



NATIP

**National Timber Industry Policy
2009 - 2020**



**Ministry of Plantation Industries and Commodities
Malaysia**

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2009-2020

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Y.A.B. Dato' Sri Mohd Najib bin Tun Haji Abdul Razak
DEPUTY PRIME MINISTER OF MALAYSIA

As the timber industry is one of the main contributors to the Malaysian economy, for more than a decade, sustainable development of the industry is critical to ensure that it continues to assume a key role in the nation's economy. A concerted and structured plan is thus necessary to guide industry players on where the timber industry is heading and what actions to take to ensure its sustainable development in the long term. As such, the implementation of the National Timber Industry Policy or NATIP is very timely to address the concerns regarding the market, technology, raw materials, human capital and other key factors that are crucial for the continued viability of a resource-based industry such as the wood-based sector.

The Government of Malaysia has previously placed great importance on value-added downstream manufacturing and this approach has been maintained in NATIP. The current industry structure will be re-aligned to achieve the target of RM53 billion per year by 2020, through an average annual growth rate of 6.4 per cent. Uncertainties in the global market pose great challenges to the industry. Through NATIP, appropriate strategies have been formulated to ensure that the timber industry remains competitive both in the domestic as well as international markets.

NATIP also promotes industrial development within the timber industry. Technology and innovation will assume an important role in gearing the industry towards achieving greater productivity and profitability. Together with enhanced human capital development and successful R&D commercialisation efforts, the timber industry will be well poised to develop its potential and embark on greater industrialisation transformations.

The international economic and financial environment will continue to be very challenging with major economies constantly facing uncertainties in international trade. Hence, industrial and performance growth must come from within the timber sector and it is hoped that NATIP will provide the integral impetus for the timber industry to attain a higher level of dynamism and resilience, and enhance its competitiveness in the global market.

A black ink signature of Y.A.B. Dato' Sri Mohd Najib bin Tun Haji Abdul Razak. The signature is stylized, with a prominent vertical stroke and a horizontal base line.

Y.A.B. Dato' Sri Mohd Najib bin Tun Haji Abdul Razak
Deputy Prime Minister of Malaysia

Y.B. Datuk Peter Chin Fah Kui
MINISTER OF PLANTATION INDUSTRIES AND COMMODITIES MALAYSIA



The National Timber Industry Policy or NATIP is a guiding principle for the development of the timber industry in Malaysia. The policy will be the focal point which outlines the way forward for the industry and determines the appropriate policy directions for critical aspects of the timber industry. By adopting the policy, the timber fraternity will be able to align their operations and long term plans according to the strategies prescribed in NATIP and take an active part in the mainstream development of the industry.

As the pace of development intensifies and as international trade becomes more competitive and globalised, it becomes imperative that the foundations upon which industrial development, one of which is the timber industry, have been built, remains intact. This will be vital in sustaining the resilience of the timber industry in the challenging global trading environment. This is where NATIP will set the pace and impetus for the progress of the industry. In a highly globalised timber market, innovation as well as responding to the changing environment in all aspects have been the key differentiating factors to remain competitive. It is therefore important for the industry to have clear development objectives and direction to be successful in the world market.

For the successful implementation of the policy a series of action plan will be formulated and put in place. The monitoring mechanism will be established to ensure that key results areas are achieved so that they can generate direct and indirect benefits to all sectors of the timber industry. Eventually the aim of NATIP is to move the industry up the value chain and maintain competitiveness while enhancing Malaysia's position as a supplier of quality timber products to the world market and improving its contribution to the national economy.

A handwritten signature in black ink, consisting of a long, flowing horizontal stroke followed by a circular flourish.

Y.B. Datuk Peter Chin Fah Kui
Minister of Plantation Industries and Commodities Malaysia

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The Malaysian timber industry is one of the major revenue contributors to the country's economy. In 2008, timber and timber products contributed an estimated RM22.5 billion or 3.3 per cent of the total merchandise exports valued at RM674 billion. The timber industry has also provided employment to about 300,000 workers. Malaysia is one of the world's largest exporters of tropical timber and has also established itself as a major producer and exporter of sawntimber, panel products (plywood, medium density fibreboard and particleboard), flooring, doors and other joinery products.

During the First Industrial Master Plan (1986 to 1995), activities in the timber industry were mainly concentrated in the production of logs, sawntimber and plywood with special emphasis on value-added processing. In the Second Industrial Master Plan (1996 - 2005), value-added processing was further intensified with exports of timber and timber products which grew at an annual average rate of five per cent. The export of furniture was the main contributor to this growth with an annual average rate of 11 per cent or RM5.8 billion. During the Third Industrial Master Plan (2006 to 2020), exports of the timber industry is targeted to grow by 6.4 per cent per annum to RM53 billion. The main contributors to this targeted growth will be furniture and panel products, such as medium density fibreboard and plywood.

The timber industry is characterised by both upstream and downstream activities. Currently upstream activities involve the systematic and sustainable harvesting of natural forests and forest plantations. Downstream activities cover primary, secondary and tertiary operations, ranging from the processing of raw materials (logs) to the manufacture of semi-finished and finished timber products. In 2008, an estimated 60 per cent of the export value, under the current structure of the timber industry, is derived from primary activities which include harvesting of logs, and the processing of sawntimber, plywood, veneer, fibreboard and particleboard. Meanwhile the remaining 40 per cent of the export value is derived from secondary and tertiary activities related to the manufacture and exports of mouldings, flooring, laminated veneer lumber, laminated timber, furniture, builders' joinery and carpentry.

During the Third Industrial Plan (IMP3) period, the timber industry is expected to overcome several challenges. These include the need to address issues pertaining to the supply of raw materials, skilled manpower, adoption of advanced technologies, emphasis on research and development (R&D) and the increasing requirements for legal and sustainable timber in the world market.

It is therefore necessary to re-evaluate the current structure of the timber industry in line with the target set by the IMP3 which focuses on higher value-added downstream activities. As such, more emphasis will be given to higher value-added downstream activities that are expected to generate 60 per cent of the export earning valued at RM31.8 billion. These activities include the manufacture of wooden and composite furniture products, panel products such as medium density fibreboard, blockboard, plywood, particleboard, laminated veneer lumber and engineered wood products. It is envisaged that the remaining 40 per cent (RM21.2 billion) will be derived from export of primary processed wood products such as logs, sawntimber and plywood.

Ensuring an adequate and reliable supply of raw materials at competitive prices would be crucial to the development of the timber industry in Malaysia. As Malaysia is a major supplier of quality timber and timber products in the world market, decreasing supply from the natural forests would affect the industry in the coming years. To ensure Malaysia remains as one of the world's leading nation in the manufacture and export of timber and timber products, it vital that steps be taken to address this problem. This could be done through encouraging greater investments in commercial forest plantations, undertaking more R&D activities on alternative raw materials such as oil palm biomass, Kenaf and non-wood composites, using marginal land for tree planting as well as encouraging reverse investments in resource-rich countries to facilitate imports.

Human capital development is another key factor in ensuring the competitiveness and sustainability of the timber industry in Malaysia. The lack of skilled local manpower has led to the employment of foreign labour which has increased by an estimated 58 per cent in 2008 compared with 2000. Currently, the requirement by the industry has not been met by the total output from the existing training institutions related to the timber industry.

To overcome the shortage of local skilled manpower, there is a need to strengthen the competency and knowledge of the local workers to facilitate the adoption of cutting-edge technologies and the enhancement of higher value-added manufacturing activities. By adopting cutting-edge technologies and improved training methods, productivity could be further improved to meet the skilled manpower needs of the industry.

The timber industry has always been dependent on foreign technology and machinery. As such, greater efforts must be undertaken by the local research institutes and universities to develop indigenous technology through greater involvement in R&D activities. There is also a need to increase the commercialisation of the R&D findings.

Greater emphasis should be given to brand development, marketing and promotion of timber products. Generally, Malaysian timber companies are contract manufacturers catering for internationally renowned brands. The Malaysian timber and timber products manufacturers were able to compete due to the mass production, low-end and low-wage strategy. However, the emergence of low cost producing countries, such as Viet Nam and the Peoples' Republic of China (PRC), is likely to make Malaysia less competitive. Hence the strategy should now be focused on the development and promotion of Malaysian owned designs and brands for the niche markets.

The Small and Medium Enterprises (SMEs) which form the bulk of the timber industry are fragmented and family-based entities. They are not integrated and lack economies of scale and hence have limited access to finance, have low purchasing power for raw materials as well as employ simple technologies in their manufacturing processes. There is a need to modernise, consolidate and integrate the activities of the SMEs in order to enhance their competitiveness.

Recent global developments regarding the protection of human health and the environment have led to the demand for sustainable timber and environmentally friendly products. It is therefore important for Malaysia to ensure that the timber products manufactured are from sources that are legal and sustainable. Globally, there is a growing demand for such product certification arising from the concerns on quality, safety, health and the environment. Hence it is important for the Government to create awareness on the necessity of obtaining this certification when exporting timber products.

The timber industry in Malaysia is faced with many challenges in the coming decade and beyond. It is especially apparent in the area of raw materials, skilled manpower, use of cutting-edge technologies, the growing demand for timber products from sustainable timber sources in order to protect the environment and health, and to brace for competition from emerging timber producing countries such as the PRC and Viet Nam. The National Timber Industry Policy or NATIP will provide the strategic thrusts and policy directions in addressing these challenges to ensure that the Malaysian industry remains sustainable and competitive.

Thrust

1

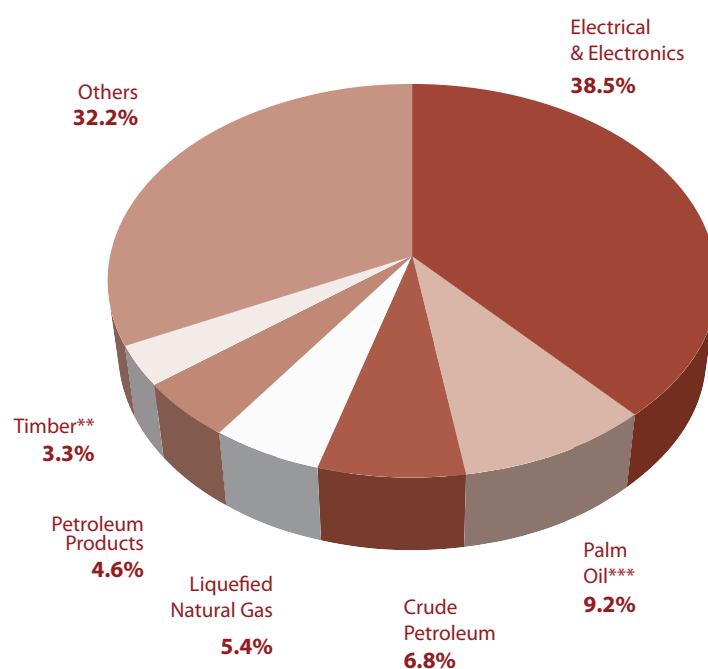
Industry Structure



1. INTRODUCTION

- 1.1 The Malaysian timber industry is one of the major contributors to the Malaysian economy. In 2008, timber and timber products contributed RM22.5 billion out of Malaysia's estimated total merchandise exports of RM674 billion and has provided employment to about 300,000 workers. Malaysia is one of the world's largest exporter of tropical timber and timber products and the 10th largest exporter of furniture (second in Asia) with over 160 export destinations. Malaysia has also established itself as a major producer and exporter of sawntimber, panel products (plywood, medium density fibreboard (MDF) and particleboard), flooring, doors and other joinery products.

Chart 1.1: Malaysia - Major export earnings, 2008*



Source : DOSM

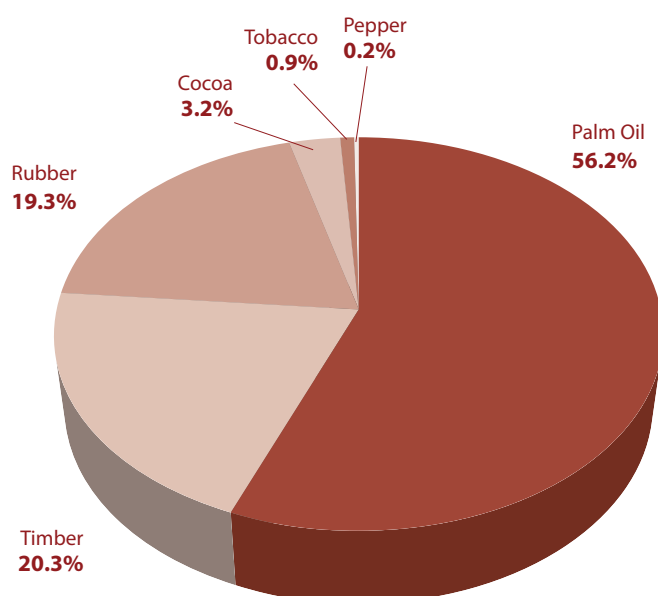
Notes : * estimate

** including timber-based products

*** including palm oil-based products

- 1.2 In 2008, the timber industry was the fifth largest contributor (3.3 per cent) to total export earnings, after Electrical and Electronics (38.5 per cent), Palm Oil (9.2 per cent), Crude Petroleum (6.8 per cent) and Liquefied Natural Gas (5.4 per cent) (Chart 1.1).

Figures for 2008 are estimate, compiled and computed by MTIB.

Chart 1.2: Malaysia - Exports of commodities, 2008*

Source : DOSM

Note : * estimate

- 1.3 Among commodities, the share of the export earnings of the timber industry in 2008 was 20.3 per cent after palm oil which contributed 56.2 per cent (Chart 1.2).
- 1.4 During the First Industrial Master Plan or IMP1 (1986 - 1995), the main activities of the industry have been driven by the production of logs, sawntimber and plywood with the emphasis on value-added product processing. The annual average rate of growth of the timber industry was at 5.6 per cent during this period.
- 1.5 Exports of the Malaysian timber industry during the Second Industrial Master Plan or IMP2 (1996 - 2005), grew steadily at the rate of five per cent per annum. Furniture was the main contributor to this growth registering an annual average growth of 11 per cent with the value of RM5.8 billion in 2005. The positive growth during the IMP2 period was mainly due to the readily available raw materials at reasonably competitive prices, relatively low labour costs and a continuous growth of the international timber market.
- 1.6 During the Third Industrial Master Plan (IMP3) period (2006 -2020), exports of the timber industry is targeted to grow at an annual rate of 6.4 per cent to reach RM53 billion by 2020. The main contributors to this targeted growth will be furniture and panel products such as MDF and plywood.

2. OVERVIEW OF THE TIMBER INDUSTRY STRUCTURE

Table 1.1: Malaysia - Exports of timber and timber products, 2008*

Timber products	Unit m ³	Quantity	FOB value (RM million)	% Share of total FOB value
Primary products				
Sawlogs	m ³	4,283,891	2,140	9.5
Sawntimber**	m ³	1,917,833	2,640	11.7
Sleepers	m ³	14,213	20	0.1
Veneer	m ³	409,648	420	1.9
Chipboard / particleboard	kg	702,131	430	1.9
Fibreboard	m ³	1,202,479	1,200	5.3
Fuel wood	tonne	383	120	0.5
Plywood***	m ³	4,853,445	6,420	28.5
Total primary products		n.a.	13,390	59.5
Secondary products				
Mouldings****	m ³	254,881	650	2.9
Wooden frame	kg	10,951,824	130	0.6
Builders' joinery and carpentry	kg	208,566,071	1,100	4.9
Wooden furniture	unit		6,810	30.3
Packing cases	kg	38,431,309	140	0.6
Others	-	n.a.	280	1.2
Total secondary products		n.a.	9,110	40.5
Grand total*****		n.a.	22,500	100.0

Source : DOSM

Notes : * estimate

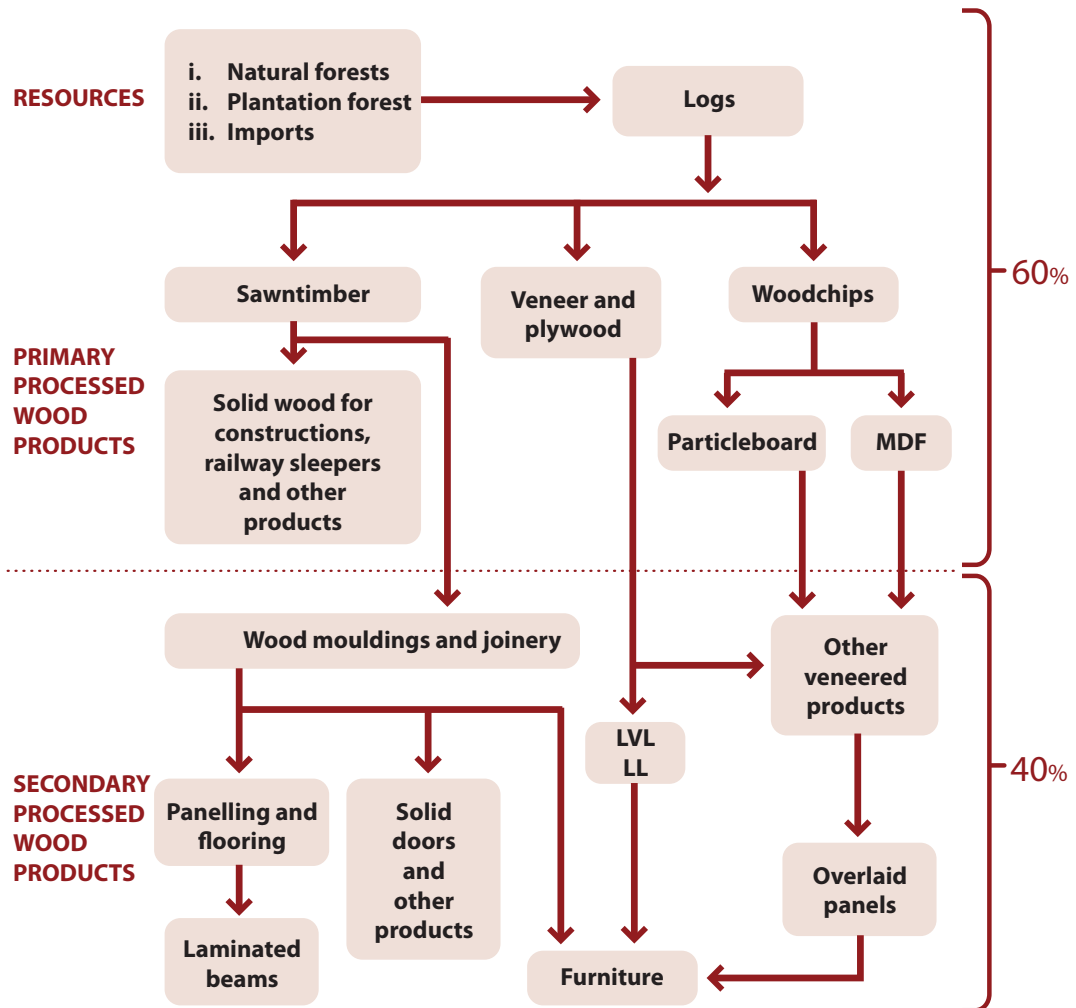
** includes dressed timber

*** includes blockboard

**** includes wooden dowels

***** does not include shipment between Peninsular Malaysia, Sabah and Sarawak

n.a. not available

Figure 1.1: Current structure of the timber industry

Source : MPIC

Note : The percentage for primary and secondary processed wood products represents the total value of exports (RM22.5 billion) in 2008

- 2.1 The timber industry in Malaysia, covers both upstream and downstream activities. The upstream activities entail the systematic and sustainable harvesting of natural forests and forest plantations, while the downstream activities cover primary, secondary and tertiary operations, ranging from the processing of the raw materials (logs) to the manufacturing of semi-finished and finished timber products. Figure 1.1 represents the current structure of the timber industry with 60 per cent of the export value being derived from the primary processing activities which consist of logs, sawntimber, plywood, veneer, fibreboard and particleboard. The secondary and tertiary processing activities contribute 40 per cent of the export value in the export of mouldings, flooring, laminated veneer lumber (LVL), laminated timber (LT), furniture, builders' joinery and carpentry (BJC) such as doors, windows and window frames, balusters and other engineered woods.

2.2 Main activities of the timber industry

The main activities of the timber industry in Malaysia are as follows:

i. Logging activities

- 2.3 Sustainable and systematic logging of natural forests and forest plantations is important to ensure a continuous and adequate supply of raw materials for the development of the timber industry in Malaysia. In the Permanent Reserved Forests (PRFs), harvesting activities are carried out in accordance with Sustainable Forest Management (SFM) practices in line with the requirements of the Malaysia Criteria and Indicators for Forest Management Certification (MC&I), 2002.
- 2.4 The production and supply of logs in Peninsular Malaysia is subject to the National Forest Policy (NFP), which determines the annual allowable cut, in line with Malaysia's commitment towards SFM. The total annual log production from natural forest in 2008 was 20.7 million m³, of which 11.9 million m³ was from Sarawak, 4.9 million m³ from Sabah and 3.9 million m³ from Peninsular Malaysia (Table 2.4, Thrust 2).
- 2.5 As a result of the implementation of NFP and SFM, the production of logs from natural forests has declined to 20.7 million m³ in 2008 from 23.1 million m³ in 2000 (Table 2.4, Thrust 2).
- 2.6 Apart from local production, the availability of logs is supplemented by imports. However in 2008, the import of logs declined to 70,000 m³ compared with 646,189 m³ in 2000 because of the lower supply of logs mainly due to the ban of exports by countries producing and exporting timber (Table 2.8, Thrust 2).

ii. Primary processing activities

Table 1.2: Malaysia - Number of mills for 2000 and 2008

Type		2000	2008*
Sawmills	Peninsular Malaysia	667	667
	Sabah	215	175
	Sarawak	244	180
	Total	1,126	1,022
Plywood/ Veneer mills	Peninsular Malaysia	50	63
	Sabah	80	63
	Sarawak	53	54
	Total	183	180
Grand Total		1,309	1,202

Sources : FDPM, SFD and STIDC

Note : * estimate

- 2.7 In terms of primary processing activities, sawmilling is one of the largest and oldest wood processing activities in Malaysia. The number of sawmills, however has declined to 1,022 in 2008 compared with 1,126 in 2000 (Table 1.2). Although the number of sawmills declined, the installed capacity of the mills is more than sufficient to meet the demand for downstream processing activities. The operations of sawmills however are not optimised due to the limited supply of raw materials. In 2008 there was a total of 180 plywood and veneer mills in Malaysia, of these, 63 are in Sabah, 63 in Peninsular Malaysia and 54 in Sarawak.

Table 1.3: Production and export value of selected primary products, 2008*

	Sawntimber				Plywood				Veneer			
	Production (million m ³)	%	Export value (RM mil)	%	Production (million m ³)	%	Export value (RM mil)	%	Production (million m ³)	%	Export value (RM mil)	%
Peninsular Malaysia	2.7	50.0	1,218	46.1	4.9	52.7	473	7.4	0.5	71.4	15	3.6
Sabah	0.6	11.1	669	25.3	1.3	14.0	1,507	23.5	0.1	14.3	113	26.7
Sarawak	2.1	38.9	755	28.6	3.1	33.3	4,435	69.1	0.1	14.3	295	69.7
Total	5.4	100.0	2,642	100.0	9.3	100.0	6,415	100.0	0.7	100.0	423	100.0

Sources : FDPM, SFD, MTIB and STIDC

Note : * estimate

- 2.8 Plywood and veneer products were the second largest foreign exchange earner for the timber industry in 2008. The export value of plywood and veneer products amounted to RM6.7 billion in 2008 (Table 1.3).
- 2.9 The total production of plywood in 2008 was 9.3 million m³ of which Sarawak accounted for 69.1 per cent, followed by Sabah, 23.5 per cent and Peninsular Malaysia, 7.4 per cent. Malaysia produced 0.7 million m³ of veneer of which Peninsular Malaysia accounted for 71.4 per cent, Sabah 14.3 per cent and Sarawak at 14.3 per cent (Table 1.3).
- 2.10 Malaysia is the largest producer of MDF in Asia exporting 1.2 million m³ with an export value of RM1.2 billion in 2008. In 2000, the export value was RM823 million. There are 14 MDF plants in Malaysia with a total annual installed capacity of 2.9 million m³. Most of these MDF plants utilise Malaysian Rubberwood (*Hevea brasiliensis*) in their production process as the main raw material. Recently, the industry has started utilising Acacia and mixed hardwood as additional sources of raw materials in the production of MDF. In Sarawak, most of the MDF plants utilise mixed timber species in their production process.

iii. Secondary processing activities

Table 1.4: Production and export value of mouldings, 2008*

	Mouldings			
	Production (m ³)	%	Export Value (RM mil)	%
Peninsular Malaysia	199,630	53.1	475	73.3
Sabah	156,500	41.6	147	22.7
Sarawak	20,000	5.3	26	4.0
Total	376,130	100.0	648	100.0

Sources : FDPM, SFD, MTIB and STIDC

Note : * estimate

- 2.11 In 2008, there were 344 mouldings and joinery plants in Malaysia, of which 175 were in Peninsular Malaysia, 142 in Sabah and 27 in Sarawak. The total production of mouldings in Malaysia in 2008 was 376,130 m³ of which Sabah's share 41.6 per cent, Peninsular Malaysia 53.1 per cent and Sarawak 5.3 per cent (Table 1.4). The export value of mouldings in Malaysia was RM648 million.
- 2.12 Recent developments indicate that there are a number of mouldings manufacturers who are beginning to get involved in the production of higher value-added furniture and furniture components. This is a positive development and could become a future trend for the furniture industry.

