of primary processed natural rubber in two countries would not be negligible in the

international market in the near future. Because of the advantage of low costs, compared with Thailand, producers of natural rubber in Cambodia and Myanmar would have strong competitiveness with the conditions of the improvement of the quality of primary processed natural rubber, and the development of delivery systems.

Reference

- Council for the Development of Cambodia (2013) Statistical data of foreign direct investment
- Central Statistical Organization of Myanmar (2006) Statistical Yearbook 2004
- (2009) Statistical Yearbook 2008
 - (2012) Statistical Yearbook 2011
- General Directorate of Rubber Plantation, Ministry of Agriculture, Forestry and Fisheries of Cambodia (2006) Statistical data of natural rubber
- Hirohata Nobuo (2010) Factor analysis on the low productivity of natural rubber estates in Cambodia, *Asian Management Vol.16*
- (2011) A Study of Technology Diffusion and Productivity Levels in the Natural Rubber Industries of Cambodia and Thailand by Adopting the Analytic Hierarchy Process, *Journal on Innovation and Sustainability Vol.2*
- Hirohata Nobuo and Fukuyo Kazuhiro (2011) Comparative Study of Large-scale Investment in Plantation in Least Developed Countries Applying the Investment Profitability Analysis Model, *International Journal of Innovation and Management 1*
- Japan Rubber Manufactures Association (2007), Survey to Support the Natural Rubber Processing Industries within the CLM Region
- National Institute of Statistics, Ministry of Planning of Cambodia (2008) Statistical yearbook of Cambodia 2008
- (2012) Statistical yearbook of Cambodia 2011
- Posty corporation (2013) Rubber consumption in the world in 2012, *Japan Rubber and Elastomers No.571*
- Yamaguchi University (2008) Rubber Industry Promotion and Financial Capability Development in Cambodia, Japan Bank for International Cooperation