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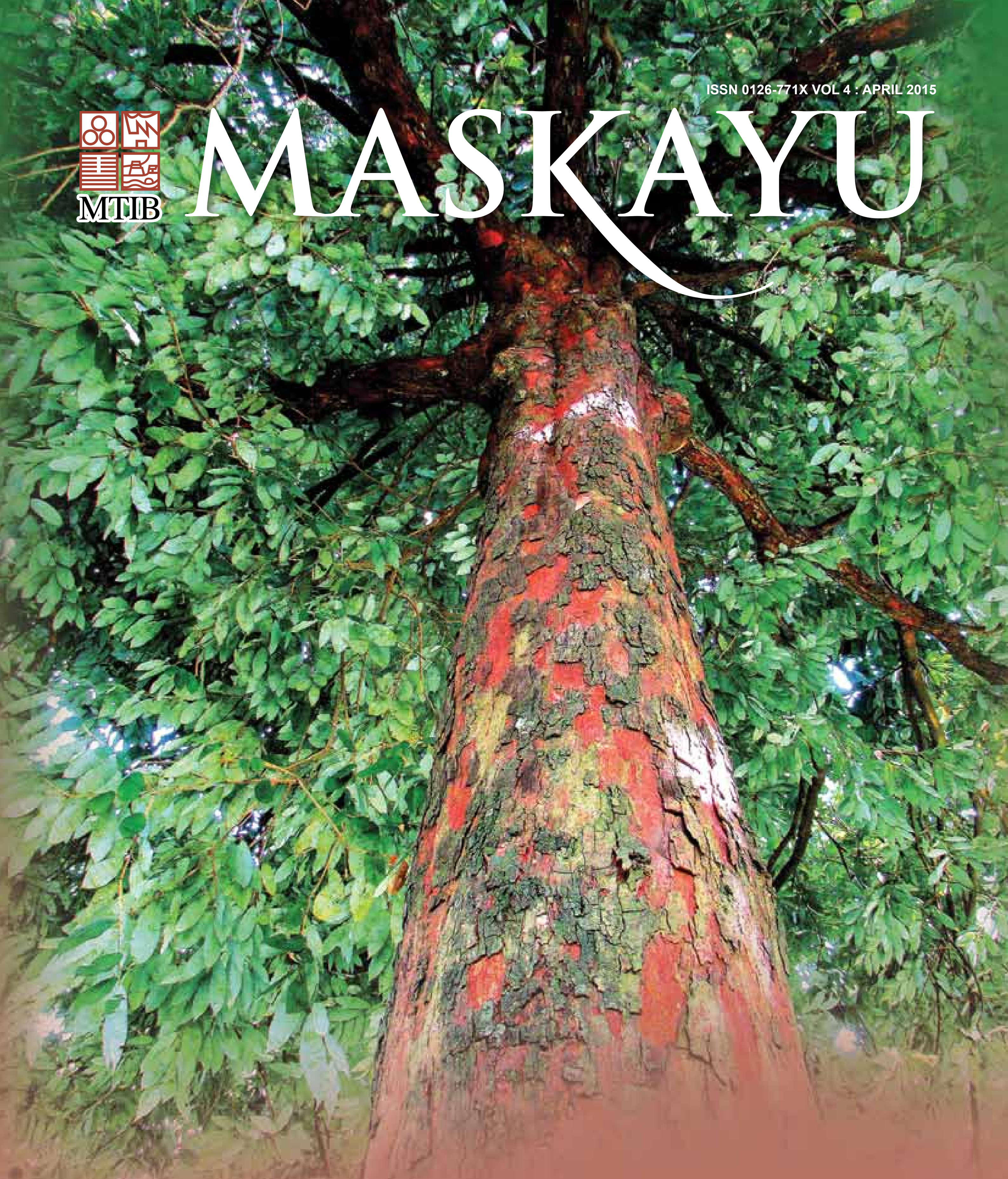

MALAYSIAN CONTESTANTS WIN TWO GOLD MEDALS IN WOC 2015

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***Cover :** Penaga is the Standard Malaysian Name for the timber of Mesua ferrea (Guttiferae). To know more about its uses, read details on pages 30-31.*

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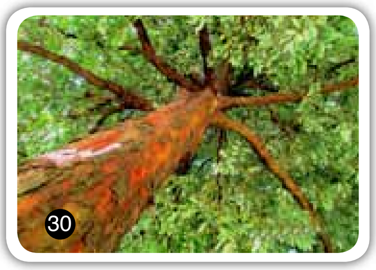

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MALAYSIAN CONTESTANTS WIN TWO GOLD MEDALS IN WOC 2015

Malaysia's team showcased their talents as they participated in the Worldskills Oceania Competition (WOC), held in Hamilton, New Zealand, from 13 to16 May. The WOC is a simulated International Competition held biennially in the lead up to the Worldskills International Competition. The Malaysian team participated in this competition as a training exercise before participating in the 43rd Worldskills Competition (WSC), which will be held in Sao Paulo Brazil in August 2015.

The organiser of WOC in New Zealand invited contestants or competitors from countries such as China, Malaysia, Canada, Korea, Australia, New Zealand, India and Japan. About 100 contestants converged in the Waikato Institute of Technology (WINTEC) campus during the competition.

Through the Ministry of Human Resources and Ministry of Works, Malaysia sent eight contestants in the competition, competing in eight trade categories: Joinery, Electrical Installation, Welding, Aircraft Maintenance, Cabinet Making, Hairdressing, Plumbing and Cooking.

Malaysia won Gold Medals in both Cabinet Making and Joinery. The cabinet making trade category was won by Encik Musalman Kamal who had undergone intensive training at Wood Industry Skills Development Centre (WISDEC) in Banting. The joinery trade category was won by Encik Lau King Heing from Industrial Training Institute.

To develop human capital in the timber industry, MTIB has been appointed Industry Lead Body (ILB) by Department of Skills Development, Ministry of Human Resources. As an ILB, MTIB undertakes training programmes and activities, in order to elevate the level of human resources' skills in the timber industry. MTIB, through WISDEC, has been involved in the skills competition since ten years ago. Two MTIB officers Encik Amri Mustafa and Encik Saifol Azri Mohamad have also been appointed as national expert in cabinet making and joinery.