Table 1.5: Exports and imports of furniture 2000 - 2008

Year	Wooden furniture		Rattan furniture		Total	
	RM million					
	Export	Import	Export	Import	Export	Import
2000	4,419.0	70.0	69.7	15.1	4,768.1	85.1
2001	3,778.6	80.4	69.4	7.2	4,147.6	87.6
2002	4,174.3	212.0	67.8	6.1	4,801.7	218.1
2003	4,670.2	252.8	52.6	6.5	5,333.6	259.3
2004	5,438.4	453.7	48.2	8.5	6,490.4	462.2
2005	5,831.6	435.4	63.6	7.9	6,893.2	443.3
2006	6,409.2	507.0	55.2	17.0	7,588.8	524.0
2007	6,664.9	525.0	50.5	21.4	7,866.4	546.4
2008*	6,809.0	504.0	55.0	19.0	6,864.0	523.0

Source : MFPC

Notes : * estimate

Figures are based on finished goods, excluding parts and components

- 2.13 In 2008, there are 1,895 registered furniture and woodworking mills operating in Malaysia with the majority located in Peninsular Malaysia. The industry is characterised by small enterprises that are family-owned using basic machineries and large-scale manufacturers who use modern machineries in their production processes. About 600 of these mills are export oriented and most of them utilise mainly Malaysian Rubberwood as raw material.
- 2.14 In terms of export value, the wooden and rattan furniture industry in Malaysia recorded significant growth. In 2008 exports increased to a total RM6.9 billion, an increase of 53.3 per cent compared with RM4.5 billion in 2000. About 80 per cent of the furniture exports are manufactured from Malaysian Rubberwood. Imports also recorded a significant growth of 515 per cent to RM523 million in 2008 compared with RM85.1 million in 2000 (Table 1.5).

3. ISSUES AND CHALLENGES

- 3.1 During the IMP3 period, the timber industry is expected to face several challenges. These include the declining supply of raw materials, shortage of skilled manpower, rising fuel costs, slow adoption of advance technologies, insufficient focus on R&D and the increasing requirements for legal and sustainable sources of timber and timber products.

i. Supply of raw materials

- 3.2 Currently, the supply of raw materials is derived from three forested land areas, namely Permanent Reserved Forests (PRFs), state land and alienated land. It is envisaged that by 2010, the production of logs from these forested areas would decline greatly due to the reduced state land forests and alienated lands for development. As a result, the processing capacity of the primary industry is expected to be reduced. To compensate for the reduction in the supply of raw materials, the forest plantations programme implemented by the MPIC will be expected to fill the vacuum.
- 3.3 The policy on the ban of exports of logs implemented by several timber producing countries would further affect the supply of raw materials for the Malaysian timber industry. This, together with the increasing competition in the international market would result in the lower supply of raw materials for the domestic market. Hence, the industry would have to adjust their operations to the limited supply of both domestic and imported timber resources.

ii. Progress towards higher value added activities

- 3.4 The present structure indicates that the industry players are more inclined towards primary processing activities, which would generate quick returns rather than venturing into higher value-added manufacturing that provides slower but higher returns. For example in 2008, about 60 per cent of the timber industry exports were from primary processed wood products such as plywood and sawntimber while higher value-added secondary processed wood products contributed only 40 per cent mainly from activities in the furniture industry.
- 3.5 The slow uptake of R&D findings for example, in product design and the reluctance of the industry to invest time and money into higher value-added activities is due to the high cost of machineries and the state-of-the-art technologies. The need to fulfil various licensing requirements and procedures has also discouraged the manufacturers from venturing into higher value-added activities.

iii. Human resource development

- 3.6 The Government has set up training centres such as the Wood Industry Skills Development Centre (WISDEC) and the Furniture Industry Technology Centre (FITEC) to increase capacity building for the upgrading of skills and training the workers to enable them to use the state-of-the-art technologies.
- 3.7 The timber industry in Malaysia however, still faces the challenge of insufficient supply of local manpower as well as skilled workers at all levels. The industry has been unable to attract highly skilled workers especially at the managerial and supervisory levels as the working environment at these levels are regarded as unattractive by the workers.

iv. Capital investments

- 3.8 Although the existing fiscal and financial policies are adequate to support the activities in the timber industry, existing manufacturers as well as new entrants to the industry still face constraints in obtaining support from the local banks and financial institutions. For example, small and medium scale companies in the timber industry are unable to obtain loans because they cannot provide acceptable collateral to provide security for these loans. These companies also face difficulties in securing financial facilities due to the stringent conditions imposed by banks and financial institutions, especially in timber related projects that are environmentally sensitive.
- 3.9 Although the Government has provided financial support and incentives to promote investments in forest plantation projects, investors are still reluctant to invest due to the long gestation period and slower returns from these projects. This has resulted in the low level of investments in the forest plantations sector which could affect the future supply of raw materials to the industry.

v. Research and Development

- 3.10 Many research institutions such as Research Institutes (RIs) and Research Universities (RUs) have been established to provide R&D support for the timber industry. In addition, the Government has also established the Forest Research Institute Malaysia (FRIM) and the Fibre and Biocomposite Development Centre (FIDEC) to enhance research capabilities in the industry.
- 3.11 Eventhough such efforts have been put in place, the uptake on R&D findings is still low. The general reluctance of the industry to venture into commercialisation of these R&D findings is due to the mismatch between the findings of the research institutions and the requirements of the industry that may need specific research to meet the demands of the market. There is also overlapping and duplication in the research findings due to the lack of co-ordination between these research institutions and the industry. In order to obtain a higher value for timber, there is a need to explore the diversified uses of timber through the intensification of R&D in the timber industry.

vi. Support for downstream activities

- 3.12 The existing structure shows that the industry players source materials from scattered locations. In order to maintain the dynamism and competitiveness of the timber industry, there is a need to bring together all the factors of production within reach of the industry. The establishment of a centralised material sourcing centre to support the downstream processing activities would reduce the cost of sourcing for materials.
- 3.13 To encourage downstream activities especially in the states of Sabah and Sarawak, where such activities are lacking, there is a need to establish manufacturing complexes nearer to the source of raw materials.

vii. Brand development, marketing and promotion

- 3.14 Generally, Malaysian timber companies are contract manufacturers catering for internationally renowned brands. Malaysian timber manufacturers have to be prepared to invest in Original Design Manufacturer (ODM) and Own Brand Manufacturing (OBM) to cater for niche markets. This involves the commitment of funds on the part of the manufacturers towards branding Malaysian-made products, which can fetch premium prices.
- 3.15 Increasing competition from emerging market players such as Viet Nam, the People's Republic of China (PRC) and India is affecting Malaysia's share for timber products in the global market. A specific niche market has to be identified and promotion efforts need to be undertaken in a concerted manner. In terms of marketing, strategic and intensive efforts have to be put in place to promote Malaysian brands for quality timber products in the domestic and global markets.

viii. Global demand for certified timber products

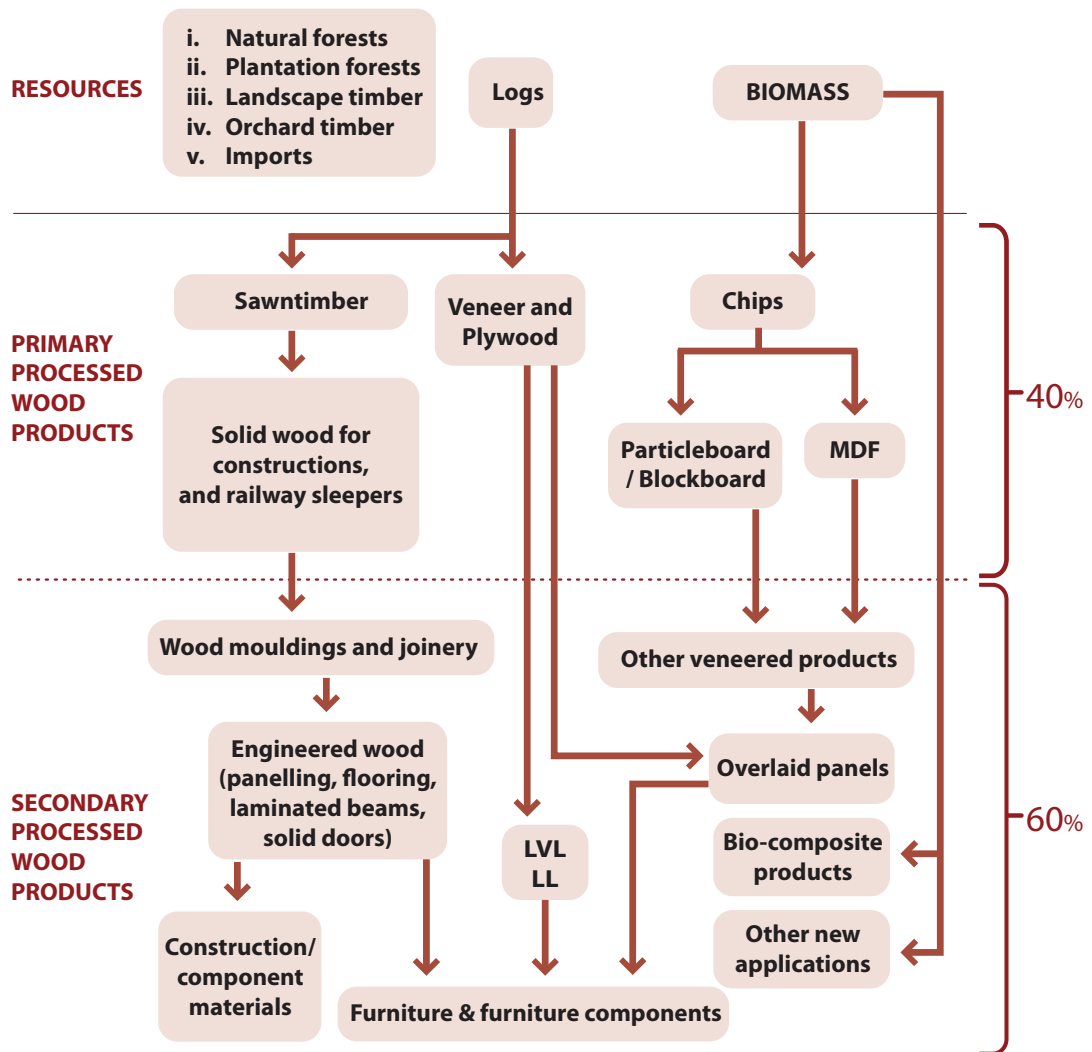
- 3.16 Recent developments in the global demand for legal and environmentally friendly products have made it more difficult for Malaysian timber products to have access to these markets. Malaysian manufacturers therefore, have to produce and supply timber products that meet these requirements. Local manufacturers sourcing materials from markets overseas need to ascertain that imported raw materials are from legal and sustainable sources to ensure their exports of value-added products in turn will not be affected by global concerns on these issues.
- 3.17 There is also a need for Malaysia to streamline its legal framework to gain global acceptance for its timber certification scheme. Currently, Malaysian Timber Products are certified as sustainable by the Malaysian Timber Certification Council (MTCC). To gain regional and world acceptance of the Malaysian Timber Certification Scheme (MTCS) under MTCC, there is a need to undertake more efforts to promote the Scheme.

ix. Consolidation of small and medium enterprises

- 3.18 Small and Medium Enterprise (SME) are a major engine of growth for the Malaysian economy. According to SMIDEC's Annual Report, 2007, from a total of 552,849 establishments in operation nationwide, 548,307 or 99.2 per cent are defined as SME's in Malaysia. Only 4,825 (0.9 per cent) are in the timber industry, contributing one per cent to the Gross Domestic Product (GDP). SME in the timber industry are fragmented and only a few are integrated in terms of processing activities. These SME have limited access to finance, raw materials and technology. Consequently, they are less competitive and thus there is a need to expand and consolidate these SME to enable them to reap economies of scale.

4. THE WAY FORWARD

Figure 1.2: Recommended future structure of the timber industry



Source : MPIC

- 4.1 The rapid growth of the timber industry has brought about new challenges relating to its future competitiveness and sustainability. To enhance the continued dynamism of the industry, the current structure of the timber industry needs to be restructured to meet the target of RM53 billion in annual export earnings by 2020 (Figure 1.2).
- 4.2 The Malaysian timber industry is faced with a number of issues and challenges and there is a need to re-evaluate the current structure of the timber industry in line with the target set by IMP3. The main focus of IMP3 is to encourage higher value-added downstream activities in the timber industry. To meet the IMP3 target the average annual growth rate of the timber industry is expected to grow by 6.4 per cent.

4.3 To achieve this target, the present structure of the Malaysian timber industry need to be revised with more emphasis on higher value-added downstream activities. It is envisaged that 60 per cent of the exports earnings valued at RM31.8 billion will be from activities related to wooden and composite furniture products, panel products such as MDF, blockboard, plywood, particleboard, laminated veneer lumber (LVL) and engineered wood products. Another 40 per cent or RM21.2 billion will be from the primary processed wood products such as logs, sawntimber and plywood (Figure 1.2).

4.4 To address these challenges, various strategies have been formulated by the Government which are as follows:

i. Sustainable supply of raw materials

4.5 The key to the success of the timber industry is the readily available supply of raw materials. The Government has introduced various measures to meet these needs. These measures include, enhancing the SFM as well as the Forest Plantations Programme (FPP), to ensure the sustainable supply of raw materials. In addition, the Government will promote the use of landscaping timber and encourage the usage of alternative materials such as biomass and biocomposite to meet the needs of the industry.

4.6 Greater emphasis should be given to the development of new clones and identification of more species suitable for planted forests. The industry is also encouraged to maximise the wood recovery rates through improvements in technology in current processing techniques. Wood residues should be further utilised to meet the supply requirements of the industry. In the supply of logs, priority should be given to the domestic market.

ii. Emphasis on higher value-added downstream activities

4.7 To remain competitive and resilient and to meet the IMP3 target, the industry needs to review its business strategies and reinforce its strengths and competencies by moving towards higher value-added downstream activities. The industry needs to invest in upgrading its technology in critical areas, such as improvement of design capabilities and monitoring trends so that the design skills in the country are in line with the modern manufacturing capabilities, resulting in greater productivity and efficiency.

4.8 The Government has and will continue to provide necessary incentives to achieve this through the provision of special funds and grants, infrastructure and facilities, R&D, training and streamlining procedures that would facilitate the development of the industry.

- 4.9 The establishment of timber processing plants will be given priority in areas identified for economic development such as the Northern Corridor Economic Region (NCER), Eastern Corridor Economic Region (ECER), as well as the Sabah Development Corridor (SDC) and Sarawak Corridor of Renewable Energy (SCORE). In line with this strategy, the establishment of Malaysian Rubberwood Furniture Industrial Park has been proposed in ECER.

iii. Human resource development

- 4.10 To encourage entrepreneurs to move from primary processed timber products to the higher value-added downstream activities, the Government will give emphasis on developing entrepreneurs in the timber industry. Existing entrepreneurs will be encouraged to venture into higher value-added downstream activities in the timber industry through the provision of incentives by the government.
- 4.11 The Government in collaboration with the industry will initiate programmes that will provide a favourable working environment to attract youths to work in the timber industry. In addition, efforts will be made to promote and create awareness of the entrepreneurial and job opportunities available in the timber industry.
- 4.12 Training centres such as WISDEC, Industrial Training Institute (ITI), *Institut Kemahiran MARA* (IKM) and Sarawak Timber Industry Development Corporation (STIDC) will continue to structure programmes to develop local skilled and semi skilled workers for the timber industry. Computer-aided skills such as Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) will be emphasised to enhance design skills in the country.

iv. Financial support and incentives

- 4.13 The present financial assistance programmes provided by the Government will be reviewed to encourage companies to focus more on R&D activities towards higher value-added innovative wood products as well as the commercialisation of research findings. These programmes will also encourage and promote automation, the use of advanced manufacturing processes, information technology (IT), design and branding of furniture and other wooden products as well as improving the working environment in the wood processing plants.

v. Emphasis on research and development

- 4.14 R&D in knowledge based manufacturing and IT will be crucial for the development of the timber industry. The continuing development of the industry will depend on its ability to develop and absorb technology and information flow. The Government will continue to encourage collaboration and cooperation between RIs, RUs and the industry to undertake R&D programmes and its commercialisation to meet the requirements of the industry.
- 4.15 The timber industry must take the initiative to undertake R&D programmes to move up the value chain and to produce innovative higher value-added products to enable the expansion of downstream activities. Focus will also be given to R&D programmes that produce products which will take into consideration the concerns related to health and environment both at the international and domestic levels.
- 4.16 The Government will undertake efforts through FRIM, Rubber Research Institute of Malaysia (RRIM), MTIB, among others, to promote more R&D in exploring alternatives for the use of timber such as in the production of energy and biofuel.

vi. Support services

- 4.17 Support services are essential to promote the development of higher value-added downstream activities. In order to facilitate this development, strategies will be undertaken by the Government to centralise these services which include the establishment of a central purchasing facility for the purchase of raw materials and parts and components (Material City), a centre to display housing timber products (Home Ideas Centre) and a design centre as a hub for ideas and creative development.

vii. Brand development, marketing and promotion

- 4.18 To remain competitive in the global market, continuous efforts must be made to explore new markets and to promote Malaysian brands of products from the timber industry. The Government in collaboration with local and overseas design institutes and the industry will promote the establishment of design centres to assist manufacturers in the timber industry and develop local brands, particularly in the furniture sector.
- 4.19 To support ODM and OBM, the Government through its agencies such as SMIDEC and the Malaysian External Trade Development Corporation (MATRADE) has provided various financial incentives. The industry should take advantage of these facilities to develop and promote their own brands to become super brands or global brands rather than remain as contract manufacturers for internationally renowned brands.

- 4.20 Collaboration between the industry and Government agencies would be continued and expanded to assist the marketing and promotion of existing and newly developed product brands. Marketing and promotion by both the timber industry and the Government will be intensified to maintain and expand existing markets as well as to penetrate into new markets.

viii. Global demand for certified timber products

- 4.21 It is important for Malaysia to ensure that timber products are manufactured from legal and sustainable sources of timber to meet the increasing global demand for such products. The MTCS has been established to ensure that the timber used in the manufacturing of timber products are from legal and sustainable sources of timber.
- 4.22 Globally, there is a growing demand for product certification arising from the concerns for quality, safety and health. Such concerns have resulted in specific technical requirements to meet certain standards by importing countries. The requirements by Japan for imports of plywood and fibreboard as well as the need for *Conformité Européenne* (CE Marking) by Europe are such examples. In the effort to address these issues, MTIB will be provided with the necessary resources to establish a quality assurance system. Steps will also be taken to ensure the acceptance of this system by importing countries through measures such as Mutual Recognition Arrangements (MRAs).
- 4.23 The Government will promote and create awareness in the timber industry on the necessity and importance of obtaining this certification when exporting timber products. Efforts will also be made by MTCC and other Government agencies to promote the MTCS to Malaysia's trading partners in order to gain global acceptance and wider recognition.
- 4.24 Increasing global demand for green timber and timber products require that the Malaysian timber industry ensure that materials used in the manufacturing of high value-added products are from legal and sustainable sources of timber.
- 4.25 Realising that certain markets require the harmonisation of standards and quality, the Government will intensify efforts to harmonise and standardise product specification and quality for timber and timber products through its agencies such as the Department of Standards Malaysia (DSM) and MTIB.

ix. Consolidation of small and medium enterprises

- 4.26 The Government through its agencies such as SMIDEC and the Timber Industry Associations (TIAs) will encourage SME to work together in promoting their products as well as consolidate to reap economies of scale in their production processes. They are also urged to target niche markets for example, customised furniture and handicraft for resorts, hotels and other public places.

5. POLICY DIRECTION

- 5.1 The policy direction sets the path for sustainable development of the timber industry in the medium (2015) and the long-term (2020) for achieving the target of RM53 billion in export earnings. The broad policy directions are:
- i. shift the focus of the timber industry from upstream activities to higher value-added downstream activities. Export earnings from the downstream wood products are targeted at 60 per cent and 40 per cent from primary activities;
 - ii. raw materials to be managed in a sustainable manner in compliance with the domestic laws and regulations;
 - iii. the FPP is to be enhanced in order to ensure that there is a sustainable and sufficient supply of raw materials for the timber industry in the long term;
 - iv. supplementing the requirement of timber-based industries through imports of timber and maximising the use of available timber resources;
 - v. the supply of logs to the domestic market is to be given priority in order to ensure that there is adequate supply of logs for the local manufacturers producing timber products;
 - vi. encourage the timber industry to use alternative materials such as biomass, biocomposite, Kenaf, orchard and landscaping timber to be utilised by the timber industry;
 - vii. the industry should maximise the use of wood residues from the forest as well as from the activities of the timber industry;
 - viii. emphasis will be given for downstream activities located in the various economic development corridors to increase and accelerate the promotion of downstream activities;
 - ix. greater emphasis to be given to HRD, R&D, acquiring state of the art technologies, design and development, branding and ODM;
 - x. promoting global recognition of MTCC certification of tropical timber;
 - xi. formulating government policies to mandate the use of certified quality timber that are from legal and sustainable sources of timber in government projects;

- xii. encouraging the consolidation of SME in the timber industry; and
- xiii. establishing and enhancing supporting services such as the establishment of Material City, manufacturing support services and Home Ideas Centre.

Thrust

2

The Supply of Raw Materials



1. INTRODUCTION

- 1.1 The supply of raw materials is an issue that has an important bearing on the general health of the timber industry. The timber industry in Malaysia has for many years, assumed an important role in the national economy. It has expanded from a domestic-market focused industry into a sector which is highly competitive in the global market. The industry has also successfully placed Malaysia as a major supplier of quality timber and timber products to the world market.
- 1.2 The major source of raw materials for the industry has been from the natural forests as well as from state land forests, alienated land and rubber replanting programmes. Under the Third Industrial Master Plan (IMP3) (2006 - 2020), annual exports of the timber industry is targeted to reach RM53 billion by 2020. Thus, it is anticipated there will be a shortfall of raw materials due to the reduced opening of state land forests and alienated land for development. This situation must be addressed urgently through the implementation of appropriate policy measures. One solution to this problem is to encourage outward investments in the production of logs and semi-finished components in timber resources-rich countries in order to supplement the insufficient supply of raw materials to the timber industry.
- 1.3 Raw materials for the timber industry include logs, sawntimber, plywood, mill residues, rattan, bamboo, oil palm and coconut trunks.

2. OVERVIEW OF THE SUPPLY OF RAW MATERIALS

i. Natural forests

Table 2.1: Malaysia - Land use pattern by region, 2008*

Region	Land area	Natural forest	Forest plantation	Agricultural tree crops**	Other land uses	Total forest area	(%) Total of forest area
	million hectares						
Peninsular Malaysia	13.2	5.8	0.1	3.3	4.0	5.9	44.7
Sarawak	12.3	7.9	0.1	0.7	3.5	8.0	65.0
Sabah	7.4	4.1	0.2	1.5	1.6	4.3	58.1
Malaysia	32.9	17.8	0.4	5.5	9.1	18.2	55.3

Sources : FDP, SFD and FD Sarawak

Notes : * estimate

** Oil palm, rubber, cocoa and coconut plantations

- 2.1 The forests in Malaysia assume many important roles, one of which is that, it provides raw materials especially logs to the timber industry. The total land area in Malaysia is 32.9 million hectares, of which 18.2 million hectares or 55.3 per cent was under natural and plantation forest cover in 2008. Sarawak has eight million hectares under forest cover, while Peninsular Malaysia has 5.9 million hectares and Sabah 4.3 million hectares.
- 2.2 Land under perennial agricultural tree crops such as rubber, oil palm, cocoa and coconut, apart from land under forests and those under other land usage such as settlements and infrastructural development totalled 5.5 million hectares or 16.7 per cent and 9.1 million hectares or 27.7 per cent of the total land area respectively. Currently the perennial agricultural tree crops such as rubber, oil palm and coconut are also being utilised as alternative sources of raw materials for the timber industry (Table 2.1).

Table 2.2: Malaysia - Distribution and extent of major forests types, 2008*

Region	Land area	Natural forest			Forest plantations	Total forested land	(%) Total of forested land
		Dry inland forest	Swamp forest	Mangrove forest			
	million hectares						
Peninsular Malaysia**	13.2	4.3	0.2	0.1	0.1	4.7	35.6
Sarawak	12.3	6.9	0.9	0.1	0.1	8.0	65.0
Sabah	7.4	3.7	0.1	0.3	0.2	4.3	58.1
Malaysia	32.9	14.9	1.2	0.5	0.4	17	51.7

Sources : FDPM, SFD and FD Sarawak

Notes : * estimate

** refers to PRFs

- 2.3 In terms of major types of forests, Malaysia in 2008, had 14.9 million hectares of dry inland forests, 1.2 million hectares of swamp forests and 0.5 million hectares of mangrove forests, with the balance of 0.4 million hectares being forest plantations (Table 2.2).

Table 2.3: Annual coupe area under the 8th and 9th Malaysia Plans

Region	8 th Malaysia Plan (2001-2005)	9 th Malaysia Plan (2006-2010)
	hectares	
Sarawak	170,000	170,000
Sabah	60,000	60,000
Peninsular Malaysia	42,870	36,955
Malaysia	272,870	266,955

Sources : FDPM, SFD and FD Sarawak

- 2.4 Log production in the PRFs is estimated based on the coupe area allocated annually and the net production figures for the respective harvesting cycle for the inland forests, mangrove and peat swamp forests. The net production under inland forests, for areas under 55 and 30 years cutting cycles have been estimated at 77 m³ per hectare and 61 m³ per hectare, respectively. It is estimated that 120-190 m³ per hectare of mangrove swamps are less than 20-30 years cutting cycle and 40-50 m³ per hectare for peat swamp forests are under 40-60 years cutting cycle. The annual coupe for each state is decided by the National Forestry Council (NFC) and reviewed once every five years following the Malaysia Plan periods (Table 2.3).

