



STUDY OF TIMBER MARKET OF MALAYSIA AND ITS IMPACT ON THE ECONOMY AND EMPLOYMENT

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ABSTRACT

This article presents the state of the global wood markets, which shows the evolution of forest resources and margins on the timber market over time. The underlying case has been discussed and discussed. Alternative scenarios are presented that allow one to consider some important questions about the behavior of the wood market and the future supply of industrial wood. (1) What happens along the northern and tropical margin? (2) What is the role of wood plantations? and (3) How should management change in the Malaysian market change? The baseline situation suggests that both prices and crop communities are growing in 150 years, with the largest harvest coming from existing and emerging plantations. Future harvest returns will result mainly from intensified management, through additional plantation and higher levels of management in selected forests rather than higher yields in inaccessible forests. Prices and harvest are most sensitive to alternative needs (paper, firewood) and scenarios for creating new plantations and less vulnerable to the costs of access to remote forests.

KEY WORDS:

Global wood markets, Forest plantations, Forest production management, Forecasts

INTRODUCTION

In whole of the world the demand trend shifts to quality rather than in pursuit of the lowest price. Log prices were unchanged throughout May and show no signs of movement even though there are reports of some modest increase is expected in demand. Over the past few months analysts note a developing trend towards demand for better quality wood products with both buyers and consumers, who through their own choice, being prepared to pay a fair price for a good product rather than pursuing the lowest price (ITTO, 2016). Customs inspection process are tightened, resulting in pushing up the transaction costs. The overall situation on the wood products market in the ECE region remained relatively stable in the last year. Consumption of these products, except for paper products, increased from 1.3% (wood-based panels) to 2.6% (sawn timber), with a significant variation in these sub regions (UNECE, 2016).

North America and Europe are experiencing a moderate increase in consumption, fueled by positive trends in the economy and a boom in the construction sector. In contrast to the CIS, deteriorating economic conditions and weakening of local currency exchange rates contributed to a decrease in the consumption of sawn timber and slabs by more than 4%. During 2015-16, the exchange rate instability played an important role in trade in timber and wood products. This was especially evident in the United States, where wood products grew by about 10%, while exports declined on a near scale because of the appreciation of the US dollar. In the CIS countries, the weakening of the ruble has resulted in a record level of exports of most wood product groups, in many cases offsetting the decline in domestic demand and leading to increased production (UNECE, 2017).

In 2016, in North America and the European Union, signs of a slow recovery from the global financial crisis generally persisted, while in the CIS countries the economic situation was once again showing a weakening. There were also certain risks, especially about the influx of refugees into many European countries or with the result of a referendum on the exit of Great Britain from the European Union. The geopolitical tension has also disappeared, causing a decline in confidence in the Commonwealth of Independent States (FAOSTAT 2015). When considering resources and forest markets, interesting questions arise. For example, how important are forests currently in the global wood markets and how are they sensitive to changes in market forces such as price? If sub-tropical plantations become a more important part of the global wood market (FAO, 2015), can we expect them to play a bigger role and be profitable for the population?

Timber market of Malaysia

The world population in 2050 is forecasted as 9.6 billion, expectations of improved lifestyle demands and increasing bandwidth economy will prompt better living conditions and comforts, thereby increasing the demand on the use of timber based products in home and office. Wood, as a material, has basic properties which are par more competitively based when compared with others. Bringing benefits balancing economic, environmental and society needs and expectations, by making the same product using fewer resources, energy, monetary expenditure, preventing waste, improving ecological and economic performance of the manufacturing organizations as well. Thus, green manufacturing would evolve a more efficient living system, positively impacting the return of investment (ROI). In Malaysia, the MTIB Act formulated strategic planning to enhance industry, market and SME development for a sustainable growth in the Malaysian timber industry (Norchahaya, 2012). The provisions covered creation of a conducive environment and continuous extension of quality services for bringing in sustainability. To ensure an uninterrupted supply of raw material for the furniture industry, the forest plantations needs to plant fast growing exotics like acacia and indigenous re-growth pioneers like meranti (Timothy, 2005). Declining domestic tropical timber production and conversion of rubber plantations to oil palm, forced Malaysia to take assuring steps in wood security for its timber based industries.