Dr. Jalaluddin Harun, MTIB Director-General congratulated the contestants and the national experts for their hard work and commitment. However, he urged the Malaysian contingent to not be complacent with their achievements in the WOC and instead to work even harder and aim for higher success in the coming WSC competition in Brazil.

Last year, the Malaysian contingent participated in the 10th ASEAN Skills Competition (ASC) in Hanoi, Viet Nam from 19 until 29 October 2014. At ASC, they bagged nine gold medals, four silver and four bronze. In the cabinet making trade category, Malaysian contestants won one silver medal and one medallion of excellence, whereby in the joinery trade, Malaysia won a medallion of excellence.

Malaysia's participation in the ASC and WSC is in line with the objectives of the national aspiration to have 33% of skilled workers by 2015, and 50% of skilled workers by 2020, on par with other countries such as Singapore, Taiwan and South Korea. The 11th ASC will be hosted by Malaysia in 2016.

Prize presentation.

Cabinet making team.

Joinery team.

Gold winners - joinery and cabinet making.

TIMBER WORLD IN BRIEF

ASIA
Timber Products Market Prospects Not Clear in 2015

The business of Asian and Far Eastern timber and wood product traders improved in 2014 but the outlook for 2015 is less clear. In China, the demand slowed more ahead of Chinese New Year celebrations than usual. Producers are worried about the effects of the slower economic growth in China.

In the EU, the growth prospects are low and there are strict regulations and a negative attitude towards tropical timber.

In Japan, the lower value of the yen is slowing down the already weak market for plywood. However, in the Middle East, timber product demand is expected to remain strong.

TTJ Timber Trades Journal, 15 April

CHINA
Wooden Furniture, Fibreboard and Plywood Exports Grow

China's wooden furniture export value increased 119% in February 2015. The export value of fibreboard and wooden products jumped 60.8% and 117.8% respectively, while that of plywood and paper and paper products grew 148.5% and 56.3% respectively. China's wood import volume and value declined 17.7% and 21.8% in the month, while the import volume and value of log fell 32% and 43.3% respectively. Overall, the forestry products import value of the country fell 14.9%, while export value increased 78.2%.

Wood168, 1-15 April

Export Volume of Plywood in January-February 2015 Grew by 36.01%

China's export volume of plywood in January-February 2015 increased by 36.01% year-on-year to 1.93 million m³. Export volume of plywood to Mexico during the two-month period hit 27,300 m³, while plywood export volume to Chile and Viet Nam hiked by 67.03% and 29.01% to 16,500 m³ and 28,000 m³ respectively. Plywood export volume to Singapore and the Philippines grew by 53.96% and 88.21% to 39,100 m³ and 114,700 m³ respectively, while plywood export volume to the UAE and Saudi Arabia surged by 70.38% and 128.04% to 103,600 m³ and 100,600 m³ respectively. Plywood export volume to the UK and the US soared by 35.94% and 48.39% to 163,900 m³ and 326,400 m³. Export volume of plywood to Japan fell by 7.92% to 119,500 m³.

Wood168, 3 April

Trends in China’s Wood-based Panel Industry

In recent years there has been a marked slowdown in the pace of growth in China’s wood-based panel industry. The output of wood-based panels in 2014 rose 11% to 300 million m³ but the pace of growth was well below the 20% level recorded a year earlier. Statistics suggests there are more than 10,000 wood-based panel enterprises in China employing around three million workers. Private enterprises dominate the wood-based panel sector providing employment to approx. 2.3 million workers. Most plants are small with an annual capacity of no more than 10,000 m³ of output. There are around 1,200 fibreboard production lines with more than 300,000 employees and around 1,400 particleboard plants. The pace of growth of particleboard output was the fastest in 2014.

ITTO TTM Report, 1- 15 April

FINLAND
Forestry Imports, Exports Down

Finland's imports of forest industry products totalled EUR0.104 billion in January 2015, according to preliminary data from Natural Resources Institute Finland.The volume of imports totalled 0.65 million m³, which was down 13% over a year. Birch pulpwood accounted for half of the overall imports. Finland's exports of forest industry products totalled EUR0.91 billion in January 2015, which was down 5% from a year earlier. The value of paper exports amounted to EUR0.37 billion, paperboard to EUR0.195 billion, pulp to EUR0.136 billion, and timber products to EUR0.106 billion.

Press Release, 9 April

GERMANY
Timber Prices Fall

According to the German statistical office, producer prices in the wood industry mainly fell in February 2015. The price of soft sawntimber fell by 0.4% compared to January 2015, and the price of battens fell by 0.8%. On the other hand the price of narrow boards and planed timber increased by 0.6% and 0.1% respectively. The price of solid construction timber remained unchanged. The raw material price of Spruce and Fir wood was 1.2% lower in February 2015.

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Overall, raw material prices have seen continuous decline since July 2014 whereas the prices of planed and solid construction timber have been rising since November 2014. The producer price for soft wood chippings increased by 0.7% compared to January 2015. However, compared to February 2013 the prices are 12.7% lower. The price of Beech timber fell 0.3%. However, year-on-year this represents a 3.1% increase. The prices of raw and melamine-coated particleboard declined 1.4% and 0.4% respectively in February 2015, whereas high pressure laminate coated particleboard remained unchanged. Moreover, the decline in the price of OSB continued with a decline of 4.3%. Medium density fibreboard prices were 1.9% lower in February 2014 compared to the same period in 2014 and high density fibreboard prices also declined in February 2015 by 1.1% compared to January 2015.

Holz-Zentralblatt, 27 March

INDONESIA
Opportunities for Furniture Exports as Rupiah Weakens

Chairman of the Association of Indonesian Furniture and Handicraft Yogyakarta, Timbul Raharjo, said since the Rupiah weakened there has been increased interest from international buyers especially in India and Turkey in Indonesian products. He estimated that the increase in overseas demand will continue and that manufacturers will benefit despite there being some instances where imported raw material costs have driven up production costs.