Table 2.4: Production of logs from natural forests, 2000 - 2008

Year	Peninsular Malaysia	Sabah	Sarawak	Malaysia
	million m ³			
2000	5.1	3.7	14.3	23.1
2001	4.2	2.6	12.2	19.0
2002	4.4	4.4	12.3	21.1
2003	4.4	5.0	12.2	21.6
2004	4.6	5.4	12.1	22.1
2005	4.4	6.0	12.0	22.4
2006	4.7	5.3	11.9	21.9
2007	4.2	5.9	11.9	22.0
2008*	3.9	4.9	11.9	20.7

Sources : FDPM, SFD and FD Sarawak

Note : * estimate

- 2.5 The total production of logs from natural forests in Malaysia had declined to 20.7 million m³ in 2008 from 23.1 million m³ in 2000. This was due to the reduction in the production of logs from natural forests in Peninsular Malaysia to 3.9 million m³ in 2008 from 5.1 million m³ in 2000 and Sarawak to 11.9 million m³ from 14.3 million m³ respectively mainly due to the compliance to SFM practices (Table 2.4).
- 2.6 In contrast, Sabah, which registered a decline to 2.6 million m³ in 2001 from 3.7 million m³ in 2000, had since then shown a rising trend and an increased production to 4.9 million m³ in 2008. This was attributed to a number of factors such as the conversion of degraded areas for the Industrial Tree Plantation Development (Forest Plantations), hence contributing salvaged timber to the total production; the restructuring of royalty rates for domestic processing to a differentiated rate based on diameter class (formerly it was one flat rate for all types of log irrespective of diameter class) hence allowing previously unutilised small diameter logs to be used; and the introduction of minimal royalty rate of RM5 per m³ for logging residues (stumps, log ends) and pioneer species (namely, the *Macaranga* species). Following the restructuring of the timber royalty, there was an increasing trend in the utilisation of logging residues and small diameter logs, resulting in the increase of production of logs from natural forests.

Table 2.5: Malaysia - Projected average annual log production from natural forests, 2006 - 2020

Five year period	Peninsular Malaysia	Sabah	Sarawak	Malaysia
	million m ³			
2006 - 2010	3.8	4.1	11.5	19.4
2011 - 2015	3.0	2.5	10.0	15.5
2016 - 2020	2.5	1.5	10.0	14.0

Sources : FDPM, SFD and FD Sarawak

- 2.7 The average annual production of logs from natural forests in Malaysia is estimated at 19.4 million m³ for the period 2006-2010; 15.5 million m³ for the next five years from 2011-2015 and 14 million m³ for the years 2016-2020 (Table 2.5).

ii. Forest plantations

Table 2.6: Malaysia - Projected average annual production of logs from forests plantations, 2006 - 2020

Five year period	Peninsular Malaysia	Sabah	Sarawak	Malaysia
	million m ³			
2006 - 2010	0.8	0.5	2.0	3.3
2011 - 2015	0.8	0.6	10.4	11.8
2016 - 2020	0.9	0.8	15.0	16.7

Sources : FDPM, SFD and FD Sarawak

- 2.8 In addition to the supply of logs from the PRFs, the fast growing forest plantation species, such as *Acacia mangium*, *Gmelina arborea* and *Paraserianthes falcataria*, are expected to yield about 3.3 million m³, 11.8 million m³ and 16.7 million m³ for the 2006-2010, 2011-2015 and 2016-2020 periods respectively (Table 2.6).

iii. Malaysian Rubberwood plantations

Table 2.7 : Malaysia - Projected annual production of logs from Malaysian Rubberwood plantations, 2006 - 2020

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

Sources : FDPM, SFD and FD Sarawak

Note : n.a. not available

- 2.9 Malaysian Rubberwood logs are generally obtained as a by-product of rubber trees from agricultural rubber estates, established for the production of latex. However, the supply of Malaysian Rubberwood logs can also be obtained from rubber tree plantations which grows trees solely for the production of logs. Currently, research has been undertaken to identify suitable new clones or species that will increase timber yield. There are already, several new clones such as the Rubber Research Institute of Malaysia (RRIM) 900, RRIM 2000 and the PB series which can produce as much as three times more timber than the current RRIM 600 series and harvestable in a shorter rotation period of 12-15 years. As a result, Malaysian Rubberwood logs would become even more significant in the future as a log production species rather than a by-product of trees grown for latex. It is projected that approximately 2.1 million m³, two million m³ and 1.8 million m³ of Malaysian Rubberwood logs would be produced from rubber replanting programmes, for the periods 2006-2010, 2011-2015 and 2016-2020 respectively (Table 2.7).
- 2.10 Combining the three main sources of the supply of logs in Tables 2.5, 2.6 and 2.7, the projected average annual production of logs in Malaysia is 24.8 million m³ for 2006-2010, 29.3 million m³ from 2011-2015 and 32.5 million m³ from 2016-2020. Sarawak is projected to increase its average annual production of logs from 13.5 million m³ during 2006-2010 to 25 million m³ for the period 2016-2020 largely due to its aggressive forest plantation programmes.
- 2.11 In Peninsular Malaysia and Sabah, the estimated average annual production of logs is expected to decline due to the more stringent enforcement of the annual allowable coupe and the level of permissible cut under SFM from the respective PRFs.

iv. Imports of timber

Table 2.8: Malaysia - Imports of timber, 2000 - 2008

Year/Products	Logs	Sawntimber	Wood-based panels
	'000 m ³		
2000	646.2	700.4	60.9
2001	766.1	650.6	81.9
2002	429.6	700.1	177.6
2003	108.8	829.4	64.4
2004	94.2	1,130	75.5
2005	93.1	1,066	76.8
2006	139.1	990.8	129.1
2007	102.1	724.8	136.3
2008*	69.9	326.3	172.7

Source : DOSM

Notes : * estimate

Wood-based Panels = Plywood and Veneer

- 2.12 Imported timber, currently, supplements the raw materials needed by the domestic timber industry. Logs, sawntimber and plywood are being imported from countries such as New Zealand, Australia, Canada, the United States of America (USA) and Myanmar. The major species are pine, oak, and beech which are processed into plywood, furniture, mouldings and joinery products which are then re-exported. Pine logs are largely processed into plywood. A large number of timber mills and factories now use imported timber as raw materials in their manufacturing processes to produce timber products. The increased demand for certified timber in the international market has led Malaysia to increase its imports of such woods which are readily available in countries such as New Zealand, Australia and the USA (Table 2.8).

v. Licensed mills in the timber industry

Table 2.9: Malaysia - Licensed mills in the timber industry, 2008*

Mills type	Peninsular Malaysia	Sabah	Sarawak	Malaysia
	number of mills			
Sawntimber	667	175	180	1,022
Plywood/Veneer/ Blockboard	63	63	54	180
Mouldings	175	142	27	344
Particleboard/Chipboard	12	3	1	16
Pulp and paper	-	1	-	1
Furniture and woodworking	1,298	n.a.	397	1,695
Laminated board	34	-	12	46
Woodchips	8	5	5	18
Parquet	28	n.a.	1	29
Prefabricated houses	0	n.a.	n.a.	0
Matches	2	n.a.	n.a.	2
Pencils	3	n.a.	n.a.	3
Kiln drying	126	63	47	236
Wood preservation	118	32	n.a.	150
MDF	9	2	3	14

Sources : FDPM,SFD, FD Sarawak, MTIB and STIDC

Notes : * estimate

n.a. not available

- 2.13 In 2008, there were more than 3,000 processing mills in the timber industry. Most of these mills were concentrated in furniture manufacturing and sawmilling (Table 2.9).

Table 2.10: Malaysia - Annual installed capacity and log consumption in primary processing mills, 2008*

Region	Primary processing mills	Annual installed capacity (million m ³)	Annual log consumption (million m ³)
Peninsular Malaysia	Sawmills	11.1	4.2
	Plywood/Veneer	1.9	0.5
Sabah	Sawmills	4.0	1.7
	Plywood/Veneer	4.9	3.0
Sarawak	Sawmills	5.4	2.6
	Plywood/Veneer	5.2	6.2
Malaysia	Sawmills	20.5	8.5
	Plywood/Veneer	12.0	9.7

Sources : FDPM, SFD, FD Sarawak and MTIB

Note : * estimate

- 2.14 Total log consumption in 2008 by sawmills in Malaysia was 8.5 million m³ or 41.5 per cent of their installed capacity while consumption by the plywood/veneer mills was 9.7 million m³ or 80.8 per cent of their installed capacity (Table 2.10).
- 2.15 For the same year, the combined total annual installed capacity was 32.5 million m³, of which 20.5 million m³ were for sawmills and 12 million m³ for the plywood/veneer mills. The annual log consumption for these two categories was 18.2 million m³ (Table 2.10).

3. ISSUES AND CHALLENGES

i. Reduction in the production of logs from natural forests

- 3.1 Recognising the need to strengthen the implementation of SFM, forest harvesting in the PRFs, will have to be streamlined and regulated as the availability of logs from natural forests are limited and the demand is increasing. The production of logs from the PRFs is seen to be more certain as a major source of logs for future demand as compared to other sources, such as state land forests and forest plantations. Thus, there would be a significant reduction in the volume of production of logs that would be made available to the timber industry. Estimate indicate that the annual production of logs from the PRFs would be reduced to 14 million m³ for the period 2016 - 2020 from about 19.4 million m³ during the period 2006 - 2010 (Table 2.5). In this regard, the timber industry must be prepared to adjust to this situation, either to re-look at their processing capacity or be ready to import logs.

ii. Availability of land for forests plantations

- 3.2 The Government is currently embarking on a commercial forest plantations programme which involves the planting of 375,000 hectares over a period of 15 years, from 2006 to 2020. One of the major obstacles to this programme is the non-availability of land and this has slowed down its progress. The response from the private sector to the programme is very encouraging, reflecting the investors' confidence and trust in the timber industry, despite having to engage in long term loan arrangements. However, the investors have to apply to the state governments for the lease of the land and generally, this process takes a long time. It is imperative that the state recognises the importance of this programme to the timber industry and the nation as a whole and provide the supportive framework to facilitate a faster approval process.

iii. Short-term forests tenure

- 3.3 The short-term licensing scheme in awarding forests concessions in Peninsular Malaysia should be streamlined to follow the practices as in Sabah and Sarawak. The licensing scheme in this two states are on a longer 100-year term lease known as Sustainable Forest Management License Agreements (SFMLA) and a 25-year term known as the Forest Timber Concession Agreements. The longer-term licensing system will support the development of integrated harvesting and downstream processing operations under the control of a specific number of industry groups. At the same time, awarding long-term concessions to a few major players would lead to greater efficiency and help to halt the rapid decline of forest resources and forest degradation.
- 3.4 Long-term agreements will attract investments and allow logged-over forests enough time to recover and regenerate after the first harvest. As such, forest concessionaires need to ensure sustainable forest management for their own long-term economic benefit.

iv. Increasing cost of managing natural forests

- 3.5 Malaysia has ratified several international conventions for the protection of the country's natural resources such as the Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Convention on the Protection of the World's Cultural and Natural Heritage, Ramsar Convention on Wetland and the Framework Convention on Climate Change (FCCC). At the regional level, Malaysia is the lead country on the Pan-ASEAN Timber Certification Initiative. Malaysia is now negotiating with the European Union (EU) on the implementation of the Forest Law Enforcement, Governance and Trade (FLEGT) which addresses the legal issues and licensing schemes for timber products exported to the EU.
- 3.6 In meeting these obligations, the Government has established the Malaysian Timber Certification Council (MTCC) to provide an independent assessment of forests management practices in compliance with these conventions. For example, the Malaysian Criteria and Indicators for Forest Management (MC&I), requires that endangered, rare and threatened species of flora and fauna to be identified and protected during harvesting. A comprehensive listing of all laws, policies and regulations must be made available in compliance with these conditions for SFM.
- 3.7 The outcome of complying with all these procedures is the additional cost that is to be incurred by the industry with regard to harvesting from natural forests. As a result, the products produced by Malaysia are less competitive compared with lower cost producing countries.

v. Reduction in the exports of timber raw materials by supplying countries

- 3.8 At present, Malaysia is among the world's largest exporter of tropical logs, plywood, sawntimber and furniture to the international market. Being an export-oriented country, Malaysia has aggressively promoted downstream activities to become a manufacturer of higher quality and value-added products. The timber industry, which has experienced strong growth during the last four decades, has been relying increasingly on imported raw materials.
- 3.9 The market and trading in international tropical forests products have changed considerably in the recent decades. Indonesia, which was a market leader since the mid 80's, has now become less important as an exporter. Policy changes made in many countries producing timber to foster downstream processing activities have resulted in constraints on the supply of raw materials. There are also growing concerns of non-governmental organisations (NGOs) on illegal logging, which have given rise to new environmental and trade issues that have resulted in the further reduction in the supply of timber raw materials.
- 3.10 The present supply of raw materials from Indonesia, Papua New Guinea, Myanmar and other neighbouring countries will decrease as their governments are encouraging more downstream activities and more sustainable forests practices. The timber industry in Malaysia would be increasingly dependent on supplies from other resource-rich countries such as New Zealand, Chile, Canada and a number of African countries. The supply of raw materials from these sources, other than the traditional suppliers would invariably force the industry to restructure in order to ensure that it remains competitive and sustainable in the longer term.

vi. Poor linkages and coordination among the sub-sectors in the timber industry

- 3.11 Despite being one of the leading suppliers of tropical timber and timber products, the networking among the sub-sectors in the timber industry is still limited. The poor linkages have resulted in poor coordination and networking, leading to unnecessary wastage of resources. Maximisation of raw materials and utilisation through precision cutting are at a minimum level. These issues together with the high price of raw materials have led to the high cost of credit as the lending financial institutions fear non-repayment of loans. This situation is due to the lack of communication among the sub-sectors in the industry. This has resulted in suppliers exporting their timber and timber products rather than supplying to the domestic market.

4. THE WAY FORWARD

- 4.1 In order to maintain Malaysia's competitiveness as a major wood producer and to address the issues and challenges, steps must be taken to ensure that the supply of raw materials are available at competitive prices for Malaysian manufacturers.

These steps are as follows :

i. Sustainability of the natural forests resources

- 4.2 In view of the expanded roles of the forests in meeting the demands of society and also the world-wide concerns for the protection of the environment, forests resources will need to be managed in a sustainable manner in accordance with the agreed international criteria and indicators for SFM. To meet the objectives, Malaysia will ensure that all timber and timber products produced in the country will have the necessary certification.

ii. Encourage more private sector participation in forest plantations

- 4.3 In view of the current decline in the supply of logs from natural forests in line with the requirements of SFM, the role of forest plantations in supplementing the industry's need for logs is becoming increasingly critical. The Government through the Ministry of Plantation Industries and Commodities (MPIC) is now aggressively implementing commercial forest plantation programmes that require the planting of 375,000 hectares of trees over the next 15 years (2006 - 2020) and it is expected to produce 75 million m³ of logs during this period. The private sector is encouraged to participate in these programmes and as an incentive, long term financing will be made available to the investors at low interest rates.

iii. Utilising marginal land for tree planting

- 4.4 Currently, areas with a gradient of more than 25 degrees are not suitable for the planting of oil palm. A more economical use of the land would be to plant trees, and most of such land is in Terengganu, Kelantan and Sabah. The Federal Land Development Authority (FELDA) has planted 2,994 hectares with trees in its oil palm schemes, such as Khaya, Teak and Mahogany. The programme undertaken by FELDA is suitable for small-scale tree growers, and incentives such as soft loans will be provided by the Government to encourage them to participate in the programme.

iv. Expediting the issuance of permits to extract resources from private land

- 4.5 It is proposed that the Government streamlines its application procedures so that private landowners will be able to extract the timber from their land for commercial use. The present procedures for the approval requires a long time to process, which deters many landowners from selling their trees to the industry. Moreover, upon approval the landowners are normally required to clear their land within a short period of time. The current time consuming process in issuing permits to extract logs from private land needs to be revamped, so that it can help to motivate landowners to cut their trees to complement the supply of logs to the industry.

v. Alternative raw materials

- 4.6 The increased restriction or ban on the export of logs and other timber raw materials from supplying countries will require that the industry continuously search for alternative raw materials. The timber industry, in particular the plywood sector should take steps to restructure and reform to increase the utilisation of small diameter logs from oil palm trunks, plantation timber species and imported softwood logs. While product technology may increase the prospects for the substitution of raw materials, the decline in the supply and increasing prices of tropical logs would provide the incentive to further stimulate the development of the industry by using alternative raw materials, which are readily available and the supply more reliable.

vi. Encouraging the use of biomass as a supplementary resource

- 4.7 Increasing global demand for the protection of the environment and forests conservation policies opens new opportunities for the use of alternative raw materials for the timber industry, such as oil palm and coconut trunks, Kenaf, bamboo and various agricultural residues. Currently both the Government and the private sector are undertaking research to study their commercial applications. These resources cannot completely replace timber, but they are useful as a supplementary source of fibre for the production of pulp and paper, composite panels and engineered wood products. These alternative raw materials for the production of biomass include:

i. Oil palm biomass

- 4.8 There are about 4.2 million hectares of oil palm plantations in Malaysia. It is estimated that about 18.4 million tonnes of empty fruit bunches (EFB) and 43.3 million tonnes of fronds are being produced annually. Hence, there exists a large volume of oil palm biomass to be commercialised in the country. The commercialisation of oil palm biomass in the form of trunks, fronds and EFB has been encouraging and has come a long way since the beginning of R&D on the utilisation of oil palm residues in the early eighties.

ii. Other biomass and composite

- 4.9 With the increasing global demand for the protection of the environment and conservation, scientists are also exploring alternative sources of raw materials for the timber industry. There are a number of bio-resources such as coconut trunks, Kenaf plant and other agricultural residues which have shown potential. Although these resources cannot completely replace timber, they can assume an important supplementary role as fibre. There is a growing demand for natural fibres for products such as paper, composite and engineered materials.
- 4.10 Kenaf as non-wood material is a suitable supplement to wood. With the available current technology, coconut trunks can become a potential source of good fibre for the production of biomass in addition to their traditional uses.
- 4.11 It is expected that in the future, due to the scarcity of the supply of raw materials, more solid wood products will be substituted with wood composite. It is therefore important that more research be undertaken so that the new products can meet users' expectations and be commercially viable.

vii. Facilitating the import of raw materials

- 4.12 Due to the shortage of raw materials as well as components of timber products, it is proposed that the Government establish a special fund to facilitate imports in order to enhance the development of the timber industry in Malaysia. The industry, currently, has to cope with the many conditions imposed by financial institutions on timber companies applying for loans to import raw materials and product components. This may be due to the policies of the financial institutions and general lack of confidence in the timber industry. As a result, there is reluctance by the manufacturers to import and this will impact the exports of Malaysia's timber products to the world market. It will be a great loss to the nation as there is a big demand for such products in the international market. The special fund will encourage the manufacturers to source for imports to overcome the shortage of raw materials and timber product components in the domestic market.
- 4.13 Closer rapport has to be developed with the existing sources of imports to ensure that there is a continuous supply of raw materials at stable prices, which will have a bearing on the price of the final product. Efforts must also be undertaken to search for additional sources of imports, as the current sources of supply can vary due to the changes in policies of the exporting countries.

viii. Closer collaboration in trade between Peninsular Malaysia, Sabah and Sarawak

- 4.14 Malaysia is an important supplier of tropical hardwood logs to the world market, but there is insufficient supply to the domestic market especially in Peninsular Malaysia. This is because of the poor linkages between Peninsular Malaysia, Sabah and Sarawak on the distribution of logs.
- 4.15 It is important that the suppliers of logs in Sabah and Sarawak be more willing to trade with buyers in Peninsular Malaysia, who are facing shortage of logs. Currently there is a preference to supply to overseas markets such as Japan and Korea, which will cause the nation to lose the added value and economic benefits such as employment and foreign exchange derived from processing the timber in the country.
- 4.16 Closer collaboration in the trade between the three regions in Malaysia is necessary for the further development of the timber industry. There is a need for the Government to provide a conducive financial and regulatory environment to further facilitate trade and movement of timber resources between the three regions and formulate a policy to address the issue of the shortage of logs in the domestic market.

ix. Utilisation of rattan and bamboo resources

- 4.17 Bamboo and rattan are two major sources of Non-Wood Forests Products (NWFPs). Most of the bamboo and rattan grow wild and are scattered in forests areas. However, there are no official statistics on the stock availability of these two resources. Bamboo, which is a fibre resource, represents an average of seven per cent of the total NWFPs in the country. Both rattan and bamboo have tremendous potential to supplement the existing resources of the timber industry. Presently, these resources are widely utilised by cottage industries to produce products for the domestic market such as basketry, furniture and handicraft. It is proposed that a comprehensive survey on the availability of these resources be undertaken to assess their potential as NWFPs.
- 4.18 A survey should also be undertaken on the cottage industries using bamboo and rattan as raw materials to uplift their status as well as to meet the demand for such products. Action plans to be put in place to identify niche markets, conduct research as well as the promotion of these products to optimise the utilisation of both these resources as they have proven to be suitable for the production of furniture and floorings.

x. Encouraging cross border investments and strategic alliances

- 4.19 Due to scarcity of raw materials in the country, Malaysian timber companies are encouraged to undertake cross border investments especially in countries that have ample and cheap raw materials. Malaysia is also well positioned to take advantage of the cross border or regional co-operation in the form of the Association of Southeast Asian Nations (ASEAN) Growth Triangles. In the north, the co-operation is with southern Thailand and Sumatra (Indonesia), while in the east, the member states are Indonesia, Mindanao (Philippines) and Brunei. Participating countries in these Growth Triangles are continually looking for new avenues for greater co-operation and collaboration. Industries within these areas are encouraged to produce products that are complimentary. This approach will not only ensure benefits for upstream and downstream activities but also provide access to the global markets via member countries.
- 4.20 The domestic furniture industry has much to be gain by participating in the Growth Triangles either through linkages with suppliers of Malaysian Rubberwood and tropical hardwood or through the sourcing of timber product components or in the latest furniture designs. There is great potential for such type and extent of cooperation among member countries. Currently, Malaysia has Bilateral Payment Agreements (BPA) with 25 countries. These agreements guarantee payments for exports and provide avenues for new markets.

xi. Enhancing coordination and linkages in the timber industry

- 4.21 The aim of increasing industry coordination is to achieve overall efficiency and competitiveness in the timber industry, including raw materials distribution and utilisation. Emphasis will be given to strengthening coordination between manufacturers engaged in upstream and downstream activities in the timber industry. Currently, coordination and linkages are limited between the domestic furniture manufacturers and the raw materials and product components suppliers. The shortage of raw materials and product components for the domestic furniture manufacturers can be solved to some extent with better coordination and linkages with the suppliers.
- 4.22 There is competing demand for Malaysian Rubberwood from the furniture and fibreboard sub-sectors and this will be a source of conflict in the future. The Government should undertake programmes to encourage the manufacturers and suppliers to coordinate and network with each other for the improvement of their business relationships.

xii. Research and development

- 4.23 If the timber industry were to rely solely on natural forests for the supply of raw materials, it is anticipated that the amount would be insufficient and the quality of the wood would be low. This is because wood produced from natural forests comes from trees that need a long time to mature and ready for harvesting. In order to accelerate and increase the amount of available wood as well as improvement in its quality, in the shortest time possible, R&D should be undertaken to increase the production of raw materials both from natural forests as well as from forest plantations and alternatives.

xiii. Improving intensive planting methods

- 4.24 An option to increase the supply of raw materials is the adoption of the Intensive Tropical Forests Management System. This system combines improved intensive planting methods of promising indigenous tree species in degraded areas with the integration of sustainable utilisation of non-timber forests produce. This system needs to be enhanced, as it would conserve the biological diversity within the managed production tropical forests. Plantings within the managed production tropical forests is encouraged and priority should be given to fast growing and high value timber species especially Meranti. To ensure the continuous supply of high quality timber seeds, there is a need to establish a series of 'Seed Production Areas' (SPAs) in the country.

xiv. Management prescriptions for special/pristine forests

- 4.25 Another issue in managing natural forests in Malaysia is the unavailability of management prescriptions for special/pristine forests, such as Seraya Ridge, Kapor, and peat swamp. Eventhough efforts have been undertaken to look into this matter during the current 9th Malaysia Plan, more work needs to be done in order to develop management prescriptions for these forests in the future. During the 9th Malaysia Plan period, emphasis will be given to the compilation of available knowledge on the types of natural forests and the development of the most suitable management guidelines to enable forests managers to undertake better management practices of these forests types on the ground.

- 4.26 For the production of raw materials from forest plantations, *Acacias* or its hybrids are currently identified as one of the most favourable timber species to be planted since the species has high market demand and has a shorter rotation length of planting and harvesting of not more than 15 years. Research results have proven that the percentage of cellulose for pulp production in woods of *Acacia* hybrid and *A. mangium* is higher than in *Styrax tonkinensis*, *Manglieta glauca*, *Eucalyptus exserta*, *E. camaldulensis* and *E. urophylla*. Moreover, with the lower lignin content but a higher pentosans content, the hybrid had shown great pulping potential and suitable for production of wood fibres in the manufacturing of medium fibre boards or other utility products.

5. POLICY DIRECTION

- 5.1 The future trend in wood production, on a global scale, will be towards output from planted trees rather than managed natural forests. The shrinking area of natural forests, sustainable management and environmental concerns will require research on potentially high yielding varieties of wood as well as efficiency in growing, harvesting and ensuring uniformity in product size and technical specifications.
- 5.2 The policy direction for the supply of raw materials should give due emphasis to the assurance of a steady flow of timber from the natural forests, forest plantations, biomass and composite to enable strategic plans to be developed for the long term sustainable growth and competitiveness of the timber industry. The target of achieving RM53 billion in timber exports by the end of the IMP3 in 2020, which is an increase of 130 per cent over the present level, can be attained when all the resources needed are available to meet the increasing global demand that is expected to increase in the light of increasing population, greater urbanisation and rising incomes. This target may not be necessarily achieved through the increase in exports but rather through obtaining better prices for higher quality products, skilled negotiations and improved delivery services. The broad policy directions are:
- i. ensuring that the supply of raw materials from the natural forests continue to be a major source of raw materials for the timber industry through SFM;
 - ii. providing better access to financial facilities that would facilitate the import of raw materials for the timber industry;
 - iii. enhancing closer cooperation among members of the industry to create synergy at the same time strengthening sectoral linkages within and outside the timber industry, both locally and abroad;

- iv. prioritising R&D to develop higher yields for existing and potential resources of raw materials to obtain sustainability and meeting requirements of the industry;
- v. encouraging more active private sector investments and participation in the forest plantations programme;
- vi. enhancing the development of R&D in biomass and composite materials for commercial applications;
- vii. encouraging active planting programmes for good quality timber in the natural forests; and
- viii. facilitating the import of raw materials and product components.