The private sector was encouraged to invest in rubber wood plantation, thereby the area of rubberwood plantation increased (Woon *et al.*, 2002) and facilitated expansion of plantations (Table.1). Later sustainable forest Management initiated the need for timber certification (Islam *et al.*, 2015). Certification can serve organizational liability to mitigate environmental, social and regulatory risks, while gaining market advantages such as new market access, brand recognition and premium pricing (Breukink *et al.*, 2015).

The Rubberwood plantations in Malaysia has dropped 40%, from 1730 thousands of hectares during 70's to 1048 thousand hectares in this decade 2010-2014 (FAOSTAT, 2015).

Table 1. Rubber Plantation Areas (thousands of hectares)

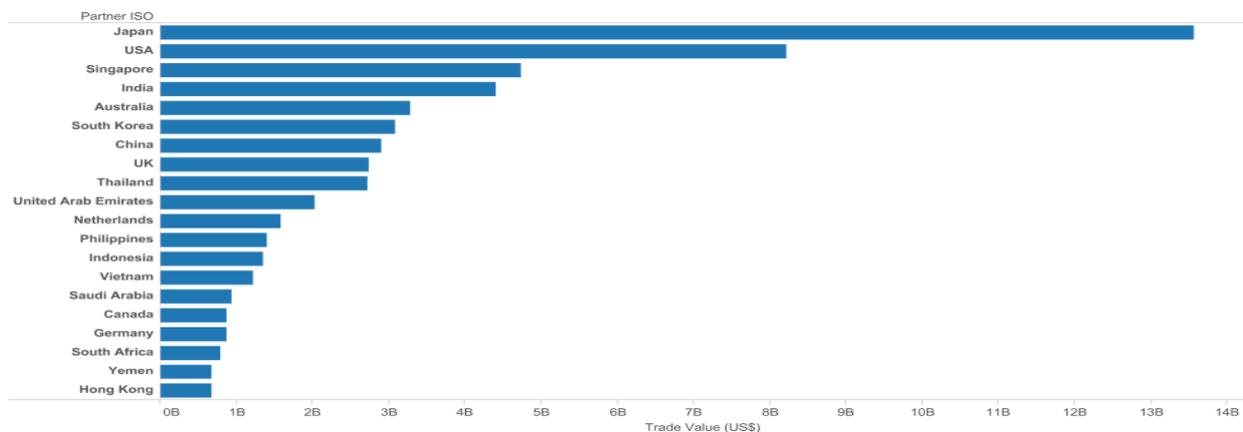
Year	Area in Hectares	Year	Area in Hectares	Year	Area in Hectares	Year	Area in Hectares	Year	Area in Hectares	Year	Area in Hectares
1961	1300000	1971	1550000	1981	1620000	1991	1610000	2001	1250000	2011	1027041
1962	1300000	1972	1600000	1982	1620000	1992	1580000	2002	1250000	2012	1041186
1963	1400000	1973	1850000	1983	1585000	1993	1555000	2003	1315000	2013	1057271
1964	1400000	1974	1820000	1984	1575000	1994	1515000	2004	1275000	2014	1065630
1965	1500000	1975	1700000	1985	1535000	1995	1475000	2005	1237000		
1966	1400000	1976	1800000	1986	1535000	1996	1440000	2006	1251000		
1967	1400000	1977	1800000	1987	1535000	1997	1400000	2007	1248000		
1968	1400000	1978	1890000	1988	1660000	1998	1430000	2008	1247000		
1969	1500000	1979	1670000	1989	1645000	1999	1400000	2009	1058000		
1970	1500000	1980	1615000	1990	1614000	2000	1300000	2010	1015152		
Total	14100000	Total	17295000	Total	15924000	Total	14705000	Total	12146152	Total	4191128
Average per year (Area in Thousand Hectares)	1410		1730		1592		1471		1215		1048

Source: FAOSTAT 2015. Production, Department of Statistics (2010b). Annual rubber statistics.