ITTO TTM Report, 1-15 April

ITALY
Furniture Sector Turnover to Reach EUR10 Billion

It has been estimated that the furniture sector's turnover should reach EUR10.30 billion (USD11.08 billion) in Italy in 2015. In particular, sales of sofas and armchairs are expected to grow 3.9%, while sales of kitchen furniture and other furniture are expected to go up by 2.4% and 1.6% respectively. Furniture exports are expected to grow by about 8%, while imports are expected to grow 13.4% for sofas and armchairs but drop 2.3% for other home furniture.

La Repubblica, 15 April

MYAMMAR
Myanmar's Trade Deficit Hits Nearly USD5 billion

The state run English daily newspaper "The Global New Light of Myanmar" reported that according to Ministry of Commerce figures, Myanmar's trade deficit in fiscal 2014-2015 was USD4.9 billion on a total trade volume of more than USD27.77 billion. Myanmar exports mainly agricultural produce, animal byproducts, marine products, wood products and minerals. To tackle the trade deficit the government is planning to implement the National Export Strategy which focuses on seven sectors - rice; peas and pulses; fishery products; textiles; timber and forestry products; rubber and tourism.

ITTO TTM Report, 1- 15 April

NORTH AMERICA
Positive Outlook for Cabinet Market

North America's demand for cabinets is forecast to increase 6.6% annually in the next four years. Fredonia's latest market study on cabinets projects demand to reach USD16 billion in 2018. Cabinet demand will be driven by a strong growth in home construction. Increasing residential improvements and repairs will also support demand growth for cabinets. The strongest growth will be in kitchen cabinets. Kitchen cabinets accounted for 81% of total demand in 2013. Current design trends include larger kitchens with more cabinets and the use of cabinets with special features, such as pull-out shelves, storage racks and LED lighting. Stock cabinets will remain the most widespread cabinet type installed due to availability, price and ease of installation. However, Freedonia forecasts a growing demand for custom cabinets beyond 2018.

Demand growth for bathroom cabinets will be based on more new homes being built and a trend towards multiple bathrooms in the house. Office, commercial and institutional construction is expected to boost demand for cabinets in the non-residential sector as well. Specific growth markets to 2018 will be hotels, office buildings, health care facilities and retail stores. The smaller market of recreational vehicles, recreational boats and business jets is also forecast to grow following several years of low production. Wood product imports were higher in January compared to the same time in 2014, with the important exception of wooden furniture. Total wooden furniture imports fell in January, but imports from Europe grew.

ITTO TTM Report, 1- 15 April

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Malaysia: KTMB and Port Operators Plan to Cooperate

In Malaysia, several port operators controlled by local businessman Syed Mokhtar Albukhary have planned to cooperate with railway operator Keretapi Tanah Melayu (KTMB). A source said that the ports and KTMB are looking to transport cargo via KTMB's rail network. Additionally, KTMB hopes that the cooperation would expand its cargo revenue to about RM600 million (EUR150.43 million, USD162.96 million). The port operators include NCB Holdings, Penang Port, Port of Tanjung Pelepas (PTP) and Johor Port.

Source: Business Times Malaysia,10 March

Australia: MSC Begins Shipping Cargoes from Bell Bay to Sydney and Melbourne

Switzerland-based Mediterranean Shipping Company (MSC) has started to transport container cargoes in Australia from Bell Bay in Tasmania to Sydney and Melbourne across the Bass Strait and back to Bell Bay on a fortnightly loop. The company's container vessel, Hohebank left Bell Bay on 27 February 2015 and the ship can connect with overseas freight companies or deliver containers to New Caledonia and New Zealand after leaving Melbourne.

MSC is also planning to use up to 12 vessels with a total capacity of 4,800 twenty-foot equivalent units (TEUs) to operate a new service between Australia and Europe.

Source: Australasian Transport News, 3 March

India: Adani Port and SEZ Planning to Take Over Essar Port

Adani Ports and SEZ of India is discussing with Essar Group to acquire Essar Ports, the company's port operations that has a total capacity of 104 million metric tonnes per annum (mmtpa) at its facilities in Orissa's Paradip as well as Hazira and Vadinar in Gujarat. Essar Ports has market capitalisation of INR50.70 billion (EUR733.42 million, USD820.12 million) and it is able to handle liquid cargoes such as oil, dry bulk cargoes, general cargoes as well as specialised equipment for projects. Adani Ports is currently operating eight ports across India and it is targeting to increase its annual cargo handling capacity from 108 mmtpa to 200 mmtpa by 2020.

Source: The Economic Times, 4 March

Shipments of Timber and Timber Products through Ports in Peninsular Malaysia, March 2015

Products	Port Klang		Kuantan		Pasir Gudang		Tanjung Pelepas		Penang		Total all Ports m^3	% Change Mar 2015/ Feb 2015
	m^3	% Change Mar 2015/ Feb 2015	m^3	% Change Mar 2015/ Feb 2015	m^3	% Change Mar 2015/ Feb 2015	m^3	% Change Mar 2015/ Feb 2015	m^3	% Change Mar 2015/ Feb 2015		
Sawntimber	54,390	73	5,640	41	1,876	90	663	2,110	11,096	39	73,665	66
MDF	31,819	40	386	-29	17,221	23	7,363	-2	19,058	3	75,847	20
Mouldings	12,741	46	155	-16	2,146	25	769	70	1,824	27	17,635	41
Dressed Timber	1,231	- 4	149	91	374	-61	304	295	346	58	2,404	-8
Plywood	6,857	- 9	-	-	4	100	177	222	8,321	62	15,359	20
Veneer	428	208	-	- 100	-	-100	-	-	233	33	661	98
Particleboard	34,289	23	636	17	50	-80	36	-73	-	-	35,011	21
TOTAL	**141,755**	**42**	**6,966**	**30**	**21,671**	**21**	**9,312**	**-13**	**40,878**	**22**	**220,582**	**34**

Source : MTIB

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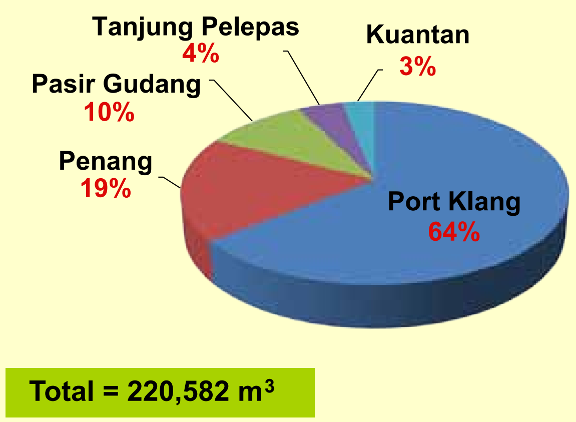
MARCH 2015