Thrust

3

Innovation and Technology



1. INTRODUCTION

- 1.1 In the last four decades, the timber industry has grown from a producer of planks and boards primarily for domestic consumption and exporter of logs to being an exporter of primary products such as sawn logs, sawntimber, plywood and veneer in the 1970s. The timber industry has since progressed to become a major exporter of value-added products such as furniture, builders' joinery and carpentry (BJC). The growth towards the manufacture of more value-added products had been driven mainly by large increases in capital investments, reflected by the number of value-added downstream processing activities using more machinery and labour.
- 1.2 With globalisation and liberalisation, Malaysia's timber industry is faced with intense competition not only from the low-end products' manufacturing countries such as the People's Republic of China (PRC) and Viet Nam, but also from the developed countries, employing high technology in their production processes for example Japan and the Republic of Korea (ROK). Malaysia thus finds itself in between these two types of producers and is slowly losing its comparative advantage in the export of labour intensive manufactured products because of the rising labour costs.
- 1.3 The timber industry, which has been a major source of export income for the country in the last 40 years, needs to innovate and re-invent itself to stay competitive. It is expected that the future growth of the industry will be through higher productivity, innovation and technological breakthroughs. Innovation, in this context, refers to the successful exploitation of new ideas and designs that result in tangible products and services. Technology is the application of knowledge, equipment, machines and processes in translating innovation into newer and more sophisticated products for commercial gains.
- 1.4 Thus, in order for the timber industry to remain relevant, it has to adopt new and state-of-the-art technologies to overcome production bottlenecks that would result in newer and more sophisticated products. This can be achieved by identifying and exploiting innovation gains through the promotion of knowledge intensive industries, technical breakthroughs and R&D initiatives.

2. OVERVIEW OF INNOVATION AND TECHNOLOGY

i. Timber technology

Table 3.1: Malaysia - Number of mills and types in the timber industry, 1990, 2000, 2008

Mills	1990				2000				2008*			
	P.M'sia	Sabah	Sarawak	Total	P.M'sia	Sabah	Sarawak	Total	P.M'sia	Sabah	Sarawak	Total
Sawmills	686	227	147	1060	667	216	244	1127	667	175	180	1022
Plywood/Veneer	40	39	10	89	48	81	53	182	53	63	53	169
Furniture	224	n.a.	n.a.	224	2801	n.a.	336	3137	1298	200	397	1895
Kiln drying	119	0	n.a.	119	122	88	47	257	126	63	47	236
Mouldings	100	39	15	154	153	175	21	349	175	142	27	344
Wood preservation	90	7	n.a.	97	118	58	n.a.	176	118	32	n.a.	150
Rattan/ bamboo	40	n.a.	n.a.	40	n.a.	n.a.	n.a.	0	n.a.	1	n.a.	1
Parquet flooring	23	n.a.	n.a.	23	26	n.a.	n.a.	26	28	n.a.	1	29
Laminated board	14	n.a.	4	18	34	n.a.	7	41	34	n.a.	12	46
Blockboard	12	n.a.	n.a.	12	12	n.a.	n.a.	12	10	n.a.	1	11
Wooden house prefabrication	9	n.a.	n.a.	9	10	n.a.	n.a.	10	0	n.a.	0	0
Wooden toy manufacture	5	n.a.	n.a.	5	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	0
Particleboard/chipboard	3	n.a.	n.a.	3	6	5	1	12	12	1	3	16
MDF	2	0	n.a.	2	8	3	3	14	9	2	3	14
Wood cement board	2	n.a.	n.a.	2	n.a.	n.a.	n.a.	0	2	n.a.	2	4
Pencil	2	n.a.	n.a.	2	3	n.a.	n.a.	3	3	n.a.	0	3

Sources : FDPM, SFD, FD Sarawak, MTIB and STIDC

Notes : * estimate

n.a. not available

- 2.1 The timber industry traditionally, has been dominated by the primary processing sector, producing sawntimber, plywood and veneer as indicated by the numbers of mills in these sectors. Since the late 1990s, mills in the other categories have been established and it has expanded into the production of reconstituted wood panels and higher value-added wood manufactures such as furniture, mouldings, parquet flooring, laminated board, BJC and other downstream products (Table 3.1).

- 2.2 Since the implementation of the First (1986 - 1995), Second (1996 - 2005) and the current Third (2006 - 2020) Industrial Master Plans (IMP1, IMP2 and IMP3), emphasis has been given to value-added activities related to timber products. This was further emphasised by the implementation of policies that encouraged the development of downstream value-added manufacturing activities. These policies provided tax incentives rebates and financial assistance to attract potential investors to venture into such activities.
- 2.3 The largest contributor to foreign exchange earnings in the timber industry in recent years has been the furniture sub-sector mainly from Peninsular Malaysia. The rising global prices of plywood and veneer in the last few years have increased the contribution of this sub-sector to the nation's foreign exchange earnings.
- 2.4 Generally, the timber industry in Peninsular Malaysia is more developed than in Sabah and Sarawak particularly those pertaining to downstream processing activities and the use of reconstituted timber and composite wood products.
- 2.5 The timber industry in Sabah has generally been driven by exports, mainly of logs, sawntimber and plywood. This has resulted in the shortage of raw materials for the domestic manufacturers, which has created excess capacity in the sawmilling and plywood and veneer sub-sectors. The production of plywood and veneer and wood mouldings have increased in the state in recent years, however, activities in the joinery and furniture sub-sectors have not shown corresponding increases.
- 2.6 The timber industry in Sarawak is highly dependent on imported technology. Local machines, which are of non-heavy duty types, are mainly used in simpler applications, while machines for high-technology requirements are imported.
- 2.7 Competitors to the Malaysian timber industry for example the PRC have attracted world-renowned wood machinery makers such as Weinig from Germany to locate in that country. This has enabled the PRC to move much faster in acquiring the latest in timber processing technologies that would give them comparative advantage.
- 2.8 There is increasing usage of more sophisticated machinery, as the Malaysian timber industry goes into special-function machinery that would enhance manufacturing capacity build-up. This type of machinery is used to attain a higher speed of production with emphasis on the finishing processes based on a fixed design, rather than one that can accommodate design modification to produce a variety of components and parts. This is because Malaysian manufacturers prefer to use high throughput machines with lesser flexibility to improve productivity and to attain economies of scale, while reducing the labour content and costs. The build-up in the manufacturing capacity of the Malaysian timber products industry as such is generally volume driven and export oriented.

- 2.9 The mass production strategy, has led to the establishment of rigid manufacturing facilities where everything is produced under one-roof. This is a disadvantage to manufacture value-added products such as furniture, wood components and parts that need machinery which is more flexible. Flexible machineries can be easily modified using low-cost automation to produce a variety of specialised products in response to changing customer demands.
- 2.10 In general, manufacturers have a definite preference, as to where the machinery is made, as one moves along the manufacturing line from the rough milling section through the machine shop, into the sanding section and finally into the finishing bay. From a predominantly “Asian Made” machines, there is a gradual shift towards “European Made” machines, notably in the finishing bays. Italian and German made machinery represent the biggest share of technology used in Malaysia. Currently, there is a gradual shift in preference for lower cost machinery made in China. Nevertheless, cost, precision, reliability, consistency, durability and maintenance are listed as the main factors that determine as to which make of machinery is to be purchased.
- 2.11 This situation is reflected in the shift from primary to value-added downstream products such as BJC, furniture components and wood composite products. For example, exports of primary forests products such as logs and sawntimber have decreased to RM4.8 billion in 2008 from RM5.6 billion in 2000. Exports of BJC and furniture however, have increased to RM8 billion in 2008 from RM5.3 billion in 2000.
- 2.12 Despite the use of more sophisticated machinery by the timber industry, there is still lack of product diversification and growth is still dependant on established product lines, and as a result, product development has not grown significantly. Malaysian manufacturers still rely heavily on designs of furniture buyers from abroad and become contract or Original Equipment Manufacturer (OEM). Generally, OEM-based manufacturers have less say in transactions with customers and often negotiations between the buyers and OEM manufacturers are only based on prices and product quality. In 2003, the Malaysian market for woodworking machinery was estimated to be RM120 million with growing emphasis on technology in wood finishing, BJC, furniture components and wood composite products.
- 2.13 Although the majority of timber products’ manufacturers in Malaysia are still OEM-based, a small number of manufacturers in the furniture, flooring and mouldings sub-sectors are embarking on the Original Design Manufacturer (ODM) concept. This involves working on the clients’ design or incorporating original ideas into the products to increase product diversity to become value-added. ODM will add value to the products and a higher premium can be obtained due to the improvement in product diversity and quality.

- 2.14 With regards to woodworking machinery, there are several large suppliers in Malaysia and among the notable ones are Petaling Corporation, Ken Hiap Seng, Kaoyang, Wycombe and Kenshing. Although these companies have been in operation for a long time, the bulk of their business is derived from acquiring dealership rights with established foreign machinery suppliers. The personnel from these companies are mainly trained to promote the foreign suppliers' brand names and reputation with some capacity to do maintenance. This has limited the development of indigenous machinery technology, as the machines are mainly imported.

ii. Research and development

- 2.15 Currently, R&D is focused on enhancing the competitiveness of forests products, diversifying the use of timber products, improving production technology and the quality of wood. R&D efforts would also be undertaken to maximise the utilisation of wood wastes and agriculture by-products for the production of biocomposite, and pulp and paper, which would be used as resources for the production of alternative energy. These efforts are supported by:
- i. R&D networking among players in the timber industry including both local and international research institutes (RIs) and universities on product innovation, adding value to under-utilised species, and commercial applications of non-wood fibres and wood wastes; and
 - ii. developing new products and improving the quality of existing products that conform to international standards. R&D on wood-based products will also include waste recycling and control of the emission of carbon dioxide.
- 2.16 R&D support for the timber industry is provided by a number of RIs such as; Forest Research Institute Malaysia (FRIM), Malaysian Palm Oil Board (MPOB), Timber Technology Research and Training Centre (TTRTC) Sarawak, Forest Research Institute (FRI) Sabah and universities such as, *Universiti Putra Malaysia* (UPM), *Universiti Sains Malaysia* (USM), *Universiti Teknologi MARA* (UiTM), *Universiti Malaysia Sabah* (UMS) and *Universiti Malaysia Sarawak* (UNIMAS). Among the notable contributions of R&D to the development of the timber industry include the fuller utilisation of Malaysian Rubberwood, wood wastes, oil palm by-products such as oil palm stem and empty fruit bunches (EFB), and under-utilised species for laminated scantling (lamscant) projects. R&D will also address issues such as formaldehyde emission and boron content in Malaysian Rubberwood treatment.
- 2.17 In addition, the Government has established a Fibre and Biocomposite Development Centre (FIDEC) for the commercialisation of R&D output. At the same time, the Government has also established training centres such as Wood Industry Skills Development Centre (WISDEC), *Institut Kemahiran MARA* (IKM), *Akademi Binaan Malaysia* (ABM) and other training centres to enhance the capacity building of human resources for the timber industry.

- 2.18 Besides focusing on timber utilisation, research on bio-technology and medicinal plants have opened up many opportunities for product development such as Deoxyribo Nucleic Acid (DNA) tracking for timber trees, hybridisation for producing high quality timber species and extraction of alkaloids and proteins from medicinal plants (shrubs and trees) for pharmaceutical uses.
- 2.19 Continuous efforts are being made to increase the number of laboratories in the RIs and the universities for the purpose of international accreditation. Accreditation for these local institutions by the Japanese Agricultural Standards/Japanese Industrial Standards (JAS/JIS) and the European Certification (CE) marking for example will facilitate timber exports to the Japanese and European markets. In response, FRIM and other local institutions have taken the initiative to certify its laboratories under ISO 9001: 2000 and ISO/IEC 17025 to provide quality testing services in forestry and forests products.

3. ISSUES AND CHALLENGES

i. Knowledge workers

- 3.1 Timber manufacturing currently is based on mass production relying on the use of machines to attain fast throughput, thereby reducing the labour content as well as the total cost. Despite the high degree of mechanisation, the industry still faces problems of labour, as jobs in the industry are generally regarded by the local workers as dangerous, difficult and dirty (3Ds). Hence, foreign contract workers are recruited to fill the gap. Owing to the contractual nature of the work, the work force is characteristically mobile and as a result the retention of the workers is low. Another reason is the low wages that is generally associated with the timber industry makes the retention and recruitment of skilled labour more difficult.
- 3.2 There is also a perception among young graduates and school leavers that working in the timber industry is not attractive. It is also perceived that the timber industry suffers from a lack of safety precautions and proper upkeep of industrial facilities and its surroundings. Hence, the inflow of knowledge or K-workers is slow, which results in low labour productivity and affects the competitiveness of the timber industry.
- 3.3 In the long-term, the industry should embark on measures to ensure that the working environment is more conducive, cleaner and using more advanced technologies namely, automation and robotics, for more efficient manufacturing, so that it would attract K-workers.

- 3.4 In the efforts to improve the image of the workers in the timber industry, steps are being taken to give due recognition to their skills through certification processes by the Vocational Training Centres such as WISDEC, Furniture Industry Technology Centre (FITEC), Terengganu Timber Industry Training Centre (TTITC) and Sarawak Timber Industry Development Corporation (STIDC). In addition, “new” skills such as wood protection (preservation, drying and finishing), machining, woodworking and utilisation must be emphasised to project a more professional image of the workers in the timber industry.
- 3.5 The industry must take appropriate measures to improve the image of the timber industry away from the 3Ds. The adoption of “Good Manufacturing Practices” (GMPs) with more visible compliance to manufacturing safety standards are some of the ways for the timber industry to project a more professional image to the general public.
- 3.6 The timber industry’s professional image can be further enhanced if the industry readily adopts the ISO 9001: 2000 Certification Standards in their management practices. This ISO Certification is well supported by technical expertise and scientific principles. With these in place, the image of the workers in the timber industry can be at par with their counterparts in the developed countries, where the workers in the industry are treated as professionals.
- 3.7 Manufacturing is now moving towards more focused greater value-added products that compete primarily on creativity, in terms of both product development and the market. Parallel with this new image of the work environment, is the application of digital and computing skills that are generally associated with automated machines, technology development and maintenance of control systems, capable of producing quality and creative products.
- 3.8 The use of Industrialised Building System (IBS) in construction, for example, allows walls and building components to be made in the factory through automation and robotisation, and the ready-made components are then installed on site. This has resulted in cleaner and safer work sites and more efficient construction. With the use of such new technologies, reliance on low-skilled workers is further reduced. The challenge is whether the timber industry is ready to adopt these methodologies similar to the IBS concept, to optimise the use of labour, thereby reducing its reliance on foreign contract workers.

ii. Adoption of advanced technology

- 3.9 For the timber industry to continue meeting the challenges of globalisation, it has to have sufficient strategic capabilities in science and technology in order to facilitate the adoption of advanced technologies. Generally, the adoption of advanced technologies will result in increase of productivity, encourage product creativity and enhance product diversification. However, the shortage of workers in the field of production management, maintenance, design and finishing techniques, have severely reduced the ability of the industry to adopt advanced technologies.
- 3.10 The technological development within the timber industry is limited due to the present set-up based on the dealership system where technical support is restricted to specific machine capability. Thus, they have limited capacity to provide good technical advice to the industry other than the “dealership” technology that they have learnt. As a result, the development of indigenous machine technology is generally slow.
- 3.11 Other factors contributing to the slow adoption of technology include:
- i. lack of a competitive tool and die, and foundry industries;
 - ii. lack of metallurgists or trained professionals;
 - iii. lack of viable machine technology industry that is capable of supplying parts and components to the machining industry; and
 - iv. lack of skilled workforce to support the industry.
- 3.12 The challenge for the industry is not only to enlarge the pool of knowledge and skilled workers to facilitate the adoption of advanced technologies, but also to expand their skills training. Skills training may include advanced wood processing technology, manufacturing, biocomposites and furniture designs. Timber services such as adhesives, paints and gluing technology should also be included into the training curriculum. Through the acquisition of such skills, the timber industry would now be in a better position to utilise advanced technologies.
- 3.13 Other means of improving the adoption of advanced technologies may include organising dialogues, discussions and forums between vocational training institutes, institutions of higher learning and the industry to fine-tune the teaching curriculum so that the trainees can be equipped with the appropriate skills and knowledge to meet the changing needs of the industry. Furthermore, the training programmes should also incorporate attachment training, whereby trainers and trainees are attached to the industry and exposed to the range of manufacturing equipment currently in use. These steps will augur well in preparing the industry to utilise advanced technologies.

- 3.14 Promoting better integration of stakeholders in the technology value-chain should also be encouraged. This will include more collaborative efforts towards technology training between not only training institutes and the timber industry, but also include attachment or joint venture programmes with reputable foreign companies.
- 3.15 The intense competition for timber products in the global market is no longer limited to merely cutting the cost of production, but it now includes the ability to use advanced technologies to produce variety of products based initially on the buyer's design and gradually moving towards original designs.
- 3.16 The timber industry has thus to acquire strategic capabilities in science and technology. Towards achieving these capabilities, the Government has set up Centres of Excellence spearheaded by the local RUs and RIs to produce more technopreneurs to overcome the slow pace of the adoption of technology.

iii. **Strengthening of technological linkages**

- 3.17 At present, the majority of current manufacturing activities are generally located under one-roof; a building complex comprising numerous manufacturing facilities. Manufacturing is generally OEM-driven and operations-based on the buyer's own design. Manufacturing synergy is derived from a combination of mass production and reduction of production costs. As such, the potential of the available technology is often not fully exploited. Under such a situation, the return on investments from technology is low. Opinions within the industry suggest that the non-optimal use of technology has indirectly contributed to the low-wages prevalent in the timber industry.
- 3.18 The PRC and newly emerging countries such as Viet Nam and Cambodia with much lower labour costs, have significantly affected the competitiveness of the Malaysia timber industry. Hence, competing on operational efficiency based on cost reductions, with some quality improvements, while achieving economies of scale based on fast throughputs, may not be sustainable in the long term. Thus, there is a need to move up the value-chain towards more ODM and Own Brand Manufacturing (OBM) based manufacturing, where product creativity, quality, performance reliability, design and the manufacturing environment will be given priority.
- 3.19 The current industrial stand-alone set-up may have to be re-configured to allow for manufacturing flexibility catering for specialised and niche products as well as producing the whole product range. This re-configuration will complement the emergence and organisation of Small and Medium Enterprises (SME) into industrial clusters, supplying a variety of components and parts within a shorter period to the large manufacturers. Shorter time cycles will allow for manufacturing flexibility in terms of minimum orders quantity, which opens up new channels for distribution and marketing.

- 3.20 The leverage created by these SME clusters will in turn give rise to the growth of local expertise in customising existing machinery (tools, hardware and fittings) and the provision of services (abrasives, adhesives and other non-wood materials) to meet the demand from the large manufacturers, who will eventually combine them to become the final product. Thus, the challenge is to provide flexibility in their manufacturing operations, as it is not only economically beneficial, but also serves to improve the competitive advantage of doing business. The success of the Italian, Taiwanese and Danish manufacturers, especially in the furniture industry provides ample testimony of this approach.
- 3.21 Nevertheless, the emergence of these SME will provide the catalyst for the growth of other supporting and ancillary services such as design centres, R&D and test centres as well as training schools. The critical mass created by the SME feeding into one another will lay the foundation for the development of highly synergistic industrial clusters capable of producing not just parts and components for manufacturing, but will also encompass the whole product range.

iv. Strengthening product linkages

- 3.22 It is generally accepted that there is a need to improve the quality of timber products if the industry's share in the global market is to be increased. In this respect, product quality is essentially about meeting customers' expectations in terms of aesthetic, functional and structural qualities of timber products.
- 3.23 Currently, the quality of timber products are not streamlined due to the lack of clearly defined quality as well compliance to established products' standards as it is voluntary and is determined by the importing countries. Since there are no quality standards that are acceptable worldwide, manufacturers have to rely on existing standards that is the American Standard Trade Mark (ASTM), British Standards (BS), European Normalisation (EN), Japanese Industry Standards (JIS) or even the Malaysian Standards (MS) to export quality timber products. As such, compliance to the different standards to suit the different markets is costly, as against using one quality standard which is acceptable worldwide. In this respect, ISO/TC 89 and ISO/TC 218 have taken efforts to harmonise all the regional standards into one ISO Standard. Manufacturers should therefore adopt this ISO Standard, which transcends all the other national standards. It is also a quality mark, which will enhance the value of the timber products.
- 3.24 The drive towards manufacturing better quality products is gaining momentum within the timber industry and it must ensure that the products meet the quality standards as expected by the customers.

- 3.25 Although compliance to quality standards, currently, is not compulsory, the timber industry must continue to be self-regulatory to prepare for the future. Therefore, quality is about GMPs that are defect-free with minimal wastage. This is the basis on which the highly acclaimed Japanese “Zero Defect” system was developed.
- 3.26 Another spin-off from product linkages is the development of certification and accreditation centres for product quality testing in ensuring that the product quality is met and maintained. Conversely, the standards developed from product quality testing can be benchmarked against the imports of sub-standard products into the country.
- 3.27 Strengthening the product linkages may also involve improving knowledge on the product in comparison to its engineering principles (engineering construction, safety, ergonomics, environmental and health concerns) as well as materials science (understanding lifestyles, materials, and biocomposites in combination with non-wood materials). These are then used to develop products capable of meeting the stringent requirements of customers worldwide.

v. Commercialisation of research and development findings

- 3.28 Generally, there is reluctance among the timber community to adopt continual improvement work systems as well as to invest in mill modernisation. Most of the R&D output especially on alternative materials such as under utilised species, oil palm, coconut, Kenaf and other lignocellulosic resources have been published in journals or presented in seminars and conferences. However, the uptake of these findings by the industry is quite slow due to the following factors:
 - i. the industry is comfortable with its current products and raw materials which are easily available; and
 - ii. the reluctance and inability of the industry to undertake investments in relevant machineries and equipment.
- 3.29 The Malaysian timber industry should seriously consider adopting the development of new technologies to remain competitive in the global market. For example, the timber industry in developed countries such as the USA, Japan and Europe work very closely with RIs and universities to overcome the problems pertaining to product improvements. In most of the cases, the industry allocates a certain per cent of their income for R&D purposes. Hence, it is a challenge for the industry and R&D institutions to work more closely to transform the R&D output for commercial applications by adopting the following approaches:

- i. encourage further participation of the industry in R&D in collaboration with RIs and universities on product innovation, adding value to less marketable timber species and commercial application of non-wood fibres and wood wastes;
- ii. encourage R&D on new products and processes, aligned towards improved productivity including work on waste recycling and emission control; and
- iii. establish a working committee to coordinate and monitor all timber related research to avoid wasteful duplication and improving the delivery system.

4. THE WAY FORWARD

- 4.1 The timber industry has been a major contributor to the Malaysian economy and to maintain its share and improve further, there is a need to move into high technology, as well as towards innovative and knowledge intensive industry that is supported by R&D. Complementing strategies and comprehensive action plans that will enhance the growth of the industry are as follows:

i. Enlarging the pool of K-workers

- 4.2 Vocational Training Centres such as WISDEC, FITEC, TTITC and STIDC will have to increase their capacity to produce K-workers through incorporating technical and Information and Communication Technology (ICT)-based subjects into its training curriculum. Certification of these training courses by the respective authorities would reaffirm skills recognition leading to better remuneration packages and offering definite career opportunities to these quality workers.
- 4.3 To attract quality workers, the industry will have to provide the enabling environment in terms of cleanliness and safety. The adoption of GMPs, attainment of the ISO 9001:2000 Certification and the offer of students' internships are some of the ways of instilling professionalism and upgrading the quality of the workforce in the timber industry.

ii. Improving manufacturing competitiveness

- 4.4 Competitiveness in manufacturing is maintained through the adoption of innovation and technology and adaptability to the changing raw materials. These raw materials are increasingly derived from planted forest, producing not only timber but also as base materials for re-engineered wood and biocomposite. This will require a greater degree of automated processing technology in order to maximise the processing yield. Failure to keep abreast with the latest technology or the inability to capitalise fully on the available technology can adversely affect the future competitiveness of the timber industry.

- 4.5 In manufacturing, the intense competition from low-end products' manufacturers forces the industry to move up the value-chain from OEM to ODM-based manufacturing, by adopting modern processing technologies. These include the adoption of automation, manufacturing flexibility, digital and scanning technology capable of producing high quality, original design and diversified products.
- 4.6 Manufacturing competitiveness can be further improved with the support from SME producing specialised manufacturing components or service entities for the large-scale enterprises (LSEs) as part of Malaysia's Global and Services Suppliers' Programme. This move will free the LSEs from mass production to flexibility production with the support from the SME. The LSEs can now focus on designs, marketing and customer services as well as, improving the capabilities of the SME to produce higher-end products. These approaches will further improve the industry's prospects of moving up the value-chain.
- 4.7 Apart from this strategy, the clustering of SME will allow them to reap economies of scale from their production processes, while competition between the SME will encourage production efficiency and product development. Furthermore, the nature of manufacturing by SME will allow them flexibility with shorter time cycles.
- 4.8 Manufacturing flexibility offers diversification of the product range, while the shorter time cycles will allow for smaller minimum order quantities. This manufacturing mode will open up new channels of production, distribution and marketing. Backed by such manufacturing flexibility and shorter time cycles, the LSEs can now target niche markets such as, customised furniture for whole complexes, handicrafts for resort-chains and hotels, Government offices and other public places. This eventually will assist the industry to move up the value-chain.

iii. Enhancing manufacturing linkages

- 4.9 Since manufacturing within the timber industry is primarily OEM-based, the manufacturing linkages are not well developed. In view of the increasing competition in the international market and the rising costs of production especially for labour and materials, the industry has to move towards ODM-based manufacturing. Thus, there is a need to strengthen its linkages in relation to:
 - i. engineering aspects of manufacturing equipment and tools;
 - ii. product designs and innovative use of biocomposites, metals, glass and plastic; and
 - iii. timber support services.

4.10 Strengthening of engineering services, would involve the upgrading and introduction of new and technologically advanced machinery, while adopting innovative designs that would include the use of non-wood materials such as biocomposite, metals, glass and plastic. Strengthening the support services relates to the use of ancillary services such as abrasives, adhesives, coatings, fittings, painting, testing and accrediting centres to complement the production of high quality products.