The average rubber plantation areas (thousands of hectares) in 2010-14 is 1048; In the last 5 decades, the average area was 1483 thousands of hectares

Global demand for Malaysian Timber

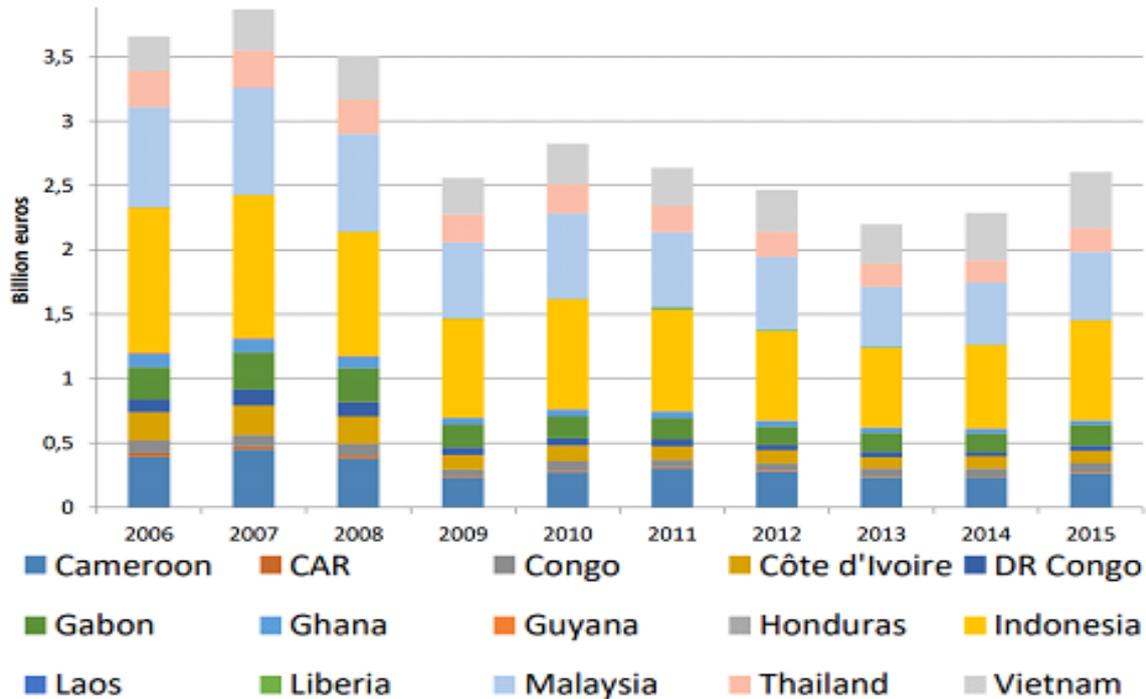
Figure 1. Malaysia's Timber exports 2006 -2015



Source: Norman (2016)

At the same time, the global market of Malaysia is heavily tilted towards Japan and US (Fig.1) (Norman, 2016), compared with other countries in the world. The neighbor Singapore is the third largest consumer of Malaysian rubberwood products, followed by India, which has huge potential consumer base of 130 billion population. Some of the counties such as Italy, Germany and Poland have a good quantity of local production of rubberwood, yet they import for their consumption (Fig. 2)

Figure 2. EU-28 imports of wood and paper products from 15 VPA countries



Source: Impact of market forces and government policies on the tropical timber trade

Malaysia 's Timber-based industries performance in the last decade indicates that European Union imports predominantly from Indonesia and Malaysia are competing neighbors in the international rubberwood market, with sizable market share. Compared to 2006 the Malaysian market share, of about 0.5 billion euros, has not increased, while the Indonesian share is maintained more than 1.2 billion euros. By volumes the Indonesia out beats, the Malaysian timber exports (Table 2)

Table 2. Malaysia 's Timber - based industries

Industry	P. Malaysia	Sabah	Sarawak	Total
Sawmill	671	182	246	1099
Plywood / Veneer mill	52	50	54	156
Moulding plant	166	90	23	279
Furniture, joinery & other plants	1687		336	2023
Particleboard plant	10	1	4	15
Wood cement board plant	3		2	5
MDF plant	10	1	3	14
Woodchip mill	1	2	4	7
Parquet factory	26	1	*	27
Picture frame factory	25	1	*	26
Pre-fabricated house Manufacturers	10	*	*	10
Pulp & paper mill		1		1
Match factory	4	1	2	7
Pencil Manufacturers	3		*	3
Kiln drying plant	122	56	47	225
Wood preservation plant	102	23	25	150
* - not available				