Finland: Tallinn Port and Helsinki Port to Invest EUR100 million

The Port of Helsinki, Finland, and the Port of Tallinn, Estonia continue to cooperate within the Twin-Port concept, to develop the Helsinki-Tallinn maritime link. The ports, supported by the Government of Estonia and the Government of Finland, have submitted applications for EUR100 million funding investments within the Trans-European Transport Network (TEN-T) programmed. Together with Tallink Grupp, the goal is to develop an improved and stream-lined port infrastructure and green line operation between Helsinki and Tallinn. The ports are investing EUR100 million in port infrastructure in order to achieve additional capacity and improve the flow of the Helsinki - Tallinn line.

Source: Majandus 24, 9 March

Shipments of Timber and Timber Products through Ports in Peninsular Malaysia , March 2015



Germany: Large Ships Have Problems Entering Port of Hamburg

According to the Head of the Germany-based China Shipping Agency, in the future, most shipping companies will have large ships of more than 19,000 TEU capacity which have problems to enter the port of Hamburg, Germany. The port already faced problems with the vessel CSCL Globe in January 2015. There are currently only two locations where such large ships can be transshipped. Access to a potential third location is not possible due to a bridge that they cannot pass. There are five large ships on average every day in Hamburg. The Danish shipping company Maersk decided that its large ships will use the Jade-Weser-Port in Wilhelmshaven and not the port of Hamburg any more. Meanwhile, the head of the Hamburg Port Authority announced that the port is ready for large ships. The port of Hamburg is focused on Far Eastern trade. However, these vessels in particular are becoming larger. There are some lawsuits which will decide whether a deepening of the Elbe River might be possible even though the width is an even larger problem. However, for shipping companies, larger ships are much more profitable.

Source: Die Welt, 30 March

MARCH 2015

Total export of Malaysian timber and timber products in March 2015 increased 42% in value to RM1.9 billion from the previous month. Cumulative export for January to March 2015 increased 3% to RM5.2 billion over the previous corresponding period.

Sawntimber

Export of sawntimber in March 2015 increased 89% in volume and 73% in value to 233,259 m³ with a value of RM290.7 million as compared to the previous month. Cumulative export for the first quarter of 2015 increased 21% in volume and 17% in value to 537,225 m³ totalling RM714.9 million over the previous corresponding period.

Export of sawntimber to the EU for the month increased 76% to 13,875 m³ from 7,889 m³ in the previous month resulting from improved demand from major market in the region. Export to the Netherlands and UK improved 87% and 37% to 6,481 m³ and 1,507 m³ respectively from the previous month. Similarly, export to Germany and Belgium increased 37% to 1,854 m³ and 125% to 1,686 m³ respectively.

Total exports to West Asia improved 317% to 70,251 m³ from 16,833 m³ recorded in the previous month as a result of increasing demand from major market particularly Qatar. Export of sawntimber to Qatar increased significantly to 45,565 m³ from only 380 m³ in the previous month. Development of project Qatar 2015 caused booming in the construction sector in the country. Likewise, export to the UAE and Yemen increased 32% and 348% to 7,881 m³ and 8,397 m³ respectively. Kuwait also increased their purchases by 61% to 1,120 m³ from 695 m³ in the previous month. On the other hand, demand from Oman and Bahrain declined 46% to 1,687 m³ and 21% to 612 m³ respectively.

Buying from ASEAN increased 14% to 59,712 m³ from 52,481 m³ registered in the previous month. Export of sawntimber to Thailand, major buyer of sawntimber from Malaysia increased 15% to 33,515 m³ from 29,133 m³ in the previous month. Likewise, export to Singapore and Viet Nam improved 91% and 113% to 12,254 m³ and 1,716 m³ respectively.

Shipments to East Asia showed positive growth by 126% to 67,058 m³ due to increasing purchases made by China with a total of 47,703 m³ from 13,654 m³ recorded in the previous month. Export to Taiwan and Japan increased 18% and 7% to 9,197 m³ and 6,222 m³ respectively. However, export of sawntimber to China increased 249% to 47,703 m³ from 13,654 m³ in the previous month.

Elsewhere, exports to the US increased 65% to 2,155 m³ whilst intake by Australia increased 56% to 1,422 m³. Similarly, demand from South Africa increased 137% to 9,520 m³ from 4,020 m³ in the previous month.

The average FOB price of sawntimber declined 9% to RM1,246 per m³ from RM1,362 per m³ in the previous month. Price of Dark Red Meranti (DRM) increased 7% to RM2,364 per m³ from RM2,212 per m³ in the previous month. Price of DRM to the Netherlands increased 1% to RM2,881 per m³ from RM2,848 per m³ in the previous month. Keruing was traded at RM1,462 per m³, a decrease of 6% from RM1,548 per m³ in the previous month.

Plywood

Total export of plywood in March increased 46% in volume and 47% in value to 262,147 m³ valued at RM469.6 million compared to the previous month. However, cumulative exports for the period January-March 2015 decreased by 16% in volume and 12% in value to 661,305 m³ totalled RM1.2 billion respectively as compared to the previous corresponding period in 2014.

Total exports to the EU increased by 58% to 8,594 m³. Likewise, shipments to the Netherlands and UK increased by 194% and 50% to 1,359 m³ and 5,688 m³ respectively whilst Belgium and France resumed their intake. However, Germany and Ireland reduced their intake by 83% and 54% to 43 m³ and 177 m³ respectively whilst Denmark and Italy did not make any purchases.

Exports to ASEAN region increased as Brunei, Singapore and Thailand intake of plywood increased by 2,583%, 82% and 12% to 1,932 m³, 2,716 m³ and 6,163 m³ respectively whilst Indonesia did not make any purchases. In East Asia, exports to China, Japan, South Korea and Taiwan increased by 19%, 23%, 48% and 40% to 2,635 m³, 124,353 m³, 27,605 m³ and 26,230 m³ respectively. However, Hong Kong reduced its intake by 10% to 2,166 m³ in March 2015.