4.11 Enhancing manufacturing linkages is not only confined to supporting industries (SME) and manufacturers (LSEs), but also includes linkages to suppliers (raw materials), buyers (markets) and product developers (innovations, R&D, and new products range). These sectors are all inter-related and need to be strengthened in order to increase productivity.

iv. Developing competitive positioning in producing selected products

4.12 To remain competitive, the industry needs to develop high quality and specialised products for niche markets. Towards this end, supporting services need to be strengthened to enable the industry to produce more value-added products that incorporate designs, aesthetic appeal and innovative content.

4.13 Strengthening the support and ancillary services will include improving manufacturing techniques, applying digital technology for cost effective production, acquiring design expertise from advanced markets and creating new product designs through designs competitions.

4.14 Improving the R&D programmes to inculcate the elements of creativity and innovation within the industry producing specialised and new products not only from well known timber species, but also from new materials such as, the under-utilised timber species, forest plantation species, Kenaf, oil palm, biocomposites and re-engineered woods. The availability of these additional resources will provide the impetus to shift towards greater value-added timber products that can fetch higher prices.

4.15 Developing R&D guidelines to assist the industry to expand its products/services in the face of rapid changes in technology, shorter product life cycles and commoditisation (the different types of commodities/composite serving the same function). This is a pre-requisite if the timber industry is to transform into an equitable and sustainable growth sector, offering quality and specialised products.

v. Strengthening R&D collaboration between research institutes, universities, government agencies and the industry

- 4.16 Setting up of a task force comprising RIs, universities, government agencies and the industry to improve collaboration as well as to reduce duplication of research pertaining to the development of the timber industry. Identification of RIs and universities to be developed as 'Centres of Excellence' to lead in the specific areas of R&D that will include product improvement, development and commercialisation.

vi. Establishing dedicated funding and incentives

- 4.17 Establishing special funds by the Government for R&D projects that have high potential for commercialisation. Potential projects for commercialisation, for example, include new fibre resources for the biocomposite industry, utilisation of oil palm biomass, development of new technologies in enhancing the performance of biocomposite products, furniture, building and automobile components, and product improvement against bio-deterioration.

vii. Applying alternative energy for the timber industry

- 4.18 Exploring the use of alternative energy in the timber industry, for example the utilisation of solar power to supplement electricity in kiln drying especially in powering the convection fans. Alternatively, biomass such as wood residues and agricultural by-products can be transformed into biofuel for energy production. This will include the utilisation of bioethanol derived from lignocellulosic materials.

5. POLICY DIRECTION

- 5.1 In the near future, innovation and technology development in the timber industry will assume an important role in providing the state-of-the-art technologies to the timber industry so as to remain competitive globally.
- 5.2 To achieve this goal, it is recommended that the following policy directions should be adopted:
 - i. strengthening the structure of the timber industry to make Malaysia the top supplier of high quality timber products;
 - ii. strengthening R&D efforts between RIs, universities, government agencies and the industry, so as to provide continuous improvements on existing products as well as new products development;
 - iii. providing further incentives for the commercialisation of new technology uptake; and
 - iv. using alternative energy for the development of the industry.

Marketing and Promotion

TIMBER SECTOR SHOWCASE

FORESTRY & FOREST PLANTATION

The Malaysian Timber Industry



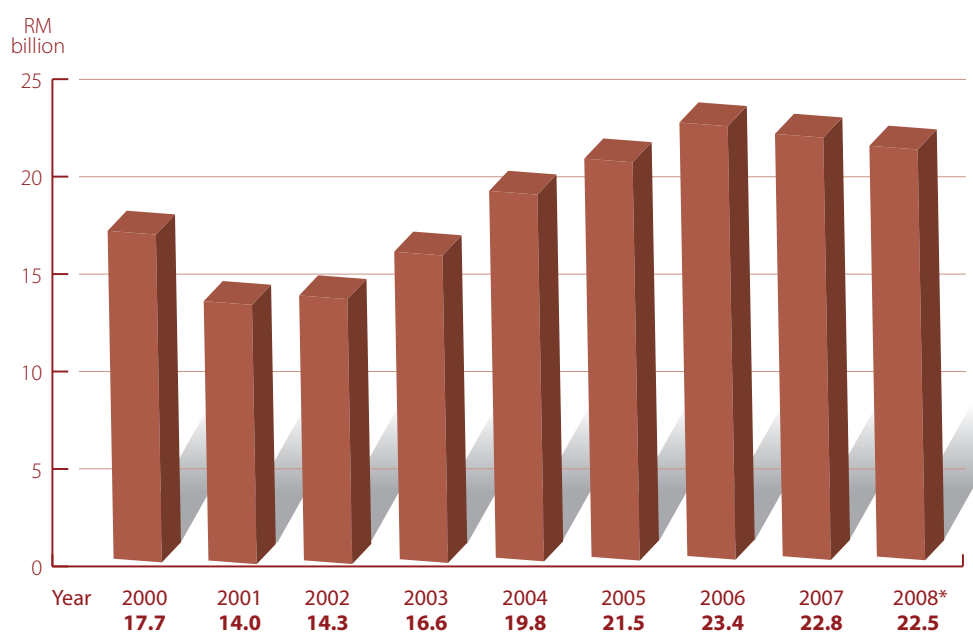
1. INTRODUCTION

- 1.1 The marketing and promotion of Malaysian timber and timber products is an important element in ensuring the long-term viability of the timber industry. The international market is getting increasingly competitive brought about by trade liberalisation initiatives, emergence of new global suppliers and changes in consumers' demand. An effective marketing and promotional strategy is therefore essential to boost Malaysia's timber trade and sustain the growth of the industry.

2. OVERVIEW OF MARKETING AND PROMOTION ACTIVITIES

i. Export performance

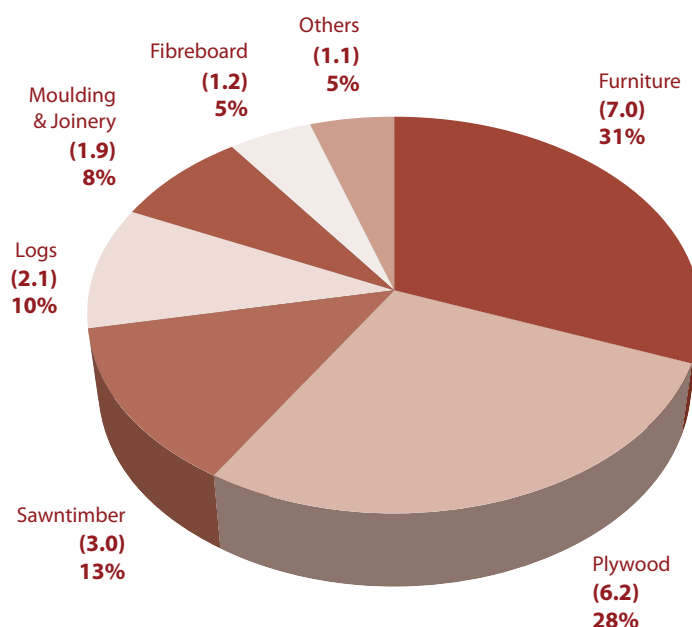
Chart 4.1: Malaysia - Exports of timber products, 2000-2008



Source : MTIB
Note : * estimate

- 2.1 The timber sector is a major contributor to the exports of the country. Exports of timber and timber products over the last 10 years had generally indicated an increasing trend except for 2001 when exports declined by 21 per cent to RM14 billion from RM17.7 billion in 2000. The decline was mainly due to the global economic recession in 2001. Exports, however, recovered in 2006 to record RM23.4 billion. However in 2007 and 2008, exports decreased to RM22.8 and RM22.5 billion respectively, due to the global financial crisis, especially in 2008. The upward trend of exports since the year 2000 reflects the resilience of the timber industry in the face of growing challenges of globalisation and trade liberalisation (Chart 4.1).

Figures for 2008 are estimate, compiled and computed by MTIB.

Chart 4.2: Share and export earnings of major timber products, 2008*

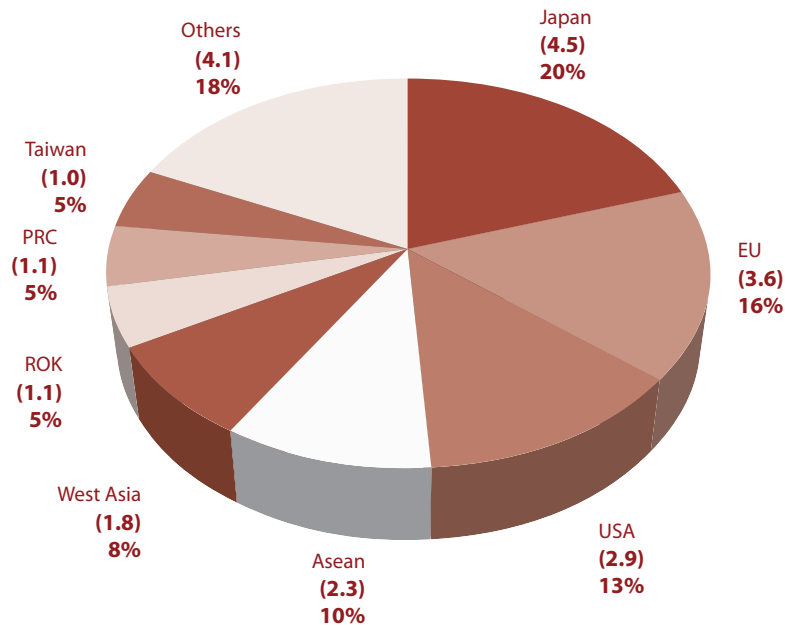
Source : MTIB

Notes : * estimate

Figures in parentheses refer to export earnings in RM billion

- 2.2 Malaysia exports a wide variety of timber products, from primary processing activities such as sawntimber and plywood to value-added products, for example joineries and furniture. Currently, the main products exported are furniture of wood, plywood, sawntimber, logs, mouldings and joinery and fibreboard.
- 2.3 In 2008, furniture accounted for the largest share (31 per cent) of timber products exported with earnings totalling RM7 billion. This was followed by plywood (28 per cent) with RM6.2 billion, sawntimber RM3 billion (13 per cent), logs RM2.1 billion (10 per cent), mouldings and joinery RM1.9 billion (eight per cent), and fibreboard RM1.2 billion (five per cent) (Chart 4.2).

Chart 4.3: Malaysia - Major export markets for timber products, share and value, 2008*



Source : MTIB

Notes : * estimate

Figures in parentheses refer to the value of exports in RM billion

- 2.4 In terms of export markets, Japan remained as the largest importer for Malaysia's timber products. In 2008, timber exports to Japan totalled RM4.5 billion, accounting for 20 per cent of Malaysia's total timber exports. The European Union (EU) was the next largest market with RM3.6 billion or 16 per cent, followed by the United States of America (USA) RM2.9 billion (13 per cent) and ASEAN RM2.3 billion (10 per cent). Other major timber markets were West Asia RM1.8 billion (eight per cent), the Republic of Korea (ROK) RM1.1 billion (five per cent), the People's Republic of China (PRC) RM1.1 billion (five per cent), Taiwan RM1 billion (five per cent) and others RM4.1 billion (18 per cent) (Chart 4.3).

ii. Malaysia's competitiveness in the world market

- 2.5 Malaysia is a major player in the tropical timber trade in the world market. It is ranked among the top exporters of major timber products with total exports amounting to RM22.5 billion in 2008.

Table 4.1: World's major suppliers of logs in terms of volume, 2000 -2007

No.	2000		2001		2002		2003		2004		2005		2006		2007	
	million m ³															
	World	118.0	World	115.3	World	119.7	World	121.2	World	123.5	World	133.0	World	136.7	World	138.5
1	Russian Federation	32.0	Russian Federation	32.8	Russian Federation	37.7	Russian Federation	37.8	Russian Federation	41.8	Russian Federation	48.3	Russian Federation	51.1	Russian Federation	49.3
2	USA	12.1	USA	11.6	USA	11.2	USA	10.4	USA	10.5	USA	9.9	USA	9.7	USA	10.1
3	Malaysia	6.8	New Zealand	7.2	New Zealand	7.8	New Zealand	7.5	Germany	5.6	Germany	6.8	Germany	7.6	Germany	6.7
4	New Zealand	5.9	France	5.4	Malaysia	5.1	Malaysia	5.6	Malaysia	5.4	Canada	5.9	New Zealand	5.5	New Zealand	5.9
5	France	5.8	Malaysia	5.1	Germany	4.9	Canada	5.2	New Zealand	5.2	Malaysia	5.8	Malaysia	4.9	Malaysia	4.9
6	Germany	5.6	Germany	4.9	Canada	4.6	Germany	4.6	Latvia	4.5	New Zealand	5.1	Canada	4.8	Latvia	4.1
7	Estonia	4.4	Latvia	4.0	France	4.6	France	4.5	France	4.2	France	4.3	France	4.2	France	4.1
8	Latvia	4.3	Canada	4.0	Latvia	4.4	Latvia	4.4	Canada	4.0	Latvia	4.2	Latvia	3.8	Sweden	3.8
9	Switzerland	3.7	Estonia	3.6	Estonia	3.3	Estonia	3.3	Czech Rep	3.0	Czech Rep	3.2	Sweden	3.0	Canada	3.6
10	Canada	3.0	Switzerland	3.1	Czech Rep	2.5	Czech Rep	3.1	Ukraine	2.9	Sweden	3.1	Czech Rep	2.9	Ukraine	3.3

Source : FAO

- 2.6 In terms of the export of logs, Malaysia has remained as the largest supplier of tropical logs in 2007. Compared with the other exporters of logs, Malaysia has been ranked either third, fourth or fifth largest supplier of logs since 2000. In 2007, Malaysia was ranked fifth in the list of top exporters of logs with a total volume of 4.9 million m³. Other major log exporters were the Russian Federation, the USA, Germany and New Zealand which were mainly suppliers of softwood logs (Table 4.1).

Table 4.2: World's major suppliers of sawntimber in terms of volume, 2000 - 2007

No.	2000		2001		2002		2003		2004		2005		2006		2007	
	million m³															
	World	112.4	World	111.7	World	118.2	World	123.2	World	132.1	World	136.4	World	137.5	World	131.5
1	Canada	36.4	Canada	36.3	Canada	37.3	Canada	38.0	Canada	41.1	Canada	41.1	Canada	39.0	Canada	33.1
2	Sweden	11.4	Sweden	11.0	Sweden	11.2	Sweden	11.0	Russian Federation	12.5	Russian Federation	14.7	Russian Federation	15.9	Russian Federation	17.2
3	Finland	8.4	Finland	8.4	Russian Federation	9.0	Russian Federation	10.5	Sweden	11.2	Sweden	12.2	Sweden	13.2	Sweden	11.3
4	Russian Federation	7.7	Russian Federation	7.7	Finland	8.1	Finland	8.1	Finland	8.2	Finland	7.6	Germany	9.0	Germany	9.5
5	Austria	6.3	Austria	6.0	Austria	6.4	Austria	6.7	Austria	7.3	Germany	7.3	Finland	7.7	Austria	7.8
6	USA	5.1	USA	4.5	Germany	4.8	Germany	4.7	Germany	6.2	Austria	7.2	Austria	6.8	Finland	7.0
7	Germany	3.9	Germany	4.0	USA	4.5	USA	4.3	USA	4.4	USA	4.3	USA	4.6	USA	4.3
8	Latvia	3.0	Latvia	2.9	Brazil	2.9	Brazil	3.3	Brazil	3.6	Brazil	3.4	Chile	3.3	Chile	3.6
9	Malaysia	2.6	Malaysia	2.6	Latvia	2.8	Latvia	3.2	Malaysia	3.3	Chile	3.4	Brazil	3.1	Brazil	3.1
10	Brazil	2.4	Brazil	2.5	Malaysia	2.5	Malaysia	2.9	Latvia	2.9	Malaysia	3.2	Malaysia	2.6	Romania	2.3

Source : FAO

Figures for 2008 from FAO are not available

- 2.7 In the global market for sawntimber, Malaysia was consistently ranked ninth for the last seven years except for 2002 and 2003, when its ranking dropped to tenth position. Malaysia's exports of sawntimber in 2007, was two million m³ and ranked 12th (Table 4.2).

Table 4.3: World's major suppliers of plywood in terms of volume, 2000 -2007

No.	2000		2001		2002		2003		2004		2005		2006		2007	
	million m³															
	World	18.0	World	19.7	World	20.7	World	21.4	World	24.5	World	25.2	World	28.5	World	29.9
1	Indonesia	5.1	Indonesia	6.3	Indonesia	5.8	Indonesia	5.0	China	4.6	China	5.8	China	8.5	China	10.1
2	Malaysia	3.4	Malaysia	3.5	Malaysia	3.6	Malaysia	3.9	Malaysia	4.3	Malaysia	4.5	Malaysia	4.9	Malaysia	4.8
3	Brazil	1.3	Brazil	1.5	China	2.1	Brazil	2.3	Indonesia	4.0	Indonesia	3.4	Indonesia	3.0	Indonesia	2.7
4	China	1.1	China	1.2	Brazil	1.8	China	2.3	Brazil	3.0	Brazil	2.7	Brazil	2.8	Brazil	2.5
5	Finland	1.0	Russian Federation	1.0	Russian Federation	1.1	Russian Federation	1.2	Russian Federation	1.4	Russian Federation	1.5	Russian Federation	1.5	Russian Federation	1.5
6	Russian federation	0.9	Canada	1.0	Finland	1.1	Finland	1.1	Finland	1.2	Finland	1.1	Finland	1.2	Finland	1.2
7	Canada	0.9	Finland	1.0	Canada	1.0	Canada	1.0	Canada	1.0	Canada	1.1	Canada	0.9	Canada	0.9
8	USA	0.6	USA	0.5	USA	0.5	USA	0.5	USA	0.5	USA	0.5	Chile	0.7	Chile	0.7
9	Belgium	0.3	Belgium	0.3	Belgium	0.3	Belgium	0.4	Belgium	0.4	Chile	0.4	USA	0.4	USA	0.6
10	Austria	0.2	Austria	0.2	Chile	0.2	Chile	0.3	Chile	0.3	Belgium	0.4	Belgium	0.4	Austria	0.5

Source : FAO

- 2.8 In terms of the supply of plywood, Malaysia ranked second from 2000 to 2007. Indonesia was ranked number one in the supply of plywood to the global market from 2000-2003 after which the PRC has emerged as the top supplier. Malaysia's exports of plywood in 2007 totalled 4.8 million m³ as compared with 10.1 million m³ exported by PRC (Table 4.3).

Table 4.4 : World's major suppliers of fibreboard in terms of volume, 2000 -2007

No.	2000		2001		2002		2003		2004		2005		2006		2007	
	million m³															
	World	13.0	World	14.0	World	16.9	World	17.6	World	19.9	World	22.0	World	22.2	World	25.1
1	Germany	2.2	Germany	2.5	Germany	3.0	Germany	3.0	Germany	3.3	Germany	3.7	Germany	2.9	China	4.6
2	Canada	1.0	Canada	1.4	Canada	1.4	Canada	1.7	Canada	1.6	China	1.7	China	2.4	Germany	2.7
3	France	0.7	Malaysia	1.0	France	1.0	France	1.2	Poland	1.2	Canada	1.5	Canada	1.4	Canada	2.0
4	Spain	0.7	France	1.7	Malaysia	1.0	Malaysia	1.1	France	1.1	France	1.3	France	1.2	Thailand	1.3
5	New Zealand	0.6	New Zealand	0.6	Spain	0.9	Poland	0.9	Malaysia	1.0	Poland	1.2	Malaysia	1.2	Malaysia	1.2
6	Italy	0.6	Poland	0.6	Poland	0.7	Spain	0.8	Spain	0.9	Malaysia	1.1	Thailand	1.0	Poland	1.2
7	Poland	0.6	Spain	0.5	Italy	0.7	New Zealand	0.7	Thailand	0.7	Spain	0.9	Poland	1.0	Spain	1.0
8	USA	0.5	Thailand	0.5	New Zealand	0.7	Austria	0.6	New Zealand	0.7	Thailand	0.8	USA	0.8	France	1.0
9	Malaysia	0.5	USA	0.5	Austria	0.6	Argentina	0.6	Chile	0.7	USA	0.6	Belgium	0.7	USA	0.8
10	Thailand	0.4	Italy	0.4	Thailand	0.6	Thailand	0.5	USA	0.6	New Zealand	0.6	Brazil	0.7	Brazil	0.7

Source : FAO

- 2.9 Exports of fibreboard from Malaysia totalled 1.2 million m³ in 2007, after China, Germany, Canada and Thailand. In 2000, exports of fibreboard was 0.5 million m³ and it doubled to more than one million m³ in the subsequent years to become one of the top five suppliers.

Table 4.5: World's major suppliers of furniture in terms of value, 2000 -2007

No	2000		2001		2002		2003		2004		2005		2006		2007	
	billion USD															
	World	50.8	World	48.5	World	53.5	World	61.9	World	74.1	World	80.0	World	89.7	World	106.5
1	Italy	8.3	Italy	8.1	Italy	8.3	Italy	9.3	Italy	10.5	China	13.4	China	17.1	China	22.0
2	Canada	4.4	Germany	4.2	China	5.4	China	7.0	China	10.1	Italy	10.1	Italy	11.1	Italy	12.4
3	Germany	4.2	Canada	4.1	Germany	4.5	Germany	5.3	Germany	6.2	Germany	6.5	Germany	8.0	Germany	10
4	China	3.5	China	4.0	Canada	4.0	Canada	4.1	Poland	5.0	Poland	5.3	Poland	6.0	Poland	7.1
5	USA	2.8	USA	2.4	Poland	3.0	Poland	4.0	Canada	4.3	Canada	4.4	Canada	4.5	Canada	4.2
6	Poland	2.0	Poland	2.4	USA	2.1	USA	2.3	USA	3.0	USA	3.0	USA	3.2	USA	3.6
7	France	2.0	France	2.0	France	2.0	Denmark	2.2	Denmark	2.5	Denmark	2.4	France	3.0	Vietnam	3.1
8	Denmark	1.7	Denmark	2.0	Denmark	2.0	France	2.1	France	2.3	France	2.4	Denmark	2.5	France	3.0
9	Taiwan	1.7	Indonesia	1.4	Indonesia	1.5	Austria	2.0	Austria	2.0	Malaysia	2.0	Vietnam	2.4	Denmark	2.8
10	Malaysia	1.6	Belgium	1.4	Malaysia	1.4	Indonesia	1.5	Malaysia	2.0	Indonesia	2.0	Malaysia	2.2	Malaysia	2.5
11	Indonesia	1.5	Malaysia	1.3	Austria	1.4	Belgium	1.5	Belgium	2.0	Czech Rep	2.0	Czech Rep	2.0	Sweden	2.3
12	Belgium	1.4	Austria	1.2	Belgium	1.4	Malaysia	1.5	Indonesia	1.7	Austria	2.0	Sweden	2.0	Czech Rep	2.2
13	Spain	1.3	Spain	1.2	Spain	1.2	Spain	1.4	Spain	1.5	Vietnam	2.0	Indonesia	2.0	Austria	2.2
14	Mexico	1.2	U.K	1.1	U.K	1.1	Sweden	1.3	Sweden	1.5	Belgium	2.0	Austria	2.0	Spain	2.0
15	Sweden	1.2	Mexico	1.1	Mexico	1.1	Czech Rep	1.2	Czech Rep	1.5	Sweden	1.5	Belgium	2.0	Belgium	2.0

Source : CSIL

Figures for 2008 from CSIL are not available

- 2.10 In 2007, with the total exports of furniture of USD2.5 billion, Malaysia ranked tenth in the supply of furniture in the world market. The rapid growth of the furniture industry in the PRC during the last decade has propelled the country to be a major supplier in the world market. Since 2005, PRC has emerged as the largest supplier of furniture. In 2006, Viet Nam has overtaken Malaysia in the supply of furniture due to high foreign direct investments in the furniture sector (Table 4.5).

3. ISSUES AND CHALLENGES

i. Requirements for certified timber products

- 3.1 The growing demand particularly from the environmental and social non-government organisations (NGOs) for the conservation and protection of the environment and the need for sustainably managed forests has resulted in the governments of producing and exporting countries of timber products to obtain the necessary certification for their exports. The markets especially in developed countries are placing greater emphasis on ensuring that the timber products particularly from tropical countries are from sustainably managed forests. Many of the developed countries have implemented procurement policies, which stipulate that only certified timber is used in timber products. In order to provide the assurance of legality and sustainability, many of the timber producers, especially tropical countries for example, Malaysia, are taking greater efforts to obtain certification to ensure that their timber products are from sustainably managed forests in order to meet the requirements of the importing countries.
- 3.2 Although timber products that are certified may enjoy broader market accessibility and recognition, the certification process would incur additional costs to the timber manufacturers and exporters.
- 3.3 The allegations of illegal logging activities have adversely affected the demand for tropical timber products particularly in developed countries. In addition to the demand for sustainable timber, efforts are also being taken by certain consumer countries to address the issues of legal timber. One such effort is the adoption of a European Union Action Plan for Forest Law Enforcement, Governance and Trade (EU-FLEGT) by the European Commission (EC) in May 2003. To meet this requirement, Malaysia has initiated negotiations with the EC to establish a legal assurance system for the imports of legal timber products from Malaysia into the EU.
- 3.4 Financial institutions have also started to apply sustainable business practices in their operations as part of their Corporate Social Responsibility (CSR).

- 3.5 These initiatives have subjected tropical timber and timber products to additional requirements and this has become a form of non-tariff barrier to tropical timber products.

ii. Non-tariff barriers

- 3.6 The World Trade Organisation (WTO) and the various bilateral and multi-lateral trade agreements have provided greater trading opportunities for developing countries. However, the developing countries have also to cope with the increased use of non-tariff barriers to the trade in tropical timber by developed countries to protect their domestic industries.