Source – Rajoo M., (2002)

Malaysian timber based industry is well diversified spanning from sawmill, plywood mill, furniture, particle board, wood pulp etc., they are also in application based value additions through Picture frame, pre-fabs and pencil manufacturing etc., The predominant manufacturing base of timber industries rests on Furniture (Table. 2) in whole of Malaysia and both in Peninsular and Sarawak where it is the leading amongst other business (Rajoo M., 2002).

RUBBERWOOD DEMAND

The industry features strongly in terms of foreign exchange earnings and rural economic development for the country. Rubberwood is now widely used in furniture manufacture, replacing species such as mahogany (Woodspec, 2014).

Rubber timbers will be used for various wood products production, ranging from furniture, kitchen wares, construction materials, packaging, palletizations and source of heat (Center for International Trade Studies, 2013). The success of the Malaysian rubber industry is envied in the tropical belt throughout the world, as a leader in the field, in its cultivations and its utilization (Jegatheswaran *et al.*, 2012). Rubber wood is moderately hard and heavy with a density of 640 to 720 kg/ m³ at 15% moisture content. Rubber timber has higher shear value suitable for furniture, with good hardness and wear resistance (Nirmal, 2011). Rubberwood undergoes casehardening only at higher temperature of 90deg C (Srivaro *et al.*, 2008). Heat treated Rubberwood will soon find their way onto the market in a big way in furniture making, flooring and outdoor use as wall cladding, garden decking and fencing – and garden furniture.

Rubberwood sawn timber has become one of the major contributors to the Malaysian furniture export and economic growth in the past two decades as its demand from wooden furniture manufacturing has increased tremendously (Merous, 2011). Overall margins as rubberwood costs are generally cheaper (RHB, 2005), hence rubber growing is invited more among SME compared to that of large professionally managed estates, despite comparatively lower yield and management than in the larger estates. Today, (Figure 2). Malaysia has evolved to become world’s largest timber-based exporter. Starting from primary processing with sawmills and plywood manufacturing, now into a very significant position of diversified value-added products industry (Rajoo M., 2002).

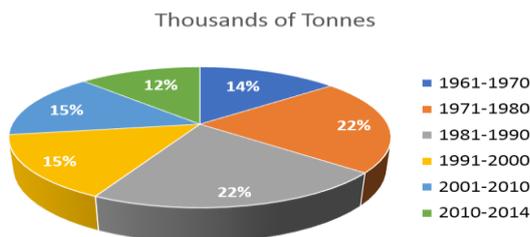
Table 3. Rubber Plantation Areas (thousands of hectares)

Year	Quantity in Tonnes	Year	Quantity in Tonnes	Year	Quantity in Tonnes	Year	Quantity in Tonnes	Year	Quantity in Tonnes	Year	Quantity in Tonnes
1961	789679	1971	1318610	1981	1510221	1991	1257200	2001	882000	2011	996210
1962	793561	1972	1304363	1982	1494182	1992	1173200	2002	890000	2012	922798
1963	830956	1973	1542523	1983	1563716	1993	1074300	2003	985600	2013	826421
1964	870761	1974	1524803	1984	1530583	1994	1100600	2004	1168700	2014	668613
1965	916906	1975	1459331	1985	1469453	1995	1088900	2005	1126000		
1966	972838	1976	1612481	1986	1538638	1996	1082400	2006	1283600		
1967	990449	1977	1588053	1987	1578700	1997	971100	2007	1199600		
1968	1100287	1978	1582453	1988	1661600	1998	885700	2008	1072400		
1969	1268017	1979	1570127	1989	1415300	1999	768900	2009	857019		
1970	1269353	1980	1530000	1990	1291500	2000	928000	2010	939241		
Average Quantity in Tonnes	980281		1503274		1505389		1033030		1040416		853511