Overall, exports to West Asia increased by 326% as compared to the previous month. Similarly, shipments to Yemen increased significantly to 24,223 m³ from only 179 m³ in the previous month. However, Saudi Arabia, the UAE, Kuwait and Qatar reduced their intake by 17%, 30%, 36% and 49% to 2,565 m³, 1,116 m³, 631 m³ and 357 m³ respectively whilst Bahrain did not make any purchases.

Elsewhere, exports of plywood to South Africa, the US, Mexico, Australia and New Zealand increased by 10%, 477%, 52%, 46% and 276% to 521 m³, 8,487 m³, 2,288 m³, 3,297 m³ and 79 m³ respectively.

The FOB price of plywood increased by 1% to RM1,791 per m³ from RM1,776 per m³ in the previous month.

Veneer

Exports of veneer for March 2015 showed a decrease of 27% in volume and 17% in value to 15,025 m³ at RM23 million as compared to the previous month. Export to Taiwan and Sri Lanka recorded a decrease of 59% and 9% to 5,289 m³ and 10 m³ respectively. Meanwhile, China, Singapore, Australia, and Canada increased their intake by 67%, 100%, 19% and 10% to 929 m³, 11 m³, 198 m³ and 23 m³ respectively,

The FOB price of veneer increased by 14% from RM1,344 per m³ in the previous month to RM1,531 per m³ in March 2015.

Medium Density Fibreboard (MDF)

Malaysia's export of MDF for March 2015 showed an increase of 50% in volume and 45% in value from the previous month. Export totalled 100,752 m³ at RM108.2 million.

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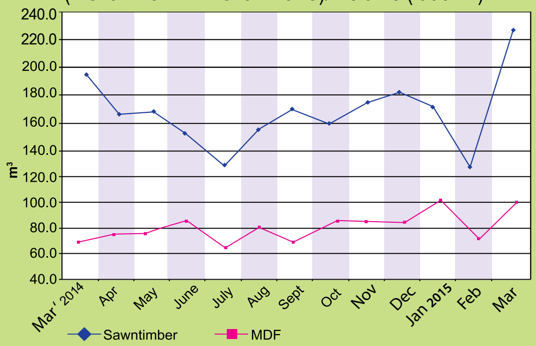
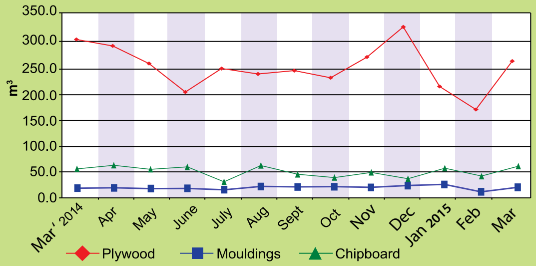
Exports to East Asia registered an increase of 27% to 14,486 m³ from 11,405 m³ in the previous month. Exports to China (including Hong Kong) increased by 317% to 680 m³ and export to South Korea also increased by 44% to 518 m³. Furthermore exports to Japan and South Korea recorded a positive growth with an increase of 24% to 12,327 m³ and 44% to 518 m³.

Meanwhile exports to West Asia in March 2015 recorded a positive growth with an increased of 38% in volume to 41,380 m³ from 30,051 m³ in the previous month. Export to the UAE recorded an increase of 106% to 13,549 m³ followed by Syria at 100% to 6,725 m³. Import from Saudi Arabia also increased by 70% to 9,733 m³, followed by Kuwait increased by 30% to 4,962 m3 and lastly Bahrain increased by 22% to 551 m³. On the other hand, export to Oman and Jordan dropped by 9% to 2,187 m³ and 88% to 19 m³ respectively from the previous month.

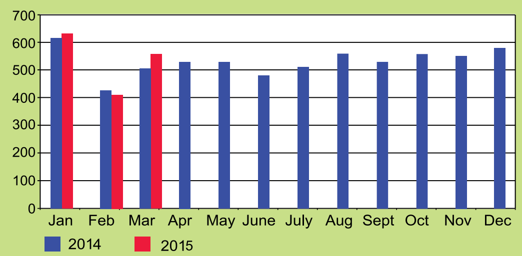
Furthermore, export to South Asia also recorded positive growth by 159%. Export to India increased by 1,237% to 2,006 m³, followed by Pakistan increased by 287% to 8,597 m³ and Bangladesh by 62% to 2,031 m³. However, export to Sri Lanka decreased by 2% to 1,998 m³.

Malaysia : Export of Major Timber Products
(March 2014 - March 2015)/ Volume ('000 m³)





Malaysia: Export of Wooden Furniture
(January 2014 - March 2015) / Value (RM Million)



Source : Department of Statistics, Malaysia

MARCH 2015

Export to the US showed an increase of 30% to 2,315 m³, demand from Australia also increased by 9% to 2,106. However, exports to the UK and South Africa showed a marginal decreased by 25% to 186 m³ and 43% to 271 m³ respectively.

In ASEAN, total export to the region increased by 42% to 20,665 m³ from 14,513 m³ in the previous month. Export to Viet Nam and Indonesia increased by 81% to 14,681 m³ and 29% to 4,126 m³ respectively. Nevertheless export to Singapore and Philippines down by 15% to 234 m³ and 43% to 1,383 m³ respectively.

Mouldings

Exports of mouldings for the month increased by 29% in volume and 36% in value to 22,293 m³ and RM64.7 million respectively. Similarly, cumulative exports for the period of January-March 2015 increased by 11% in volume and 9% in value to 65,156 m³ and RM182.5 million respectively as compared to the previous corresponding period in 2014.

Exports to the EU for the month recorded at 6,526 m³, an increase of 13% compared to the previous month. Shipment to Belgium, the Netherlands and Italy increase by 80%, 52% and 45% to 519 m³, 3,492 m³ and 138 m³ respectively. However, shipments to Germany and the UK decreased by 39% and 9% to 959 m³ and 679 m³ respectively.