- 3.7 In addition to the imposition of protective measures such as anti-dumping duties, certain markets in the developed countries are also using legislations and public procurement policies to prohibit the trade in and use of timber that is deemed as not sustainable or legal.

iii. Emergence of new cost competitive suppliers

- 3.8 The emergence of new cost-competitive suppliers such as the PRC, Viet Nam and a number of Eastern European countries have increased competition in the world market. Supported by a vast pool of efficient and lower cost labour, these countries have dominated the world market with goods that are competitively priced and often of good quality. Their emergence has prompted many suppliers to shift from mass production to niche markets in order to avoid direct competition from these countries.

iv. Biocomposite materials

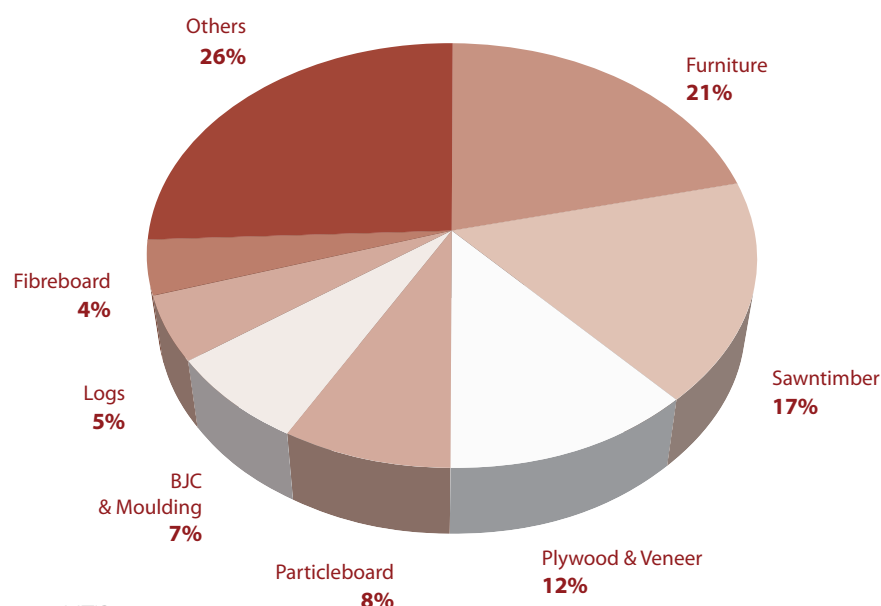
- 3.9 During the last decade, the concerns on resource conservation and protection of the environment have resulted in the emergence of biocomposite materials that could be substituted for wood raw materials. These products have been well accepted in the world market, especially in the USA and the EU. Such products, which are often a mixture of bio-materials or natural fibres and resins, offer new alternatives to manufacturers of timber products as resources from natural forests are declining. These materials have good potential for Malaysian manufacturers, as there is an abundance of such natural fibres from forests and agricultural residues. These include oil palm trunks, coconut trunks, empty fruit bunches (EFB), Kenaf and rice husks, that can be used to produce biocomposite materials.

v. Global trade liberalisation initiatives

- 3.10 Globalisation and trade liberalisation has intensified competition for goods and services in the world market. To provide fast and efficient services to their customers many countries have taken the initiative to establish direct sales and marketing offices in selected targeted markets. For example, developed countries, such as, the USA, Europe, and Canada have established marketing offices in the PRC for furniture and wood products in order to tap the country's vast market potential. Although the timber industry is mainly export oriented and highly competitive, it is necessary for the industry to undertake greater efforts in marketing and promotion in order to protect and expand its current market base. The challenge is for the Malaysian timber companies especially the SME to enhance their capacity and capability to expand beyond Malaysia's borders. The Government has provided various financial incentives for SME timber companies to market and promote their products overseas.
- 3.11 The trade liberalisation process also offers opportunities for Malaysian manufacturers to invest overseas especially in low-cost producing countries in order to outsource the manufacture of components and also to obtain supplies of timber raw materials.

vi. Emergence of the domestic market

- 3.12 With the increasing demand for tropical timber products in the world market, the timber industry has traditionally focused its production to meet the needs of the export market. In the early 1990's, only a small percentage of the production of timber products was consumed locally. However, with the rapid development of the domestic economy and the increase in population, the consumption of timber and timber products had increased rapidly. In 2008, the value of the domestic market for primary timber products and furniture was estimated at RM7.6 billion.

Chart 4.4: Share of imports of major timber products, 2008*

Source : MTIB
 Note : * estimate

- 3.13 Following the increased consumption of timber, imports of timber products recorded big increases. In 2008, imports of timber totalled RM2.4 billion which include sawntimber (RM407 million), furniture (RM523.2 million) and plywood (RM306 million) (Chart 4.4).

vii. Developments in value-added processing

- 3.14 The pace of development in value-added processing in the domestic timber manufacturing industry is slow and also lacks reinvestments for the expansion of its processing facilities. Currently, Malaysian producers are still considered as Original Equipment Manufacturer (OEM) as the level of primary processing is higher than the value-added manufacturing in the ratio of 60:40. To reverse this ratio the timber industry has to develop or acquire the appropriate value-added processing technologies in order to become an Own Brand Manufacturer (OBM).

viii. Market perception of timber as a commodity product

- 3.15 Timber is still traded as a commodity product where it can be easily substituted particularly in the construction sector. Consumers of tropical timber would often shift to other alternative materials such as softwood or other non-wood materials such as plastics and metals when the supply of timber is restricted or prices increase. There is little product differentiation for tropical timber products and as a result, prices for such products have not been able to achieve a level which is commensurate to its value as a scarce natural resource.

ix. Design and branding

- 3.16 The timber and furniture industries in Malaysia have yet to make an impact in the international market in terms of definitive and distinguishable design or branding of Malaysian timber products. Many manufacturers still remain as suppliers of OEM products with little product differentiation. Hence, Malaysia's market share is declining even in the mass production segment. As Malaysia is not able to compete in the low-end market segment there is an urgent need to venture into niche markets where there is a demand for product differentiation and unique designs.

x. Over-dependence on a single major market

- 3.17 Currently, Malaysia exports to 160 markets worldwide but exports are still concentrated in a few markets. In 2008, Japan accounted for 20 per cent of Malaysia's total timber exports with a value of RM4.5 billion followed by the EU, RM3.6 billion (16 per cent) and the USA, RM2.9 billion (13 per cent) respectively. These three markets accounted for 49 per cent of Malaysia's timber exports (Chart 4.3).
- 3.18 In terms of timber products, the dominance of one single market is most obvious in the export of plywood. In 2007, Japan alone accounted for 47 per cent of Malaysia's total plywood exports. The next major markets were the ROK (12 per cent) and the USA (seven per cent) respectively. In the exports of furniture, the main destinations were the USA (30 per cent) and the EU (22 per cent). These two markets, together, accounted for more than half of Malaysia's furniture exports in 2007.¹
- 3.19 The over-dependence on a single or few major markets may affect the performance of the timber industry. The earnings of the timber industry may be unnecessarily affected by the performance of a single market. For example, any fluctuations in the demand for furniture and plywood from the USA and Japan would have detrimental effects on these two sub-sectors.

4. THE WAY FORWARD

- 4.1 The timber industry over the years had enjoyed reasonable success in international trade and in the process, contributed significantly to the national economy. It is therefore important, that it sustain its role in national development by enhancing its position as a reputable and reliable supplier of quality timber products, produced from a wide range of timber species available in the country. Malaysia has also been recognised as the first tropical timber producer to be able to offer certified timber products under its own Malaysian Timber Certification Scheme (MTCS).

¹ Figures for 2008 are not available

- 4.2 With these strengths and achievements, the industry is set to continue assuming a more significant role in the national economy. However, it will depend on the capacity and capability of the timber industry to adopt effective marketing and promotion strategies to maintain as well as expand both its traditional and new markets. Efforts must be made to explore niche markets especially in West Asia where Malaysia's timber products are highly regarded for their quality and designs. Malaysian SME must be more pro-active and must think global and identify niche markets. Government agencies such as MTIB, SMIDEC and MATRADE can assist the SME to venture into the world market.

In this respect, the strategies to be adopted are as follows:

i. Enhancing market creation through branding based on quality, design, and value-creation

- 4.3 Product branding can reposition the industry to establish a niche in the high value market segment where consumers are willing to pay for the aesthetic value of the product. With the increasing number of low-cost suppliers in the international market, branding will differentiate Malaysia's timber products from its other competitive and substitute products. This strategy calls for branding of Malaysia's timber products based on the quality of its products and services, as well as design excellence.

ii. Establishing and promoting the 'green' image through responsible practices in forestry, trade and the environment

- 4.4 With the growing global concerns on the protection of the environment and health, consumers are increasingly demanding for timber products that come from sustainable sources which also take into account the social, environmental, health and economic aspects in the long-term management of forest resources.
- 4.5 As a major producer and exporter of tropical timber products, there is a need for image building and national branding to project Malaysia as a practitioner of sound and responsible environmental and sustainable forest management practices. The MTCS provides an added advantage to Malaysia's timber products by providing the assurance of legality and sustainability. In addition, the negotiation for a Malaysia-EU Forest Law Enforcement, Governance and Trade, Voluntary Partnership Agreement (FLEGT, VPA) will enhance market access to the EU for Malaysia's timber products. These initiatives, supported by good environment and forest management practices, would increase the confidence of consumers and gain further market recognition for Malaysia's timber products. Such initiatives have to be actively promoted to project Malaysia's image as a responsible long-term producer and exporter of timber and timber products from sustainably managed forests.

iii. Intensifying the marketing of potential/new products (lesser promoted species, biocomposite products, and non-wood forest products)

- 4.6 The manufacture of enhanced or fortified wood composite from oil palms, coconut trunks and Kenaf, as substitutes to solid woods by the industry will greatly increase in the immediate future as the production of logs decline in line with sustainable forest management practices. The development of these products will be further encouraged by the abundant availability of these materials in the country. International demand for such products is expected to increase greatly due to its improved strength and durability. These products need to be further promoted to gain market acceptance and recognition especially with regards to its strength, durability and quality standards.

iv. Intensifying marketing and promotional efforts to enhance market penetration

- 4.7 Being export-oriented, the timber industry is vulnerable to the dynamics of the international market environment in particular competition. The emergence of low cost producers and competition from temperate woods as well as non-wood substitutes together with the pressure from environmentalists could pose serious problems to the timber industry. In order to stay competitive in the ever-changing global business environment, there is a need to intensify market promotion activities to enhance market share in both the traditional and newly emerging markets such as Eastern Europe and West Asia.

v. Strengthening the domestic market

- 4.8 The domestic market has grown in tandem with rapid increases in the exports of timber and timber products. In 2008, the value of the domestic market for primary timber products and furniture totalled RM7.6 billion. However, there is still a lack of awareness on the availability of Malaysian timber species and products in the market. This has led many consumers to continue using either imported timber or other alternative materials such as metals and plastics in the building and housing sectors. The lack of attention and the consequent lack of promotional efforts by the local timber manufacturers in the domestic market have also restricted the use of timber and local timber species in the domestic market.
- 4.9 With the growing population and increased affluence of the domestic consumers, demand for high quality timber and timber products in the domestic market is expected to increase. There is great potential for the value of the domestic market for timber and timber products to exceed the current RM7.6 billion.

5. POLICY DIRECTION

- 5.1 The timber industry must position itself to expand further its market with sound marketing strategies. The broad policy directions are:
- i. enhance the competitiveness of Malaysian timber products through market and value creation;
 - ii. increase Malaysia's market share in the international market for timber and timber products and be a leading global supplier of quality timber products;
 - iii. identify marketing strategies to project the strength of the Malaysian timber industry, taking into account the changing environment of the international market;
 - iv. ensure the continued growth and competitiveness of the timber industry, by adding value, developing OBMs, promoting the green image, protecting the environment and researching into new products; and
 - v. encourage the growth of the domestic market through intensive promotional activities.

Thrust

5

Human Capital Development



1. INTRODUCTION

- 1.1 Human Capital Development (HCD) is one of the key thrusts in the 9th Malaysia Plan (9MP), 2006 - 2010. Greater capacity building efforts will be undertaken in line with developing knowledgeable, skilled and innovative human capital towards achieving the structural changes needed to drive a knowledge-based economy. These initiatives will complement and support the intended structural changes for the timber industry to move towards higher value-added manufacturing activities. The aim of HCD in the timber industry is to generate an adequate supply and availability of relevant skilled workers as well as to provide an environment that would facilitate the workforce to enhance their knowledge, creativity and skills.
- 1.2 Availability of adequate and relevant human capital is critical and of paramount importance in ensuring the continued development and progress of the timber industry in Malaysia. In this regard, recent initiatives in promoting economic development in selected regions such as the East Coast Economic Region (ECER), Northern Corridor Economic Region (NCER), Sabah Development Corridor (SDC) and Sarawak Corridor of Renewable Energy (SCORE) have placed emphasis on further developing the timber industry which would require generating a large pool of relevant skilled workers. For example, the proposed establishment of the Malaysian Rubberwood Furniture Industry Park in the ECER would require about 13,000 skilled workers.

2. OVERVIEW OF HUMAN CAPITAL DEVELOPMENT

i. Employment

Table 5.1: Malaysia - Labour force, 2000 - 2010

Category of labour	2000	2005	2010
	number of workers		
Local	8,820,600	9,512,900	10,864,300
Foreign:			
General Workers	732,600	1,742,100	1,500,000
Professional	18,400	35,500	42,500
Total	9,571,600	11,290,500	12,406,800

Source : 9th Malaysia Plan, EPU

Figures for 2008 are estimate, compiled and computed by MTIB.

- 2.1 The total labour force in Malaysia, as at 31 December 2005, was 11.3 million, comprising 9.5 million local workers (84 per cent) and 1.8 million foreign workers (16 per cent). According to the 9th Malaysia Plan, the labour force is expected to expand by 1.9 per cent annually to reach 12.4 million by 2010 (Table 5.1).

Table 5.2: Labour force in the timber industry, 2000 - 2010

Sub-sectors	2000	2005	2010*
	number of workers		
Sawmilling and mouldings	37,536	38,402	60,550
Furniture (wooden and rattan)	53,582	67,963	117,912
Panel products	64,791	71,315	114,726
Others, including BJC	18,302	15,331	25,494
Total	174,211	193,011	318,682

Source : DOSM (Economic Census of Manufacturing Industries, 2005)

Notes : * estimate by MTIB

- 2.2 In 2005, total employment in the timber industry, excluding logging had increased by 11 per cent to 193,011 workers compared with 174,211 in 2000. This increase was mainly attributed to the increase in the employment in the furniture sub-sector which grew by 26.8 per cent during the same period (Table 5.2).
- 2.3 In 2005, 71,315 (37 per cent) of workers in the timber industry were employed in the panel products sub-sector, followed by furniture 67,963 (35 per cent) and sawmilling and mouldings 38,402 (20 per cent) (Table 5.2).
- 2.4 In 2010, employment in the timber industry is expected to grow by 125,671 (65 per cent) to 318,682 workers. In line with the efforts for the industry to move-up the value chain, the majority of the workers are expected to be employed in the tertiary processing sub-sectors which produces higher value-added products, particularly furniture, 117,912 workers (37 per cent) and panel products, 114,726 workers (36 per cent) (Table 5.2).

ii. Foreign Workers

Table 5.3: Labour force in the timber industry, local and foreign, 2000, 2005 and 2008

Sub-sectors	2000			2005			2008*		
	number of workers								
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
Sawmilling and moulding	30,564	6,972	37,536	28,753	9,649	38,402	39,661	17,474	57,086
Furniture (wooden and rattan)	37,644	15,938	53,582	34,611	33,351	67,962	48,440	62,727	111,167
Panel products	31,013	33,778	64,791	22,396	48,919	71,315	22,784	85,378	108,162
Others, including BJC	14,676	3,626	18,302	10,806	4,525	15,331	15,323	8,713	24,036
Total	113,897	60,314	174,211	96,566	96,444	193,010	126,208	174,242	300,450
	65.4%	34.6%	100%	50.0%	50.0%	100%	42.0%	58.0%	100%

Source : DOSM (Economic Census of Manufacturing Industries)

Note : * estimate by MTIB

- 2.5 The lack of local labour has resulted in the increased employment of foreign workers in the timber industry. For the period 2000 - 2005, the number of foreign workers employed had grown by nearly 60 per cent to 96,444 in 2005 from 60,314 in 2000. The number had increased to 174,242 (58 per cent) in 2008 from 35 per cent in 2000 (Table 5.3).
- 2.6 In 2008, the majority of the foreign workers were employed in the panel products sub-sector (49 per cent) and followed by furniture (36 per cent). However, in terms of growth, the rate of employment of foreign workers in the furniture sub-sector was the highest, increasing nearly three-fold to more than 62,000 in 2008 from nearly 16,000 workers in the year 2000 (Table 5.3).

iii. Quality of domestic labour

Table 5.4: Local workers in the management and supervisory level in the timber industry, 2000, 2005 and 2008

Sub-sectors	2000			2005			2008*		
	No. of local workers in the mgt. & supervisory levels	Total no. of local workers	Percentage (%)	No. of local workers in the mgt. & supervisory levels	Total no. of local workers	Percentage (%)	No. of local workers in the mgt. & supervisory levels	Total no. of local workers	Percentage (%)
Sawmilling and mouldings	1,921	30,564	6.3	2,015	28,753	7.0	4,878	39,661	12.3
Furniture (wooden and rattan)	2,922	37,644	7.8	3,953	34,612	11.4	9,058	48,440	18.7
Panel products	2,936	31,013	9.5	3,128	22,396	14.0	2,058	22,784	9.0
Others, including BJC	1,114	14,676	7.6	981	10,806	9.1	7,340	15,323	47.9
Total	8,893	113,897	7.8	10,077	96,567	10.4	23,326	126,208	18.5

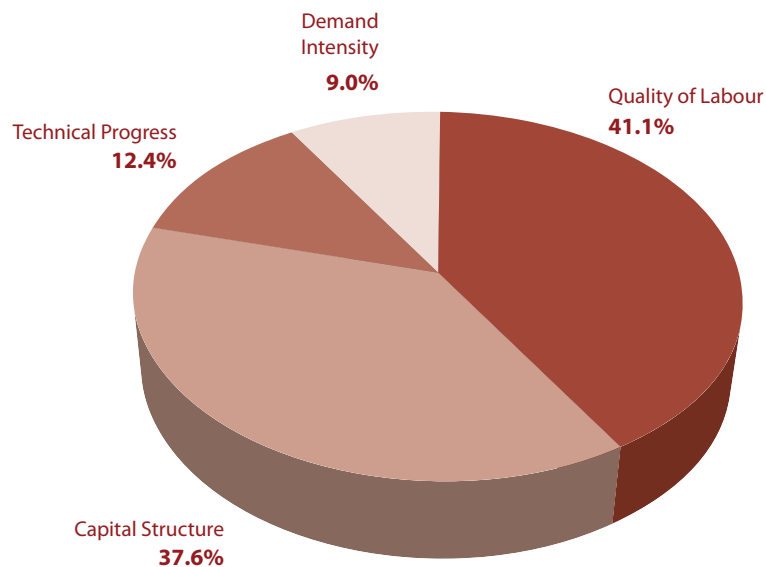
Source : DOSM (Economic Census of Manufacturing Industries, 2005)

Note : * estimate by MTIB

- 2.7 In relation to the total labour employed in the timber industry, local workers in the management and supervisory category recorded an increase of 13.3 per cent to 10,077 workers in 2005 and to 23,326 (162.3 per cent) in 2008, compared with 8,893 workers in 2000. This indicated a growing level of local workers' interest in the management and supervisory category in the timber industry. In 2008, 18.5 per cent of the local workers were in the management and supervisory category (Table 5.4).
- 2.8 Local workers in the management and supervisory category in the sawmilling and mouldings sub-sector increased by 4.9 per cent to 2,015 workers in 2005 and by 153.9 per cent to 4,878 in 2008 compared with 1,921 in 2000. In 2008, local workers in the management and supervisory category in the higher value-added sub-sectors such as furniture (wooden and rattan) was (38.8 per cent), panel products (8.8 per cent), and builders' joinery and carpentry (BJC) (31.5 per cent) (Table 5.4).

iv. Productivity

Chart 5.1: Sources of TFP growth in manufacturing, 2002 - 2007



Source : Productivity Report 2007, MPC
Computed from : Annual Industrial Survey and Monthly Manufacturing Survey,
Department of Statistics, Malaysia

- 2.9 For the period 2007, the manufacturing sector achieved an overall growth in Total Factor Productivity (TFP) of three per cent. The TFP growth was largely attributed to the quality of labour at 41.1 per cent, followed by capital structure (37.6 per cent), technical progress (12.4 per cent) and demand intensity nine per cent (Chart 5.1). Enhancement in labour quality especially through the implementation of Productivity and Quality (P&Q) initiatives will lead to high TFP growth.¹

v. Future requirements and trends

- 2.10 Considering the country's limited and growing cost of human capital, the industry can no longer afford to be labour-intensive, and will have to move towards capital and knowledge-intensive operations. The drivers of change include:
- changes in the present structure of the timber industry that would move the industry towards higher value-added activities in line with the proposed 40:60 policy (resources and primary processed wood products to secondary processed wood products) requires appropriate changes in HCD strategies;

¹ Figures for 2008 are not available

- ii. the level of sophistication and technological advances that will determine knowledge and skills training needs. Improvements in specific core skills which are vital for continued development and increased global competitiveness;
- iii. greater automation and enhanced application of Information Technology (IT) in line with increased assimilation of new technologies as well as to reduce the dependence on foreign workers. In this regard, the Ministry of Home Affairs Malaysia has announced through its website that the Government will endeavour to reduce the number of foreign workers to 1.5 million by 2015;
- iv. introduction of new sources of materials (palm wood and other fibres) require new knowledge (both indigenous and imported) and skills; and
- v. provision of specialised expertise and skills to meet the needs of new innovative product developments.

vi. Current capacity building efforts

2.11 HCD is vital in the efforts to enhance the viability of the timber industry. With the emphasis on the production of value-added timber products for export, a variety of skills in various fields of production and support services are required. In this regard, manpower needs for the timber industry are provided by several agencies which include among others specialised training institutions which provide dedicated skills-based training programmes for the timber industry, namely:

- i. Wood Industry Skills Development Centre (WISDEC);
- ii. Furniture Industry Technology Centre (FITEC);
- iii. Terengganu Timber Industry Training Centre (TTITC);
- iv. Sarawak Timber Industry Development Corporation (STIDC); and
- v. Forest Research Institute Malaysia (FRIM).

2.12 In addition to these five specialised training institutions, there are others administered by various government agencies which also offer skills training related to the timber industry. Examples of such multi-disciplinary training institutions includes *Institut Latihan Perindustrian* (Industrial Training Institute) (ILP), *Institut Kemahiran Belia Negara* (National Youth Skills Institute) (IKBN) and *Institut Kemahiran MARA* (MARA Skills Institute) (IKM), which offers wood-related training at selected branches of these institutions. Skills-based training in these institutions is based on the National Occupational Skills Standards (NOSS), developed by the Department of Skills Development (DSD), Ministry of Human Resources. Upon completion of these courses, the trainees would be awarded with the relevant *Sijil Kemahiran Malaysia* (Malaysian Skills Certificate) (SKM) by the DSD.

Table 5.5: Training providers in the timber industry, 2000-2008

Institutions	2000	2001	2002	2003	2004	2005	2006	2007	2008*	Total
	number of trainees									
Specialised institutions :										
1. WISDEC	625	460	867	542	509	790	687	984	909	6,373
2. FITEC	n.a.	459	678	729	471	444	491	694	559	4,525
3. FRIM	46	73	119	341	303	330	458	415	408	2,493
4. TTITC	65	80	92	94	262	135	110	311	189	1,338
5. STIDC	130	131	13	74	132	176	148	152	82	1,038
Subtotal	866	1,203	1,769	1,780	1,677	1,875	1,894	2,556	2,147	15,767
Others institutions:										
6. ILP	59	51	70	30	90	65	49	42	92	548
7. IKBN	98	79	72	16	78	70	81	80	71	645
8. IKM	15	15	54	81	33	190	70	58	25	318
9. PERHEBAT	16	9	30	38	n.a.	8	45	58	33	237
10. Others (Pusat Giat MARA & Politeknik)	n.a.	n.a.	n.a.	n.a.	206	251	331	n.a.	275	1,063
Subtotal	173	139	172	84	407	584	576	180	496	2,811
Total	1,039	1,342	1,941	1,864	2,084	2,459	2,470	2,736	2,643	18,578

Sources : MTIB, FITEC, TTITC, STIDC, FRIM, ILP, IKBN, IKM, Pusat Giat MARA, Politeknik, PERHEBAT

Notes : * estimate
n.a. not available

- 2.13 For the period of 2000 - 2008, the combined output from the specialised as well as the multi-disciplinary institutions totalled 18,578 trainees, averaging about 2,322 trainees per year. Among the specialised institutions, WISDEC produced the highest number of trainees (6,373), followed by FITEC (4,525), FRIM (2,493) TTITC (1,338) and STIDC (1,038) (Table 5.5).
- 2.14 Established in 1995, WISDEC provides training with emphasis on enhancing the productivity of workers in the timber industry, and offers a wide range of courses ranging from primary processing to downstream value-added activities. While specific skills upgrading courses are offered to those who are already employed in the timber industry, WISDEC has also designed competency based and structured programmes to school leavers with a clear career path in the industry. WISDEC has also embarked on the Wood-based Industry Apprenticeship Scheme (Furniture) which is conducted in cooperation with *Pembangunan Sumber Manusia Berhad* (Human Resources Development Limited) (PSMB) and employers, which provides multi-skilled training opportunities leading to SKM Level II Certification.

- 2.15 FITEC a wholly-owned subsidiary of *Majlis Amanah Rakyat* (MARA), established in 1994, is under the purview of the Ministry of Entrepreneur and Cooperative Development, focuses on providing training for Bumiputera furniture entrepreneurs, upgrading their skills in producing quality furniture products and promoting it in the global market. FITEC is also involved in providing consultation services in technical, management and the marketing of furniture.

- 2.16 Established in 1997, by the Terengganu State Government, TTITC was formed with a dual purpose of facilitating training in wood processing as well as to be the centre of wood-based training in the Eastern Region of Peninsular Malaysia. TTITC also collaborates with PSMB in offering apprenticeship schemes designed to produce trained workers for the wooden furniture industry. Courses offered in TTITC include wood processing technology and furniture making. Upon successful completion of their courses, participants will be awarded with SKM Level I and II Certification.