Source: FAOSTAT 2015. Production. Department of Statistics (2010b). Annual rubber statistics

The average production quantity in (thousands of tonnes) in 2010-14 is 854; In
the last 5 decades, the average production quantity was 1212 thousands of tonnes

Figure 3. Rubberwood quantity – Thousands of tonnes

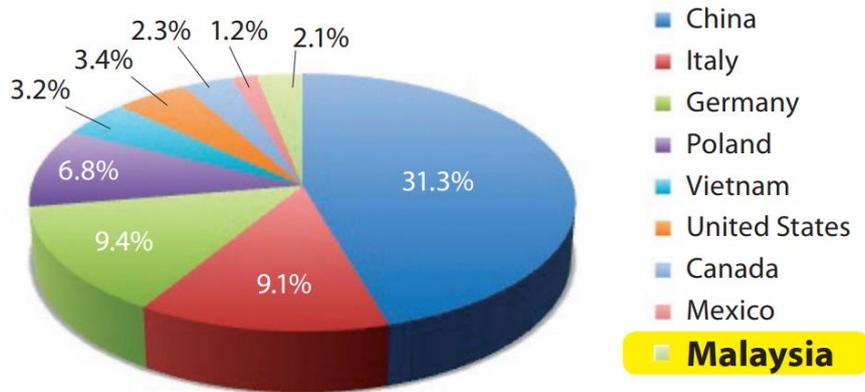


Source: Analysis of Table 1

The 1981-1990 was the best period in the history of timber plantations yields of Malaysia. The period of Sixties and Nineties were almost equal. The other decades were characterized a fall in the production quantity of timber (Figure 3, Table 3). Raw material supply for the timber-based industries are from forest plantations and agricultural waste. Innovative processes of wastes lead to medium density fireboard applications for low cost furniture and building interiors. However, across the world Malaysia is reminisced for its rubberwood (Ratnasingam *et al.*, 2012).

Rubberwood share in Timber industry

Figure 4. Leading furniture global exporters



Source: Chin Pei Ling (2013), MIFF 2013

Though Malaysia has an impactful position in rubberwood timber market (Fig. 4), the giant in scene is the China 31%. Other EU countries such as Italy, Germany and Poland together offer competition to China. Timber has a great demand, including that of illegal. Global trade has now widely recognized, illegal timber as a key threat to forest survival throughout the world. There are even instances of certain countries reclassifying the timber products as that of Malaysia timber. Indonesia has banned the export of timber with 6 mm and more thickness, which prompted the misclassification and laundering of such products by smuggling them out and re-classifying them as of Malaysian origin (WWF, 2007). Comprehensive legislation on Forest law enforcement and governance for sustainable forest management in Malaysia, had been implemented to control illegal imports of round wood and squared timber from Indonesia (FAO, 2004).

SUSTAINABLE MANAGEMENT

The benefits derived from the sustainable management of biological diversity will accrue, directly or indirectly, throughout every sector of society. a huge knowledge bank of sustainable forestry management (SFM) and skills has been built up in the last 50 years during which much has been achieved. Today, Malaysia still retains 61% of its land as natural forest for commercial viability protecting commercial forestry for quality and ecological value. Social integration of forest planning to ensure communities relying for their livelihood and range of restrictions intended to protect the environment in natural forests, water bodies and regulations to protect soil structure and wildlife (Michael Buckley, 2015).

The demand and supply of timber based products depends on biophysical factors inherent in different ecological regions and favoring policies and legislations. Legislation relevant to the timber sector includes Water Enactment Act, Land Conservation Act, National Forestry Act, Protection of Wild Life Act, Malaysian Timber Industry Board Act, Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order, National Park Act, and Malaysian Forestry Research and Development Act. Finally, the government controls and provisions on timber based products, should enable significantly in sales growth and market facilitation; at the same time promote intensive tree plantation programs to sustain the business prospectus on a long run (source?).

The timber based industries has tremendous potential for growth, from the current 40 per cent of exports to 60 per cent in 2016 (Ooi Tee Ching, 2016). Though there are various options (Timothy, 2005) for Malaysia to obtain wood security domestically involving sustainable forest management and commercial forest plantations, as a sustainable factor of green manufacturing, perceived as the future demand of the world, Malaysia has consciously decided on SFM path.