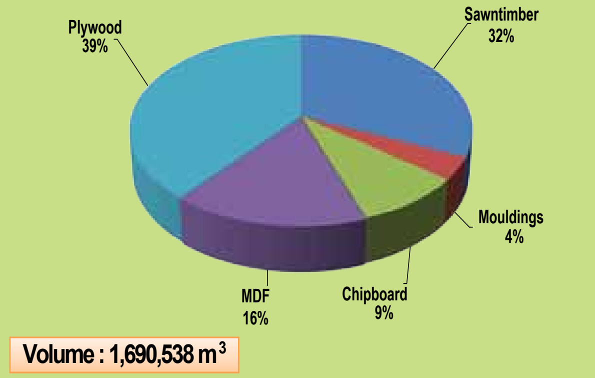
Exports to ASEAN region increased as Singapore intake of mouldings increased by 73% to 1,608 m³. However, Viet Nam and Indonesia reduced their intake by 16% and 36% to 92 m³ and 16 m³ respectively.

Meanwhile, exports to Japan, South Korea, Taiwan, Hong Kong and China increased 28%, 55%, 43%, 96% and 165% to 2,562 m³, 2,249 m³, 382 m³, 438 m³ and 1,765 m³ respectively.

Elsewhere, export to the US and Canada increased by 66% and 79% to 2,738 m³ and 122 m³ respectively whilst Australia reduces its intake by 1% to 2,686 m³.

FOB unit value increased 5% from RM2,751 per m³ in the previous month to RM2,900 per m³ in March 2015.

Export of Major Timber Products from Malaysia January - March 2015



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Logs

Logging and milling operations reported to resume after a long holiday during the Chinese New Year Celebration. Most mills reported that they have adequate log inventories for current usage.

Chengal logs stood firm at RM4,000 per tonne whilst price of Balau logs rose by 4.4% to RM2,820 per tonne. Meanwhile, Merbau prices dropped significantly by 15.4% over the previous month to RM2,200 per tonne. Similarly, the prices of Keruing and Kempas went down by 8.7% to RM1,050 per tonne and 17.9% to RM1,190 respectively. Prices for Dark Red Meranti and Red Meranti, however, improved sharply by 26.8% and 4.5% respectively to RM1,750 per tonne and RM 1,390 per tonne. Nyatoh logs continued to be traded at RM900 per tonne. Meanwhile, prices for Mixed Heavy Hardwood declined by 2% to RM980 per tonne whilst Mixed Light Hardwood rose by 1.4% to RM710 per tonne.

Sawntimber

The average sawntimber prices continued to firm with no significant changes in prices due to slow demand from both domestic and international markets.

The sawntimber prices of Chengal and Red Balau maintained at RM6,638 per m^3 and RM2,966 per m^3 respectively. Price of Merbau sawntimber reported to decrease by 1.6% to RM3,425 per m^3 as compared to last month. Prices of Keruing and Kempas dropped by 1.1% and 19.7% to be traded at RM1,483 per m^3 and RM1,766 per m^3 respectively. Sawntimber prices of Dark Red Meranti and Red Meranti charted at RM2,190 per m^3 and RM1,850 per m^3 respectively. On the other hand, sawntimber prices of Mixed Heavy Hardwood remained at RM1,306 per m^3 while Mixed Light Hardwood increased slightly by 1.4% to RM777 per m^3 as compared to the previous month.

Plywood

Production of plywood slowed down due to weak market demand for plywood particularly from Japan. However supply to the domestic market remained sufficient. Plywood of 4mm, 6mm, 9mm and 12mm of thicknesses were stably traded at RM14.60, RM22.00, RM34.50 and RM41.50 per piece respectively.

Medium Density Fibreboard (MDF)

Supply of MDF was reported to suffice the need of the local market demand. However, prices remained as per last month's level due to slow demand from the domestic market. MDF of 4mm, 6mm, 9mm and 12mm of thicknesses continuously recorded at RM12.10, RM15.80, RM21.70 and RM28.10 per piece respectively.

Intra-Malaysia Trade *- March 2015

In comparison to the previous month, shipments In March 2015, the scenario for most of the timber products exported from Sabah to Peninsular Malaysia recorded a positive growth. Shipments of sawntimber and plywood increased sharply by more than 100% to 753 m^3 and 13,003 m^3, valued at RM709,000 and RM20.5 million respectively. Shipments of veneer, however, maintained at 35 m^3 in volume worth at RM53,000.

Export of sawntimber from Sarawak to Peninsular Malaysia reported to increase tremendously by almost triple digit growth in volume to 718 m^3 worth at RM643,000. The expected implementation of Goods and Services Tax (GST) scheduled on April 2015 was somehow influenced the drastic demand of timber products from the state for the month under review. Export of plywood also grew significantly by 71% in volume to 12,621 m^3 valued at RM15.6 million. Similarly, export of veneer chalking up by more than 100% to 7,609 m^3 worth at RM10.2 million.

INTRA-MALAYSIA TRADE – MARCH 2015

From	Products	FEBRUARY 2015		MARCH 2015		% Change in Volume	% Change in Value
		Volume (m^3)	Value (RM '000)	Volume (m^3)	Value (RM '000)	Mac 2015 / Feb 2015	Mac 2015 / Feb 2015
SABAH	Logs	0	0	217	86	100	100
	Sawntimber	320	526	753	709	135	35
	Plywood	5,769	9,626	13,003	20,525	125	113
	Veneer	35	52	35	53	0	2
SARAWAK	Logs	0	0	0	0	0	0
	Sawntimber	67	62	62	643	972	936
	Plywood	7,381	9,057	9,057	15,631	71	73
	Veneer	3,184	4,522	7,609	10,218	139	126