- 2.17 Established in 1973, STIDC assumes a major role of planning, coordinating and developing the timber industry in the state of Sarawak. Its objectives include promoting optimum and efficient utilisation of timber resources through downstream processing and product diversification. STIDC is also involved in the marketing of high quality wood-based products suitable for both overseas and domestic markets. In terms of capacity building, STIDC provides competency-based training and short technical courses in the various aspects of the timber industry. Among the areas covered in the training are logging operations, timber processing, sawmilling, basic wood working and carpentry, furniture designs as well as manufacturing and wood carving.

- 2.18 Established in 1929, FRIM is presently a statutory body under the Ministry of Natural Resources and Environment (MNRE). Among its objectives are generating scientific knowledge for the understanding, management, conservation and use of forest resources. In the effort to develop human resources for the forestry sector, FRIM also offers training programmes in wood identification, wood machining and plywood making.

- 2.19 At the tertiary level, a number of universities and polytechnics offer courses related to the timber industry such as *Universiti Putra Malaysia* (UPM), *Universiti Teknologi MARA* (UiTM), *Universiti Sains Malaysia* (USM) and *Universiti Malaysia Sabah* (UMS). These institutions provide timber-related courses such as forestry, wood science, wood technology, pulp and paper, biocomposite and furniture production technology.

3. ISSUES AND CHALLENGES

- 3.1 Competition arising out of globalisation, together with technological advancements, has intensified the demand for more highly skilled workers in the timber industry. Knowledge and skills will be the key factors that will determine the sustainability and competitiveness of the timber industry. In this regard, some of the major issues and challenges facing the timber industry concerning HCD are as follows:

i. Need for more skilled workforce at all levels (managerial, supervisory and operational)

Table 5.6: Number of workers to be trained annually up to 2020

Sub-sector	Level of Employment	Estimated Composition of Labour Force in the Timber Industry (%)	Estimated Total No. of Workers	Estimated No. of Workers to be Trained/ Year -5%
Sawmilling and Moulding	Managerial ¹	10	3,800	200
	Supervisory ²	20	7,700	400
	Operations:			
	• Skilled ³	30	11,500	600
	• Unskilled ⁴	40	15,400	800
Subtotal			38,400	2,000
Furniture	Managerial ¹	10	6,800	350
	Supervisory ²	15	10,200	500
	Operations:			
	• Skilled ³	35	23,800	1,200
	• Unskilled ⁴	40	27,200	1,400
Subtotal			68,000	3,450
Panel Products	Managerial ¹	10	7,100	400
	Supervisory ²	50	35,700	1,800
	Operations:			
	• Skilled ³	20	14,300	700
	• Unskilled ⁴	20	14,300	700
Subtotal			71,400	3,600
BJC	Managerial ¹	10	1,500	80
	Supervisory ²	20	3,000	150
	Operations:			
	• Skilled ³	40	6,000	300
	• Unskilled ⁴	30	4,500	230
Subtotal			15,000	760
Total			192,800	9,810

Source : MTIB

- Notes :
1. Managerial level includes managers and assistant managers in production and administration;
 2. Supervisory level includes supervisors, line leaders, superintendents, foreman/ technicians, designers;
 3. Operations (skilled) level includes wood machinists, carpenters, saw-doctors, jig makers, prototype makers, finishers and grinders; and
 4. Operations (unskilled) level includes general workers and clerks.

- 3.2 Based on an evaluation of the industry structure and its current workforce, an estimate of the number of workers that need to be trained at all levels of employment were computed by MTIB. Assuming at least five per cent of the workforce need to be trained and retrained annually, the timber industry is expected to provide training to 9,810 workers, comprising 3,450 workers in the furniture, 3,600 in the panel products, 2,000 in the sawmilling and mouldings and 760 in BJC sub-sectors. In terms of the categories of employment, the proposed training would involve 1,030 workers at the managerial level; 2,850 at supervisory level; and 5,930 at the operations level (Table 5.6).
- 3.3 At present, however this requirement is not adequately met by the total output from the existing training institutions. The requirement for workers in the supervisory and skilled general workers category was 5,650 workers per year but the output from the training institutions in this category was only 2,076 workers per year. This represented 36.7 per cent of the requirements of the industry¹.
- 3.4 A number of universities and polytechnics including UPM, UiTM, USM and UMS provide management level training for the timber industry. The graduates from these institutions, however, either do not seek employment in the timber industry or do not have the skills required by the timber industry. Hence, there is a need for these institutions to review their training syllabus to match the requirements of the industry.
- ii. Competencies in technology**
- 3.5 There is a need to strengthen the competence and knowledge to embrace cutting edge technologies and higher value-added manufacturing activities. Advancements in technology form a significant feature of the timber industry's transformation. Continuing advancements in information technology, (IT) provides opportunities for the industry to improve production and operating efficiencies. The industry needs to leverage on technology to increase productivity and reduce costs. Technology advancements will not only have an impact on work processes but also change the concept of the workplace.
- 3.6 In the timber industry, IT is assuming greater importance, particularly in designing and manufacturing activities. These developments have given rise to the need for specialised IT skills as well as expertise on the applications and the use of high precision machines.

¹Figures computed by MTIB

iii. Enhancing productivity

- 3.7 In 2007, the productivity of the timber industry was lower than the average of the manufacturing sector. As the quality of labour is one of the critical components of productivity, there is a need to continuously upgrade the levels of knowledge and skills of the workers in the industry.

iv. Foreign workers

- 3.8 Generally, foreign workers are employed in lower-skilled and lower value added jobs. Nearly 50 per cent of the workers in the timber industry comprise foreigners. The objective of the industry to focus more on value-added manufacturing will be affected, as most of the foreign workers are unskilled. This will require the upgrading of skills and retraining of the workers which would add costs to the industry and would have an impact in meeting the objective.

v. 3D factors

- 3.9 Malaysian workers generally are reluctant to take up jobs in the timber industry as a career. There is a general perception that the industry is dangerous, difficult and dirty (3D factors) and do not have prospects for career advancement. Hence, it is unable to attract local workers to take up a career in the timber industry. The major challenge is to change these perceptions in order to encourage local workers to seek employment in the industry.

vi. Training culture

- 3.10 While the bigger establishments have recognised the importance of training and re-training for improving competency and productivity, the majority of establishments in the timber industry, especially SME still consider training as a cost. Fear of 'pinching' of trained workers as well as the threat of trained workers demanding unusually high wages have also contributed to the industry's reluctance to invest in training.

vii. Indigenous technology

- 3.11 The timber industry has always been dependent on foreign technology and machinery. However, with the introduction of new materials such as palm wood and Kenaf the industry will require specialised and customised machineries. In this regard, there is a need for the development of homegrown technology to process these materials. In addition, appropriate measures should also be undertaken to implement capacity-building initiatives to support and nurture the development of indigenous technologies. The universities and research institutions should assume a greater role by offering appropriate training programmes to meet the needs of the industry. It is therefore necessary to provide a highly productive, innovative and motivated workforce so that the timber industry can be competitive and sustainable.

4. THE WAY FORWARD

- 4.1 A comprehensive review of the timber industry and its requirements with regard to HCD has revealed a number of issues that need to be addressed in order to sustain and enhance competitiveness. In order to realise a timber industry which is highly productive, competitive and sustainable, the core areas identified, include design and branding, product development, production management, finishing, forest plantations and resource management. The strategic thrusts that are proposed are as follows:

i. Design and branding

- 4.2 There is a need to improve the design and branding capacities and capabilities, in particular for the furniture industry to move towards higher end markets. The branding of Malaysian timber products also needs to be improved through:
- i. offering industrial design courses at diploma and degree levels in institutions such as *Universiti Teknologi MARA (UiTM)*, *Universiti Putra Malaysia (UPM)* and *Limkokwing University College of Creative Technology (LUCT)*;
 - ii. strengthening the existing training programmes on design and branding in training institutions such as *WISDEC* and *FITEC*. Institutions which currently do not offer these programmes should introduce the courses in their training curriculum.
 - iii. encouraging more training institutions to offer *CAD/CAM* courses by continuously upgrading the necessary software and hardware;

- iv. developing NOSS for furniture design courses (Level 3 and higher) in association with the DSD, Ministry of Human Resources;
- v. promoting a design culture within the industry by organising design related activities such as competitions and design courses; and
- vi. establishing and promoting design programmes in collaboration with Malaysian Furniture Promotion Council and the industry for the furniture sub-sector including the feasibility of setting up a design centre.

ii. Product development

- 4.3 There is a need to enhance product development capabilities and capacities in the timber industry. Greater efforts should be undertaken to provide facilities and training on prototyping, including customised courses on product development at the mill level.
- 4.4 In collaboration with the industry, MTIB and the relevant agencies need to establish R&D, testing and evaluation facilities. Such facilities need to secure recognition with reputable foreign institutions such as the Furniture Industry Research Association (FIRA) UK.

iii. Wood product finishing

- 4.5 In line with the strategy to encourage the industry to move up the value chain, capacities and capabilities in wood product finishing need to be enhanced. More universities and training institutions will be encouraged to offer courses in wood product finishing.
- 4.6 Existing programmes on finishing and assembly of wood products conducted by institutions such as WISDEC and FITEC will be strengthened and on-the-job training will given greater emphasis.

iv. Forest plantations

- 4.7 Since forest plantation programmes will be promoted extensively as a means in getting raw material supply for the downstream industry, more universities will be encouraged to offer training courses on forest plantations and management.
- 4.8 The scope of training in forest plantations for diploma and degree programmes needs to be upgraded and strengthened to encompass new developments. The scopes of these programmes need to cover nursery practices, silviculture management and harvesting technology for the new forest plantation species that have been identified.

v. Non-technical skills

- 4.9 Apart from enhancing skills in the core areas, greater emphasis will also be given to the development of soft and non-technical skills. In order to provide a holistic approach to HCD, efforts will also be undertaken to produce versatile and multi-skilled work force. In this regard, relevant training in marketing, finance, communication, management, negotiation skills and foreign language proficiency will also be given priority.

vi. Enhance productivity and competitiveness

- 4.10 In order to enhance productivity and competitiveness in the industry, it is suggested that training institutions:
- i. conduct more training modules on Good Manufacturing Practices (GMPs);
 - ii. conduct more in-house and customised courses on quality and innovations at the factory premises;
 - iii. collaborate with the Malaysian Productivity Corporation (MPC) to conduct courses on productivity enhancement; and
 - iv. collaborate with the National Institute of Occupational Safety and Health (NIOSH) to conduct courses on safety and health.

vii. Creating a competitive working environment

- 4.11 There is a need to uplift the image as well as the perception of Malaysian workers regarding jobs in the timber industry through:
- i. conducting more courses on the Japanese model of 5S - Sort (Seiri); Set in Order (*Seiton*); Shine (*Seiso*); Standardise (*Seiketsu*) and Discipline (*Shitsuke*) and Total Quality Management (TQM) to help improve the working environment in the factories and mills;
 - ii. organising structured training programmes and providing clear guidance on career development opportunities;
 - iii. gradually reducing the employment of foreign workers by setting specific limits while encouraging the employment of locals at the supervisory and managerial levels. For operation and production levels, employment of foreigners should be restricted to unskilled jobs only;

- iv. implementing the Entrepreneurship and Management Development (EMD) programmes for graduate training in the timber industry and conducting Competency Based Training (CBT) programmes for school leavers and youth. The EMD and the CBT programmes will be used as a vehicle to train youth in specific skills on timber technology and wood processing. These programmes will effectively address the shortage of workers as well as the mismatch of skills between the requirements of the industry and the output from the institutions of higher learning;
- v. implementing, in phases, mandatory certification of skilled workers in the selected sub-sectors. Such initiatives will foster the training culture among the manufacturers in the industry. Training institutions will be more forthcoming with on-the-job training for experienced workers lacking in formal qualifications;
- vi. encouraging the industry, particularly large corporations, to offer scholarships for students taking up courses related to the timber industry;
- vii. conducting more image building programmes to the public as well as schools on career opportunities in the timber industry; and
- viii. undertaking comprehensive efforts to promote a conducive working environment in the timber industry.

viii. Collaboration between the industry and training institutions

4.12 Greater efforts must be undertaken to encourage:

- i. training institutions and the industry to collaborate and cooperate in producing workers that meets industry's requirements. Industry associations need to take greater responsibility in promoting the training culture and assume an active role in the implementation of government initiatives on HCD;
- ii. collaboration with reputable international training institutions to enhance knowledge and skills of trainers on the latest technological developments; and
- iii. more industry attachment programmes for both trainers and trainees.

ix. **Creating a conducive environment for training**

- 4.13 Currently, training is considered as a cost by most of the manufacturers in the timber industry and not attractive for their investments. There is a need to upgrade and enhance the environment for training by:
- i. providing a dedicated fund for training in the timber industry for the youth. At present, a number of multi-disciplinary training institutions have access to this funding. However, training institution related to the timber industry should be given priority in the distribution of the fund;
 - ii. establishing training facilities where the industry clusters are located (for example in Muar) and new corridor development initiatives (for example NCER, ECER). Courses for the timber industry (furniture technology) offered at ILPs and IKBNs need to be further strengthened; and
 - iii. undertaking tracer studies on a regular basis by the training institutions to evaluate the impact and effectiveness of training and responding accordingly to mitigate shortfalls.

5. **POLICY DIRECTION**

- 5.1 The development and expansion of the required skilled workforce need to be further strengthened to enable the industry to move up the value chain. The core skills in areas that need to be developed and expanded includes design and branding, production management, product development, wood finishing technology, as well as appropriate knowledge in the fields, related to planting, harvesting and processing of new fibre materials. Hands-on training in specialised areas such as forest plantations management, advanced wood processing and manufacturing and the manufacture of biocomposite are also crucial and must be made a priority.
- 5.2 Greater emphasis need to be given to the development of soft and non-technical skills. Greater priority should be given to relevant training on marketing, finance, communication, management, negotiation skills and foreign language proficiency. Appropriate measures should be put in place to strengthen the competitiveness of the timber industry. It is therefore imperative for the industry to uplift its image by employing quality management tools and undertaking efforts to create a conducive working environment.

- 5.3 Structural changes to the timber industry as well as technological advancement and innovations require appropriate changes to human resource policies that would support the industry. These include reducing the dependency on foreign workers, encouraging cross border investments, promoting cluster developments, increasing the growth of forest plantations by adopting technological developments and conducting more research in materials diversification.

Thrust

6

Funding and Incentives



1. INTRODUCTION

- 1.1 Malaysia is moving steadily towards becoming a fully developed and industrialised country by 2020 and the Small and Medium Enterprise (SME) will assume a key role in Malaysia's industrialisation programme. SMEs account for more than 80 per cent of the manufacturing establishments in the country. The Government, well aware of the critical role of the SME, has formulated policies and programmes to further develop and integrate SME into the manufacturing sector. The growth of SME will strengthen the industrial base and enhance domestic value-added activities that would enable Malaysia to increase its competitiveness and export performance.
- 1.2 The Government has provided various incentives as well as the supporting infrastructure to stimulate the growth of the timber industry. A comprehensive package of fiscal and financial policies has been put in place to cater for the activities of the timber industry. Fiscal policies are in the form of incentives while financial policies refer to financing facilities and grants. The objectives of these incentives are to enhance the ability of Malaysian manufacturers particularly SME, to expand their activities, to improve the efficiency of their operations and increase export capabilities. These activities include moving up the value chain in manufacturing, promoting exports, increasing research and development (R&D) activities, promoting further investments in forest plantations and upgrading human resource development (HRD). Assistance in the form of incentives is provided for manufacturing activities which include biomass development, waste recycling, and acquisition of technology and foreign expertise. Incentives are also provided for the promotion of exports, market development and brand promotion.
- 1.3 The present assistance programmes by the Government will be reviewed regularly to encourage companies to shift towards higher value-added manufacturing activities to produce innovative and high-end wood products. The criteria for obtaining these incentives including financing will vary depending on the type of incentives provided, the period for which they are required and the types of investment. Financing can be in the form of facilities such as credit, insurance or guarantee schemes and grants, with terms and conditions that may vary depending on the institutions/agencies that provide these facilities.

2. OVERVIEW OF FUNDING AND INCENTIVES

i. Incentives

- 2.1 In Malaysia, tax incentives, both direct and indirect, are provided under the Promotion of Investments Act 1986 (PIA), Income Tax Act 1967, Customs Act 1967, Sales Tax Act 1972, Excise Act 1976 and Free Zones Act 1990. These Acts cover investments in the manufacturing, agriculture, tourism (including hotel) and approved services sectors as well as R&D, training and environmental protection activities.
- 2.2 The direct tax incentives grant either partial or total relief from income tax payments for a specified period, while indirect tax incentives come in the form of exemptions from import duty, sales tax and excise duty.

ii. Incentives for manufacturing activities and forest plantations

- 2.3 The tax incentives available under all these Acts encourage the development of capital and technology intensive industries. They include investment tax allowance and re-investment allowance and other fiscal incentives among which are incentives for exports, forest plantations, strategic projects, infrastructure, purchase of computers and information technology assets, training and R&D.
- 2.4 Activities related to the manufacturing sector are crucial to the country's economy. The promotion of investments in forest plantations is important as it provides an alternative source of raw materials as timber resources from natural forests are declining. Incentives and financing facilities for these two critical activities are as follows:
- i. Manufacturing companies
- 2.5 Incentives for manufacturing activities in the timber industry as provided in the various Acts that cover start-up operations, purchasing and processing of raw materials, undertaking R&D, recycling wastes, and promoting and exporting high-end products.
- 2.6 The major tax incentives for companies investing in the manufacturing sector are the Pioneer Status (PS) and Investment Tax Allowance (ITA). Eligibility for PS or ITA is based on certain priorities, including the levels of value-added activities, technology used and industrial linkages. Eligible projects under PS or ITA, are termed as 'promoted activities', 'promoted products', 'high-technology companies', 'strategic projects' and others.

- ii. Pioneer Status
 - 2.7 Pioneer Status entitles a company to enjoy partial exemption from the payment of income tax, or in some cases 100 per cent tax exemption, depending on the area that is being promoted by the Government. These 'promoted areas' include Perlis, Sabah and Sarawak and the designated 'Eastern Corridor' of Peninsular Malaysia covering Kelantan, Terengganu, Pahang and the district of Mersing in the state of Johor. The period of the exemption varies from five to 10 years, depending on the type of PS activities.
- iii. Investment Tax Allowance
 - 2.8 A company granted ITA is entitled to an allowance of 60 per cent on its qualifying capital expenditure (such as factory, plant, machinery or other equipment used for the approved project) incurred within five years from the date on which the first qualifying capital expenditure is incurred. The company can offset this allowance against 70 per cent of its statutory income for each year of assessment. Any unutilised allowances can be carried forward to subsequent years until they are fully utilised. The remaining 30 per cent of its statutory income will be taxed at the prevailing company tax rate.
 - 2.9 For the promoted areas, applications received from companies located in these areas will enjoy an allowance of 100 per cent on the qualifying capital expenditure incurred within a period of five years. The allowance can be utilised to offset against 100 per cent of the statutory income for each year of assessment. All project applications received by 31 December 2010 will be eligible for incentives presently given to the investments in these areas.
- iv. Forest plantations
 - 2.10 Recognising the potential and the need to sustain the future growth of the timber industry, the Government will continue to give priority to the development of forest plantations which has been designated as a strategic sub-sector.
 - 2.11 The Government has provided incentives to promote investments in forest plantations and to encourage greater participation of the private sector in the development of forest plantations. Incentives are provided under the PIA and Income Tax Act 1967. The former offers PS or ITA and Infrastructure Allowance while the latter offers Agriculture Allowance (AA) and tax exemption under Income Tax Act 1967.

- 2.12 Infrastructure Allowance provided by the PIA allows an investor to use capital expenditure on construction, reconstruction, extension or improvement of permanent structures including bridges, jetties, ports and roads, to offset against statutory income in the calculation of tax payments. This incentive can be enjoyed together with the PS or ITA.
- 2.13 Other incentives for manufacturing provided by the PIA include the following:
- i. Relocating manufacturing activities to promoted areas
 - ii. High Technology companies
 - iii. Strategic projects
 - iv. Reinvestment in resource-based industries
 - v. SME
 - vi. Incentives for acquiring a foreign-owned company
 - vii. Enhanced incentives for utilisation of oil palm biomass
 - viii. Waste recycling activities
 - ix. Use of renewable energy resources
 - x. Incentives for R&D
- 2.14 A company undertaking forest plantation projects is given full tax exemption for 5 or 10 years of assessment. In addition, tax deduction is given to the investing company equivalent to the amount of investments made in the subsidiary company to initiate forest plantation activities. Alternatively, the company may opt for 'Group Relief' which allows a company undertaking forest plantation activities to offset the losses incurred from the profits of another company within the same group. However, the minimum area for a plantation has to be 50 hectares and planting is to be undertaken on a sustainable basis.
- 2.15 AA which allows different percentages of deduction depending on the type of capital expenditure incurred ranging from 10 per cent to 50 per cent to offset against income for tax purposes. The deduction can be made as long as the expenditure has been incurred.
- 2.16 The Forest Plantations Incentive Drawbacks for forest plantations are also provided by various state governments which include Sabah, Sarawak, Johor, Pahang, Negeri Sembilan, Selangor and Kelantan. The provisions vary from state to state which reflects the unique requirements and different conditions prevailing in the respective states.

- 2.17 The Government has also allocated an initial sum of RM180 million to start forest plantation activities from the year 2006 to be coordinated by the Malaysian Timber Industry Board (MTIB). It has a long term objective of supplementing the industry's needs for raw materials with plantation timber. A total of 375,000 hectares will be planted in selected sites in several states in Peninsular Malaysia, as well as in Sabah and Sarawak with an annual planting target of 25,000 hectares.
- 2.18 The various incentives provided to the timber industry are as follows:
- i. Accelerated Capital Allowance
 - ii. Industrialised Building System
 - iii. Accelerated AA for the Planting of Malaysian Rubberwood Trees
 - iv. Incentives for R&D
 - v. Deduction for Audit Fees
- 2.19 Additional incentives for manufacturing timber based include the following:
- i. Reinvestment Allowance (RA)
 - ii. Second round of PS or ITA for reinvestment project
 - iii. Double Deduction for Expenses to Obtain 'Halal' Certification and Quality Systems and Standards Certification
 - iv. Industrial Building Allowance
- 2.20 Tariff Related Incentives for the Manufacturing sector and Forest Plantations are as follows:
- i. Exemption from Import Duty on Raw Materials/Components
 - ii. Exemption from Import Duty and Sales Tax on Machinery and Equipment
 - iii. Exemption from Import Duty and Sales Tax on Spares and Consumables
 - iv. Exemption from Import Duty and Sales Tax for Outsourcing Manufacturing Activities
 - v. Drawback on Import Duty, Sales Tax and Excise Duty
- 2.21 Incentives for Export include the following:
- i. Double Deduction for the Promotion of Exports
 - ii. Single Deduction for the Promotion of Exports
 - iii. Double Deduction for the Promotion of Malaysian Brand Names
 - iv. Double Deduction on Freight Charges
 - v. Tax Exemption on the Value of Increased Exports

2.22 Training Incentives include the following:

- i. Double Deduction for Approved Training
- ii. Human Resource Development Fund
- iii. Pre-employment training

2.23 The various incentives provided to the timber industry through the following government agencies/organisations are:

MINISTRY OF ENTREPRENEUR AND COOPERATIVE DEVELOPMENT (MECD):

- i. *Tabung Ekonomi Kumpulan Usaha Niaga* (TEKUN)
- ii. Franchise Development Assistance Scheme
- iii. MARA Business Financing Scheme
- iv. *Skim Pembiayaan Pusat Negeri* (SPPN)
- v. *Pelaburan Ekuiti Perbadanan Nasional Bhd* (PNS)
- vi. Training - Integrated Furniture Marketing Programme
- vii. Malaysian Genuine Joint-Venture Company (MGUT)

MALAYSIAN EXTERNAL TRADE DEVELOPMENT CORPORATION (MATRADE):

- i. Market Development Grant (MDG)
- ii. Brand Promotion Grant (BPG)
- iii. Professional Services Export Fund (PSEF)

SMALL AND MEDIUM INDUSTRIES DEVELOPMENT CORPORATION (SMIDEC):

Matching Grants for:

- i. Business Start-ups
- ii. Product and Process Improvement
- iii. Productivity and Quality Improvement Certificate
- iv. Enhancing Marketing Skills of SME
- v. Enhancing Product Packaging
- vi. Skills Upgrading

Soft loans for:

- i. SME
- ii. Factory relocation
- iii. IT adoption

INLAND REVENUE BOARD (IRB):**Manufacturing:**

- i. Reinvestment Allowance (RA)
- ii. Incentives for R&D:
 - Tax deduction for a company that invests in its subsidiary company engaged in the commercialisation of R&D findings
 - Double deduction for R&D
 - Industrial Building Allowance

Exports:**Incentives for exports:**

- i. Double deduction for promotion of exports
- ii. Export credit insurance premium
- iii. Freight charges
- iv. Incentives for implementation of RosettaNet
- v. Promotion of Malaysian brand names
- vi. Tax exemption on the value of increased exports

Forest Plantations:

- i. Tax exemption for forest plantation (5 or 10 years of assessment), Income Tax Act 1967

Training:

- i. Pre-employment training
- ii. Double Deduction for Approved Training

ROYAL MALAYSIAN CUSTOMS DEPARTMENT:**Manufacturing:**

- i. Sales tax exemption for raw materials
- ii. Refund, drawback, tax relief on bad debts and remissions

MALAYSIAN INDUSTRIAL DEVELOPMENT FINANCE BERHAD (MIDF):**Manufacturing:**

- i. Fund for Cross Border Investments in Manufacturing
- ii. New Entrepreneurs Fund 2 (NEF2)
- iii. Fund for SME
- iv. Rehabilitation fund for SME

Small and Medium Industries:

- i. The Japan Bank for International Cooperation Fund provides assistance for Small and Medium Industries

MALAYSIAN TECHNOLOGY DEVELOPMENT CORPORATION (MTDC):**R&D:**

- i. Commercialisation of Research and Development Fund (CRDF)

Technology:

Technology Acquisition Fund (TAF):

- i. Technology licensing
- ii. Acquisition of patent rights, prototypes and design
- iii. Placement of Malaysians in foreign technical institutes
- iv. Foreign expert sourcing programme