Skilled and experienced Manpower

Experienced manpower is the direct contributors to the timber industry performance. Industry employees more of foreign immigrant's due to cost benefit reasons (Jawahar *et al.*, 2016). Labor cost through salaries to workers, is maintained stable. However, increase in the form of bonuses, health care, and other social support is significant (Breukink *et al.*, 2015).

The globalization and rapid change in technology has transformed demand for labour entirely, with more mobility of people across international competitive market. The economic strategies formulated by organizations to maintain the competitive



advantage works on the elasticity of labour demand substantially affecting productivity, wage rate and interest rate (Noorasiah, 2017). Employees involved in manufacturing of rubberwood furniture are bound to be affected with acute and chronic irritant symptoms due to lung infection of wood dust (Thepakorn *et al.*, 2017). Welfare measures including that of the safety equipment and work facilities lead to reduction in accidents and safety incidents, booting their morale and build good image in the society which reflects in external stakeholder relations.

The social impact of due to timber industries has instances of human rights abuses, with local communities attempting to resist unjustified provocations and conflict over land and access to forest resources affecting their normal livings with lack of alternative support (European Commission, 2016).

RUBBERWOOD FURNITURE AND IT NEAR FUTURE DEMAND

Rubberwood is harder than most coniferous species, comparable to black walnut and teak and quite a bit softer than oak or birch. It has a straight, coarse grain and accepts stain easily. As rubberwood has a natural dull patina, once a year the furniture's need to be cleaned and then brightened with paste wax or furniture wax. Care should be ensured on rubberwood furniture to protect them from discoloration while being in direct sunlight (Ratnasingam *et al.*, 2011).

Rubber wood is harvested from trees are above 30 years of age, as they can no longer produce latex and their wood is moderately hard and stiff. Furniture of different varieties can be made for living, dining and office requirements (Ratnasingam *et al.*, 2012).

Table 4. Malaysia – Projected average log production from rubber plantation

Five year period	Peninsular Malaysia	Sabah	Sarawak	Malaysia
Million m ³				
2006-2010	2.1	n.a	n.a	2.1
2011-2015	1.9	0.1	n.a	2.0
2016-2020	1.7	0.1	n.a	1.8

Note: n.a – not available; Source: FDPM, SFD, SD Sarawak

Considering there would be a boom to rubber wood market from current position of 0.853 Million cubic meter (Table. 3) to the anticipated value of 1.7 in the second half of the current decade (Table. 4), which is a 500% jump. This scaling of volumes requires a very serious contemplation, interrogation and path facilitation to cash on the opportunity of business (OCED, 2010)

E-commerce in timber industry

Leveraging the internet, assess on product information and commercials are easily available to the customer. The timber market mix of product, place, promotion and pricing needs to be planned and differentiated with variants, uploaded and segmented sufficiently to capture all classifications of customers (Meera Singh, 2012). Unlike the exchange, facilitation and physical movement of goods in market, the current generation is technology webbed, with communication and transaction at ease. Leveraging this the timber industry, especially the Malaysian rubberwood industry should mark its stamp on it.

CONCLUSIONS

Malaysia needs to prepare for a marketing revolution, to reach the potential international market. With the current fall in production, along with SFM path, some other strategies to improve the production of rubberwood needs to be focused upon. The rubber trees take a period of 30 years and above to become mature for harvesting its wood. As this gestation time is big, more volumes of plantation would be the only option to tide over scale of volumes. However, value addition and quality deliverable can bring more revenues to this industry. Immediate action in gene technology, bio engineering etc., would facilitate the loss on opportunity that can be handled one and half decades later. When agricultural scientist can bring new crops towards this requirement by reducing the harvest prepared tree to half their life as of now (15-year gestation). Future harvest returns will result mainly from intensified management, through additional plantation and higher levels of management in selected forests rather than higher yields in inaccessible forests. Proper management of forest resources is intended to serve the public and future generations and preserve the biodiversity of forest ecosystems.



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