Source : Department of Statistics, Malaysia

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MARCH 2015

***AVERAGE DOMESTIC PRICES OF LOGS, SAWNTIMBER, PLYWOOD AND MDF IN PENINSULAR MALAYSIA MARCH 2015 (VALUE IN RM)**

SPECIES	LOGS/tonne	SAWNTIMBER/m³		
	18" UP	GMS	STRIPS	SCANTLINGS
HEAVY HARDWOOD				
Chengal	4,000	6,638	4,200	8,828
Balau	2,800	2,825	3,010	3,351
Red Balau	2,500	2,966	2,800	3,178
Merbau	2,200	3,425	4,000	2,772
Mixed Heavy Hardwood	980	1,306	1,110	918
MEDIUM HARDWOOD				
Keruing	1,050	1,483	1,520	2,203
Kempas	1,190	1,766	2,400	2,010
Kapur	1,700	2,248	1,065	2,331
Mengkulang	1,100	1,412	1,310	1,575
Tualang	1,310	1,674	3,200	2,260
LIGHT HARDWOOD				
Dark Red Meranti	1,750	2,190	2,050	2,592
Red Meranti	1,390	1,850	1,600	2,500
Yellow Meranti	1,000	1,400	1,350	1,400
White Meranti	1,040	2,119	2,154	1,695
Mersawa	1,380	1,585	2,000	1,518
Nyatoh	900	777	800	1,201
Sepetir	850	1,095	1,300	1,583
Jelutong	1,000	1,700	1,900	2,180
Mixed Light Hardwood	710	777	1,050	657

	LOGS/tonne	SAWNTIMBER/m³			
MALAYSIAN RUBBERWOOD *Hevea brasiliensis*		1" X 1"	2" X 2"	3" X 3"	4" X 4"
	160	706	1,100	1,150	1,200
PLYWOOD 4' X 8' (RM per piece)	**4mm**	**6mm**	**9mm**		**12mm**
	14.60	22.00	34.50		41.50
MDF 4' X 8' (RM per piece)	**4mm**	**6mm**	**9mm**		**12mm**
	12.10	15.80	21.70		28.10

Note: Log prices ex-batau. Sawntimber, plywood, MDF and Malaysian Rubberwood (*Hevea brasiliensis*) prices ex-mill
* Prices are only indicative

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TIMBER ROUND-UP

Builders Joinery and Carpentry (BJC)

Total BJC cumulative exports from January to March 2015 decreased 5% to RM232.4 million as compared to RM244.6 million in the corresponding period last year. Export to the EU decreased 2% to RM65.1 million. Similarly, export to France, Denmark, Germany, Italy, Sweden and Turkey decreased by 6%, 40%, 50%, 39%, 62% and 66% to RM5.4 million, RM3.1 million, RM1.5 million, RM0.75 million, RM1.7 million and RM0.26 million respectively whilst the Netherlands did not make any purchases. Whereas, exports to the UK and Belgium increased by 6% and 47% to RM35.1 million and RM15.4 million respectively over the previous corresponding period whilst Norway resumed its intake.

Exports to Australia, South Africa and Maldives increased by 2%, 74% and 320% to RM33.2 million, RM4.6 million and RM2.3 million respectively. However, the US reduced its intake by 10% to RM17.6 million.

Furniture

Wooden and rattan furniture exports for the first three months of the year reported an increase of 3.9% to RM1.62 billion as compared to RM1.56 billion recorded in the previous corresponding period of last year. Purchase of wooden furniture from Malaysia for the January to March 2015 duration increased 4% to RM1.6billion from RM1.55 billion compared to the same period in 2014.

Demand from the US reported to improve by 8% from RM489.6 million to RM529.1 million. Shipments to Australia grew by 31% to RM134 million while exports to the UK rose 14% to RM89.6 million. Similarly, demand from Singapore increased by 5% to RM85.7 million. However, demand from Japan and the UAE recorded a decline of 10% and 1% to RM140.2 million and RM62.2 million respectively.

Imports by Canada decreased by 8% from RM60.8 million in 2014 to RM56.0 million in the first quarter of 2015. Imports by Singapore increased 5% from RM81.6 million to RM85.7 million. The UK follows suit with an increase import by 14% from RM78.4 million to RM89.6 million.

Canada decreased its intake of wooden furniture by 8% to reach RM56.0 million. Imports by India also recorded a decrease of 3% to RM26.9 million in 2015. Russia's also reduced its consumption by 32% from RM25.3 million to RM17.2 million. South Korea had increased its wooden furniture consumption by 8% with a purchase of RM31.8 million from RM29.5 million in 2014.

Meanwhile, rattan furniture exports decreased by 25% to RM7.3 million, compared to RM9.7 million recorded in the previous corresponding period. Demand from the UK and US weakened by 21% to RM1.3 million and 26% to RM0.34 million. Exports to Singapore also decreased by 74% to RM0.8 million. However, Australia's increased their imports by 28% to RM0.49 million.

Malaysian Wood
Standing on Excellence

MTIB

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RUSSIA
SPIMEX to Increase Timber and Wood Trading

The St. Petersburg International Mercantile Exchange (SPIMEX) plans to increase lumber and processed wood trading to 500,000 m³ in 2015, says First Vice President of SPIMEX Mikhail Temnichenko. Lumber will be traded at the exchange daily, instead of once every two weeks. About 40,000 m³ of lumber was sold at the exchange in July-December 2014.

Delovoy Peterburg, 14 April

UKRAINE
Ukraine's Parliament (RADA) Bans Exports of Unprocessed Timber

The Verkhovna Rada has passed a law prohibiting exports of unprocessed timber and lumber for 10 years. The ban on unprocessed timber exports (except Pine) comes into force on 1 November 2015, the ban on Pine timber exports on 1 January 2017.

Lesprom, 10 April

UNITED KINGDOM
Good Demand for Chipboard

In the UK, the demand for chipboard is reported to be good for all grades and in all end-use markets but there is some competition from Oriented Strand Board (OSB). Some OSB prices are on the level of the chipboard. The strong pound against the Euro has made the UK market attractive to European manufacturers and imports have risen. UK chipboard manufacturers are not planning price increases in the short term even though timber costs are rising mainly because of the competition from biomass.

TTJ Timber Trades Journal, 15 April

MALAYSIAN DESIGNERS IN ITALY

The world's leading home furnishing fair Salone del Mobile was held at the Milan Rho Fairgrounds from 14 to 19 April. In conjunction with Salone del Mobile, Salone Satellite, an expo showcasing selected young designers from all over the world was also held at Pavillions 22-24. The Salone Satellite 2015 theme was 'Life Planet', as there was an increase of exhibitors from Asian countries such as Taiwan, China, Singapore and Malaysia. With the Salone Satellite platform, the Asian design industry is clearly shifting to penetrate the European Market.