Technology acquisition fund for women:

- i. Technology licensing
- ii. Acquisition of patent rights, prototypes and design
- iii. Purchase of high-technology equipment and machinery
- iv. Placement of Malaysian company in foreign technology company or technical institute
- v. Foreign experts sourcing programme
- vi. Business relocation

EXPORT AND IMPORT BANK OF MALAYSIA (EXIM Bank):

- i. Export credit refinancing (ECR) for Pre-shipment and Post-shipment

MALAYSIA EXPORT CREDIT INSURANCE BHD (MECIB):

- i. Export credit insurance

CREDIT GUARANTEE CORPORATION (M) BHD (CGC):

- i. Guarantee schemes
- ii. New principal guarantee scheme
- iii. Flexi guarantee scheme
- iv. Franchise financing scheme
- v. Small entrepreneur guarantee
- vi. Direct access guarantee scheme
- vii. Islamic banking guarantee scheme

BANK SIMPANAN NASIONAL:

- i. *Bank Simpanan Nasional* (BSN) provides incentives for SME through its Micro Credit Scheme

v. Financial facilities

- 2.24 The financial and banking sector through various financial schemes for exports has enhanced the ability of manufacturers particularly the SME to expand their operations and export overseas. Apart from the normal business credit, many commercial banks and financial institutions have been appointed by Bank Negara to disburse Government grants and provide financing facilities to SME.
- 2.25 Financing facilities are also available through nine government agencies and organisations which include SMIDEC, MIDF, SME Bank, EXIM Bank, MATRADE, MTDC, Malaysian Export Credit Insurance Berhad (MECIB), Credit Guarantee Corporation (CGC), and Ministry of Entrepreneur and Cooperative Development (MECD) including *Majlis Amanah Rakyat* (MARA). They cover both conventional and Islamic banking facilities related to micro-credit.
- 2.26 The main facilities provided for manufacturers include the following:
- i. Soft loans for SME
 - ii. New Entrepreneurs Fund 2 (NEF2)
 - iii. Fund for Small and Medium Industries 2 (FSMI 2)
 - iv. Rehabilitation Fund for SMI (RFSMI)
 - v. Special Assistance Scheme for Women Entrepreneurs
 - vi. Japan Bank for International Cooperation Fund For SMI (JBIC-FSMI)
 - vii. Soft Loans for IT adoption
 - viii. Soft Loans Scheme for Factory Relocation
 - ix. Export Credit Refinancing (ECR)
 - x. Export Credit Insurance
 - xi. Guarantee Scheme by CGC
 - xii. Special Financing for Manufacturing and Franchise Projects by MARA
 - xiii. Micro Credit Scheme by BSN

vi. Grants

- 2.27 Grants are available to companies that engage in activities related to R&D, technology acquisition, brand promotion, placement of Malaysians in foreign technology-based companies or foreign institutes, and to foreign experts sourcing programme, with the objective of making Malaysian companies more competitive in the global market.
- 2.28 Grants are disbursed through SMIDEC, MATRADE and MTDC. The incentive is in the form of matching grants whereby companies can obtain 50 per cent, 60 per cent or 70 per cent of amounts incurred on approved costs, subject to maximum amount specified under certain activities. The normal procedure is that the application has to be submitted before undertaking the activities to ascertain its eligibility for the grant. Claims for reimbursement must be submitted within a certain period of undertaking the activities with receipts and supporting documents attached to the application form.
- 2.29 The purpose of the grants is to develop local companies to be more competitive in the global market, making their presence felt through research and branding, and through the introduction of better technology and improved quality products. Types of grants presently available are as follows:
- i. Industrial Technical Assistance Fund (ITAF)
 - ii. Business Start-ups
 - iii. Product and Process Improvement
 - iv. Certification and Quality Management System
 - v. Enhancing Product Packaging
 - vi. Commercialisation of R&D Fund
 - vii. Enhancing Marketing Skills of SME
 - viii. Skills Upgrading
 - ix. Market Development Grant
 - x. Brand Promotion Grant
 - xi. Technology Acquisition Fund (TAF)
 - xii. Technology Acquisition Fund For Women (TAF-W)
 - xiii. Grant For IT Applications
 - xiv. Factory Auditing Scheme

3. ISSUES AND CHALLENGES

i. Raising funds for start-ups for SME

- 3.1 A major concern for the timber industry is raising funds for start-ups for SME engaged in timber processing activities. The difficulty of obtaining loans is related to the problem of securing long term supply of raw materials. Special and easy terms should be provided for SME with high growth potential and strong foundation. The provision of tax incentives for research and the purchase of fixed assets and financial incentives to upgrade and expand existing facilities are also crucial in providing a strong foundation for the timber industry.

ii. Bureaucracy and the difficulty of obtaining finance from commercial banks

- 3.2 The industry faces lengthy application processes, which make loan applications cumbersome and unattractive. Applicants are confused and discouraged by the complexity of forms to fill and information details to be provided. According to the industry, the problem of accessibility to government agencies lies mainly with bureaucratic rigidity and delays where applications for financing facilities will have to go through several layers of administrative procedures.
- 3.3 Most small companies are unable to meet the requirement of banks for acceptable collateral assets. In the absence of acceptable collateral assets, even viable projects would have difficulty in obtaining loans from the banks. When approving loans, banks generally consider acceptable collateral in the form of physical assets and not other factors such as good company management.
- 3.4 There are a number of opportunities for funding but in many cases, the difficulties posed by the application process and policies make them inaccessible to the deserving applicants. The situation does not help the Government to achieve the objective of enhancing the development of small businesses, especially Bumiputera companies.

- 3.5 The support of commercial banks and financial institutions are important to ensure the success of Government policies. However, the banks are generally reluctant to provide financing to the timber industry due to various reasons, one of which is the difficulty of the SME to provide acceptable collateral assets. These financial institutions are extremely cautious about approving loans based on their experiences of numerous cases of failures and shortfalls. Hence, this does not support the objective of the many funds provided under several schemes by the Government to assist entrepreneurs for example, Bank Negara's New Entrepreneur Fund (NEF 2) and the Fund for SME which has to be applied through commercial banks.

iii. Lack of awareness by SME

- 3.6 Another issue of concern is the lack of awareness among manufacturers on the incentives, financial facilities and grants that are available. Many of them may know or have heard about the incentives, financial facilities and grants but do not have full understanding on how to apply for these facilities to the extent that they are unable to benefit from them. For instance, surveys have indicated that not many SMEs in the timber industry are fully aware of the incentives provided by the Government such as the Double Deduction for Expenses to Obtain "Halal" Certification and Quality Systems and Standards Certification whereby, additional deduction will be given on expenses incurred in obtaining international quality standards such as *Conformité Européenne* (CE) Mark, Hazard Analysis and Critical Control Points (HACCP), International Standard Organisation (ISO) and Japanese Industry Standards (JIS).
- 3.7 This could be the result of individual attitudes and inadequate information flows that require coordinators like trade associations to assist.

iv. Unattractive incentives for forest plantation activities

- 3.8 Financial incentives for forest plantations are provided by the Government under the PIA and Income Tax Act 1967 as well as the Soft Loans for Forest Plantations Programme. Although there are incentives provided by the Federal and State Governments for investments in forest plantations, the long gestation period for the returns on investment for participating in the Forest Plantations Programme makes it unattractive to investors. A review of the incentives is necessary to make this Programme attractive to investors.
- 3.9 The current incentives for forest plantations are considered by the investors as unattractive, inadequate or not lucrative enough for them to invest. In particular, the requirement that the forest plantations are managed on a sustainable basis should be reviewed and be more flexible to mitigate the risk and to enhance their cash flow.

- 3.10 The inadequate incentives to attract the big companies are also true for smallholders who are not willing to invest in forest plantations. They prefer to plant oil palm which has higher and more attractive returns as well as shorter gestation period compared with investing in forest plantations.

4. THE WAY FORWARD

- 4.1 The timber industry is a resource-based industry and is highly dependent on the availability of raw materials where supply is reliable and at competitive prices. The majority of companies in the timber industry are SME and hence require financial and infrastructure support to help the industry to develop. The industry has had a long history of inter-sectoral and high value chain linkages that begin from raw materials development through to modern processing technology and eventually, exporting to the global market. As the majority of the players in the industry are SME including Bumiputera companies, there are excellent opportunities for more active participation, and to assume a more meaningful role and contribute to the development of the sector.

i. A flexible scheme for better access to financing

- 4.2 SME can source financing from government agencies and financial institutions such as SMIDEC, MIDF, SME Bank, MATRADE, MARA, BSN and MTDC all of which provide special allocations to Bumiputera entrepreneurs. The SME therefore have to seize the opportunities provided, to develop their companies and compete in the global market.

ii. Financial support by banks

- 4.3 The support of commercial banks and financial institutions are important to ensure the development of the timber industry. It is important to understand the timber industry better, and enable the SME to have a more flexible and easy access to loans and credit facilities.
- 4.4 MTIB and STIDC as the agencies responsible for the development of the timber industry should highlight to the public, the positive aspects of the industry, its prospects for growth, and its significant contribution to the national economy. It would be beneficial to both bankers and the industry if the banks and financial institutions can participate more in timber related conferences, timber trade exhibitions and trade missions abroad to better understand the timber industry.

iii. Undertake awareness programmes on incentives

- 4.5 The various Government agencies such as MTIB and STIDC as well as trade associations need to undertake awareness programmes on a regular basis for the timber industry in order to update them on the latest incentives, financial facilities and grants provided by the Government.

5. POLICY DIRECTION

- 5.1 Although the Government had and will continue to provide the necessary funding and incentives especially to the SME to enable a more dynamic development of the timber industry, there is a need to:
- i. create a more conducive environment for the development of the timber industry through the provision of funds and incentives; and
 - ii. enhance the participation of SME in the timber industry by undertaking awareness programmes that would provide information on the availability and access to the loans and credit facilities from the government agencies and commercial banks.

Thrust



Bumiputera Participation



1. INTRODUCTION

- 1.1 Ever since the implementation of the New Economic Policy (NEP) in 1971, development programmes by the Government were focused on achieving national unity in a multi-racial society through an integrated approach aimed at eradicating poverty.
- 1.2 One of the main strategic thrusts in the NEP is the development of Bumiputera entrepreneurs under the agenda towards establishing the Bumiputera Commerce and Industry Community (BCIC).
- 1.3 The main objective of the BCIC is to increase the participation of Bumiputera entrepreneurs in the activities related to commerce and industry that is competitive and sustainable at the domestic as well as at international levels.

2. OVERVIEW OF BUMIPUTERA PARTICIPATION IN THE TIMBER INDUSTRY

- 2.1 The timber industry is an important resource-based sector in Malaysia and will continue to contribute to the socio-economic development of the country. Within this industry, the involvement of Bumiputera has always been an important component in the formulation and implementation of the national development programmes.

Table 7.1: Exports of furniture by Bumiputera manufacturers, 2000 - 2008

Year	No. of Bumiputera Furniture Exporters	Exports (RM million)		Export (%) Bumiputera
		Malaysia	Bumiputera	
2000	35	4,480.0	119.0	2.7
2001	36	3,840.0	68.8	1.8
2002	21	4,200.0	70.0	1.7
2003	19	4,722.8	56.3	1.2
2004	14	5,486.6	17.9	0.3
2005	17	5,849.2	14.9	0.3
2006	23	6,464.0	19.2	0.3
2007	21	6,715.9	22.6	0.3
2008*	18	6,990.0	28.0	0.4

Source : MTIB

Note : * estimate

- 2.2 The overall success of the programmes for Bumiputera development have not been up to expectations and to date very little progress has been made. This can be seen from the performance of the Bumiputera in the timber export business as compared with the national performance, especially in downstream activities. In 2008, the exports of furniture totalled RM7 billion and Bumiputera exporters contributed only RM28 million or 0.4 per cent (Table 7.1).

3. ISSUES AND CHALLENGES

- 3.1 The lack of performance of the Bumiputera can be attributed to a number of reasons which include:

i. Raw materials for downstream processing activity

- 3.2 Although Bumiputera have some degree of control over the supply of raw materials at the concession and logs production stages, they are not able to compete in obtaining raw materials at the downstream level. This is due to Bumiputera entrepreneurs facing stiff competition in the open market particularly in the procurement of sawntimber for the manufacture of furniture.

- 3.3 Most of the Bumiputera entrepreneurs also face problems of cash flow in purchasing raw materials. The timber business requires sufficient stocks to be maintained and purchase of the raw materials is on cash basis. This has resulted in the lack of development and expansion of their business.

ii. Business knowledge and experience

- 3.4 Generally most of the Bumiputera entrepreneurs are craft-based operators with limited relevant formal training. As a result the approach towards business is still very much domestic-oriented and guaranteed orders with little risk taking and therefore business development is limited.

iii. Credit/financing

- 3.5 The need for credit facilities and financial strength is a prerequisite in the timber business and without this, business growth is hampered. Bumiputera entrepreneurs are not willing to take too much risks by securing loans and borrowings from banks which prevents them from expanding their businesses. Self-financing ventures appear to be the most preferred mode of financing, which limits the scale of operations and expansion.

iv. Factory location

- 3.6 Most of the Bumiputera factories are located in non-gazetted industrial zones and hence, is not conducive for business expansion. This may be an advantage to keep overhead costs low but the drawback is that they are located within residential villages which are not conducive for expanding their businesses.

v. Basic machinery and factory layout

- 3.7 It has been observed that the woodworking machinery available in Bumiputera operated mills is mostly basic machinery. This may be adequate for basic production activities that cater for the domestic market but would not be sufficient for processing activities further downstream. This has limited the processing capacity of Bumiputera mills. Hence Bumiputera businesses are not keen to venture into the export market due to the limited processing capacity.
- 3.8 The limited capacity of Bumiputera mills have resulted in small factory floor space and the machinery layout is often poor. This issue must be addressed if the Bumiputera are to grow into successful exporters of furniture, which requires the use of optimal technology and efficient factory space layout.

vi. Research and Development

- 3.9 This is perhaps the most notable factor that is absent in the Bumiputera mills. R&D in the timber industry covers a wide range of activities, from primary to secondary and downstream processing. However, there is a lack of R&D activities in Bumiputera mills, which explains the technical inefficiencies, poor machinery layout, and poor product development. In order to enhance the R&D capabilities among the Bumiputera entrepreneurs, there is a need to recruit technically qualified personnel to undertake research activities to further enhance the processing capabilities of Bumiputera mills.

vii. Operational system

- 3.10 In general, some Bumiputera entrepreneurs lack the necessary technical knowledge and managerial skills to manage their business operations. Sound management system and best practices are often not employed, resulting in inefficient and less profitable ventures. In order to remain profitable and sustainable in their businesses, the Bumiputera entrepreneurs need to enhance their skills and knowledge as well as develop a more positive attitude towards expanding their markets.

viii. Quality management

- 3.11 The management of quality in most of the Bumiputera mills can be further improved. The poor quality management can be attributed to the non-professional background of the Bumiputera entrepreneurs and the importance they place on hands-on approach rather than adopting proven quality control systems. Although the quality of the products produced in the mills is deemed acceptable in the domestic market, it may not be well received in the international market. This is therefore an area of concern among Bumiputera furniture entrepreneurs.

ix. Cooperation and networking among Bumiputera entrepreneurs

- 3.12 The level of cooperation among the Bumiputera entrepreneurs in the furniture sub-sector is poor. The non-Bumiputera counterparts unlike the Bumiputera cooperate and network among themselves through associations such as Malaysian Furniture Industry Council (MFIC) and Malaysian Furniture Association (MFA) while the Bumiputera are often left to fend for themselves. As a result, information sharing and networking among them is also poor.

x. Business acumen

- 3.13 Bumiputera have a strong craft-based culture and is often mentioned as one of the reasons why they venture into the furniture sub-sector. This alone will not suffice to see them through, as they require the correct business acumen to succeed. This is one of the drawbacks noted among the Bumiputera entrepreneurs.

xi. Project planning and implementation

- 3.14 Development projects and assistance by the Government were poorly planned and implemented. Projects and assistance were short-term in nature and sometimes on an adhoc basis. For example, some *Taman Industri Perabot* (TIP) or Furniture Industry Parks were established more on the basis of policy requirement rather than market driven.

4. THE WAY FORWARD

4.1 The Government will continue to encourage greater participation of the Bumiputera in the timber industry at all levels. Emphasis will be given to guide Bumiputera entrepreneurs for greater readiness to compete in the long term and assume a more effective role in the timber industry through:

i. ***Program Usahawan Wibawa (Credible Entrepreneurship Programme)***

4.2 Government development programmes that provides assistance in areas such as the procurement of raw materials, obtaining finance and incentives will be intensified and extended to qualified Bumiputera entrepreneurs. These programmes will also improve the capability of Bumiputera entrepreneurs in management and production skills, product and service quality, mill productivity and an understanding of the market.

ii. **Integrated marketing programmes**

4.3 Integrated marketing programmes such as the Umbrella Concept and Anchor/Vendor programmes in the past have proven to be reliable in nurturing and developing Bumiputera entrepreneurs to become competitive furniture manufacturers. These programmes were, however, abandoned due to poor management and monitoring of the follow-up action on the progress of the Bumiputera entrepreneurs. The reasons for its failure need to be analysed and corrective measures be taken to enable the programmes to be reactivated with new strategies. These programmes can be a catalyst in the creation of industrial clusters and strengthening linkages.

iii. **Consolidation of Integrated Timber Complexes**

4.4 The Integrated Timber Complexes (ITCs) should be consolidated and enhanced to provide more opportunities for Bumiputera entrepreneurs to participate in the activities of these complexes which include logging, manufacturing and marketing. Although the operations of timber complexes have experienced failures in the past, the system should be reactivated because of its potential value to Bumiputera entrepreneurs.

4.5 These complexes can be a platform to encourage the involvement of the Bumiputera entrepreneurs in furniture manufacturing through vertical integration (such as resawing, peeling, slicing, and kiln drying) and horizontal integration by venturing into product diversification.

iv. Restructuring of *Taman Industri Perabot*

- 4.6 To restructure and to re-strategise the operations of TIP by giving greater emphasis on the development of marketing capabilities and production technology. The Government will establish a mechanism that can assist the manufacturers in TIP to enhance their access to the domestic and international markets.
- 4.7 Market expansion programmes will be established to assist Bumiputera entrepreneurs to supply for the captive market as well as to develop business linkages and smart partnership arrangements. These linkages are expected to expand the opportunities for Bumiputera manufacturers in TIP to market the products as well as to improve the production technology.

v. Central purchasing facilities

- 4.8 The establishment of central purchasing facilities will enable Bumiputera entrepreneurs to purchase materials at competitive prices. In addition to being consumers, they can also be involved in these complexes as suppliers and traders of wood and wood products.

vi. Marketing and promotion

- 4.9 The marketing and promotion of Bumiputera products are important in improving their competitiveness in the global market. It is essential, therefore to continue to provide them with financial and non-financial support for market expansion, enhancement in the branding, packaging and design of their products so as to strengthen networking and trade alliances.

vii. Upgrading business skills

- 4.10 Upgrading business skills, including communication skills in foreign languages, and knowledge improvement will be through training, market exposure and attachment programmes with established companies. This is to develop Bumiputera to become successful and motivated entrepreneurs with the correct attitude to business.

viii. Participation in research and development

- 4.11 Encouraging active participation of Bumiputera entrepreneurs in R&D activities focusing on improvements in the product quality and design, as well as development of new products. Areas to focus on are furniture designs and prototyping.

5. POLICY DIRECTION

- 5.1 The policy directions in establishing competitive and sustainable Bumiputera participation in the timber industry are:
- i. emphasising the involvement of Bumiputera participation at all levels of the value chain;
 - ii. involving Bumiputera in downstream activities rather than from being mere recipients of forest timber concessions;
 - iii. providing opportunities for Bumiputera entrepreneurs' involvement in state-owned Integrated Timber Complexes (ITCs);
 - iv. encouraging state governments to assume more active role in the development of Bumiputera entrepreneurs;
 - v. restructuring and consolidating TIP as nuclei for Bumiputera manufacturing facilities; and
 - vi. emphasising the development of SME in the woodcraft and cottage industries which include rattan and bamboo.

ABBREVIATIONS

9MP	Ninth Malaysia Plan
AA	Agriculture Allowance
ABM	Akademi Binaan Malaysia
ASTM	American Standard Trade Mark
BCIC	Bumiputera Commerce and Industry Community
BJC	Builders' Joinery and Carpentry
BPA	Bilateral Payment Agreements
BPG	Brand Promotion Grant
BS	British Standards
BSN	Bank Simpanan Nasional
CAD	Computer-aided Design
CAM	Computer-aided Manufacturing
CBD	Convention on Biological Diversity
CBT	Competency Based Training
CE	Conformité Européenne (European Conformity)
CGC	Credit Guarantee Corporation
CITES	Convention on International Trade in Endangered Species of Wild Fauna & Flora
CRDF	Commercialisation of Research and Development Fund
CSIL	Centro Studi Industria Lenggara (Centre for Industrial Studies)
DNA	Deoxyribonucleic Acid
DOSM	Department of Statistics, Malaysia
DSD	Department of Skills Development
DSM	Department of Standards Malaysia
EC	European Certification
EC	European Commission
ECER	Eastern Corridor Economic Region
ECR	Export Credit Refinancing
EMD	Entrepreneurship and Management Development
EN	European Normalisation
EU	European Union
EU-FLEGT	European Union Action Plan for Forest Law Enforcement, Governance and Trade
EXIM Bank	Export & Import Bank of Malaysia
FAO	Food and Agriculture Organisation
FCCC	Framework Convention on Climate Change
FIDEC	Fibre and Biocomposite Development Centre
FIRA	Furniture Industry Research Association
FITEC	Furniture Industry Technology Centre
FLEGT	Forest Law Enforcement, Governance and Trade
FOB	Freight on Board
FPP	Forest Plantation Programme
FRIM	Forest Research Institute Malaysia
GDP	Gross Domestic Products

GMP	Good Manufacturing Practices
HACCP	Hazard Analysis and Critical Control Points
HCD	Human Capital Development
HRD	Human Resource Development
IKBN	Institut Kemahiran Belia Negara
IKM	Institut Kemahiran MARA
ILP	Institut Latihan Perindustrian
IMP1	First Industrial Master Plan
IMP2	Second Industrial Master Plan
IMP3	Third Industrial Master Plan
IRB	Inland Revenue Board
ISO	International Standard Organisation
IT	Information Technology
ITA	Investment Tax Allowance
ITAF	Industrial Technical Assistance Fund
ITC	Integrated Timber Complex
ITI	Industrial Training Institute
JAS	Japanese Agricultural Standards
JBIC	Japan Bank For International Corporation Fund For SMI
JIS	Japanese Industry Standards
KG	Kilogram
LL	Laminated Lumber
LNG	Liquefied Natural Gas
LSEs	Large Scale Enterprises
LUCT	Limkokwing University College of Creative Technology
LVL	Laminated Veneer Lumber
MARA	Majlis Amanah Rakyat
MATRADE	Malaysian External Trade Development Corporation
MC&I	Malaysia Criteria and Indicators for Forest Management Certification
MDF	Medium Density Fibreboard
MDG	Market Development Grant
MECD	Ministry of Entrepreneur & Cooperative Development
MECIB	Malaysian Export Credit Insurance Berhad
MFA	Malaysian Furniture Association
MFA	Malaysian Forestry Act
MFIC	Malaysian Furniture Industry Council
MFPC	Malaysian Furniture Promotion Council
MGUT	Malaysian Genuine Joint-Venture Company
MIDF	Malaysian Industrial Development Finance Berhad
MPIC	Ministry Plantation Industries and Commodities
MPC	Malaysia Productivity Corporation
MPOB	Malaysian Palm Oil Board
MRA's	Mutual Recognition Arrangements

MS	Malaysian Standards
MTC	Malaysian Timber Council
MTCC	Malaysian Timber Certification Council
MTCS	Malaysian Timber Certification Scheme
MTDC	Malaysian Technology Development Corporation
MTIB	Malaysian Timber Industry Board
n.a.	Not Available
NCER	Northern Corridor Economic Region
NEF2	New Entrepreneurs Fund 2
NEP	New Economic Policy
NFC	National Forestry Council
NFP	National Forest Policy
NIOSH	National Institute of Occupational Safety & Health
NOSS	National Occupational Skills Standards
NRE	Ministry of Natural Resources and Environment
NWFPs	Non Wood Forest Products
OBM	Own Brand Manufacturing
ODM	Original Design Manufacturer
OEM	Original Equipment Manufacturer
PERHEBAT	Perbadanan Hal Ehwal Bekas Angkatan Tentera
PIA	Promotion of Investments
PRC	People's Republic of China
PRF	Permanent Reserved Forest
PS	Pioneer Status
PSEF	Professional Services Export Fund
PSMB	Pembangunan Sumber Manusia Berhad
R&D	Research and Development
RA	Reinvestment Allowance
RFSMI	Rehabilitation Fund for SMI
RI	Research Institutes
RM	Ringgit Malaysia
RRIM	Rubber Research Institute of Malaysia
SCORE	Sarawak Corridor of Renewable Energy
SDC	Sabah Development Corridor
SFM	Sustainable Forest Management
SFMLA	Sustainable Forest Management License Agreement
SKM	Sijil Kemahiran Malaysia
SME	Small and Medium Scale Enterprise
SME Bank	Bank Perusahaan Kecil & Sederhana Malaysia Berhad
SMIDEC	Small & Medium Industries Development Corporation
SMS	Selective Management System
SPA	Seed Production Areas
SPPN	Skim Perbiayaan Pusat Negeri

STIDC	Sarawak Timber Industry Development Corporation
TAF	Technology Acquisitions Fund
TAF-W	Technology Acquisitions Fund for Women
TEKUN	Tabung Ekonomi Kumpulan Usaha Niaga
TIP	Taman Industri Perabot
TQM	Total Quality Management
TTITC	Terengganu Timber Industry Training Centre
TTRTC	Timber Technology Research and Training Centre
UiTM	Universiti Teknologi Mara
UMS	Universiti Malaysia Sabah
UPM	Universiti Putra Malaysia
USM	Universiti Sains Malaysia
WISDEC	Wood Industry Skills Development Centre

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