The "TANGGAM by MTIB" efforts have effectively demonstrated the invigorating and innovations of outstanding new designs from Malaysia. For the third consecutive year, MTIB as the proponent for "TANGGAM", was invited to participate in the eighten edition Salone Satellite Showcase, held concurrently with the International Furniture Fair Salone del Mobile (i-Saloni) , Milan.

With the objective of promoting the image of Malaysian furniture and catalysing the transition of this sector from Original Equipment Manufacturer (OEM) to Original Design Manufacturer (ODM), and eventually Own Brand Manufacturing (OBM), MTIB was allocated a fund under the Ten Malaysia Plan , to undertake a programme to enhance the quality of design of locally manufactured furniture. The programme is part of a comprehensive five-year plan for design enhancement of Malaysian furniture.

This year "TANGGAM by MTIB" presented eight young designers from Malaysia. The Malaysian booth received more than 10,000 visitors and numerous enquires from interested parties such as design houses, manufacturers, as well as international designers who showed interest in working closely with the designers.

Each of the TANGGAM group members has clearly attained his or her own design signature and trend. This was proven by statements made by visitors, that TANGGAM designs were unique and different from common designs found in Salone Satellite. The mixture of Scandinavian, Asian and Europe concepts with local materials especially Malaysian wood, makes the designs more interesting and attractive.

MTIB was represented by Puan Nik Zuraihah Nik Mohamad from Industry Development.

The prototypes designed by one of the designers, Encik Muhammad Hazmi Zakaria.

Visitors at the booth.

A dining room set made from bamboo designed by Encik Shahril Faisal.

View at the booth with all prototypes.

SARAWAK TIMBER AND SME EXPO 2015

The Sarawak Timber and SME Expo 2015 was a great networking platform to meet and greet with timber manufacturers, suppliers of timber products and SME leaders. The expo which took place from 17 to 20 April was held at Borneo Convention Centre, Kuching, Sarawak. This year's expo, jointly organised by Sarawak Timber Industry Development Corporation (STIDC) and the Ministry of Industrial Development, Sarawak, attracted more than 10,000 visitors including those from Bangladesh, Maldives, the United Kingdom, Indonesia, South Africa, Viet Nam, Japan, Hong Kong, India, Sri Lanka, the United States, Australia, China and Macedonia. With the theme "Towards Sustainable Industries", Sarawak Timber and SME Expo 2015 provided a platform for local industry players to enhance networking, promote trade and product sales, and create awareness of the diversified services and contributions of the industry players.

YB Datuk Amar Awang Tengah bin Ali Hassan, Second Minister of Resources Planning and Environment (second from right) at MTIB booth.

YB Datuk Amar Awang Tengah bin Ali Hassan, Second Minister of Resource Planning and Environment on behalf of Chief Minister, YAB Tan Sri Adenan Satem officiated the event. In his opening speech, the Chief Minister stated that Malaysia is ranked as the world's eighth largest furniture exporting country, and its timber product exports earnings was RM6.3 billion in 2014, with Sarawak's furniture sector contributing RM40 million.

The main focus and highlights of this year's Expo were the recreation of the House of Acacia and the introduction and the creation of the Bamboo Gallery. The recreations of the House of Acacia was an R&D project on Acacia by STIDC and Samling Group of Companies. The four-day event gathered almost 200 exhibitors which included companies and SME's from Malaysia, China, India, Viet Nam, Brunei, Korea and Indonesia. MTIB also took the opportunity to promote its design initiative programme called TANGGAM to promote outstanding young furniture designers.

Puan Hjh. Noor Laila Mohamed Halip, MTIB Director of Strategic Planning and Corporate Affairs (centre) posing with MTIB officials.

The Sarawak Timber and SME Expo 2015 recorded RM800,000 in total sales, while attracting RM94 million worth in potential sales, successfully achieving its goal to promote trade of local and internationally produced timber products. The exhibitors also established networking and partnerships for future businesses.

MTIB Officer (left) briefed on the WPC products to visitors.

Visitors at MTIB booth.

GOOD AGRICULTURE PRACTICES IN FOREST PLANTATION

Participants posing with speakers.

In an effort to knowledge amongst forest plantation owners, MTIB once again organised a course on Good Agriculture Practices (GAP) in Forest Plantation on 28-29 April in Kota Bharu, Kelantan.

The objective of the course was to enhance the participant's knowledge on best practices in managing rubber and other forest species plantations. In addition, it was also to provide guidance on techniques to ensure good economic returns in the future.

Encik Saiful Bahri Salleh, MTIB Deputy Director of Forest Plantation, in welcoming speech said this was one way to widen knowledge and experience on the application of good practices in agriculture and forest plantations. Besides giving soft loan to borrowers, MTIB also plays a role in the upgrading of their skills by organising training courses on a continuous basis.

Encik Saiful also encouraged and welcomed those from the private sector to join future training programmes to gain more knowledge in the management of their forest plantations.

The course involved presentations and lectures on forest plantations as well as a Q&A session. The two-day course was attended by 30 participants including representatives from MTIB Rantau Panjang and Kota Bharu offices. The two guest speakers were Prof. Dr. Md Noor Hashim from Universiti Malaysia Kelantan who spoke about good practices in forest plantations and Dr. Ramli Othman, who spoke on Rubberwood plantations.

Attendees at the course.

TRAINING ON SAFETY AND HEALTH AT NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH

Occupational Safety and Health Act 1994 (OSHA 1994) is an Act that provides the legislative framework to secure the safety, health and welfare among the Malaysian workforce and to protect others against risks to safety or health in relation to the activities of persons at work at stated under OSHA 1994 Part 1 (section 1). This Act was enacted on 24 February 1994 by DYMM Seri Paduka Baginda Yang di-Pertuan Agong and is cited as the Occupational Safety and Health Act 1994. The Act which covers the existing safety and health legislation is also a practical and necessary tool to compensate the limitations of the Factories and Machinery Act 1967 (FMA 1967) in the following aspects: Scope of Application, Prescriptive Provisions and Approach. The long term goal of the Act is to create a healthy and safe working culture among all Malaysian employees and employers as stated under OSHA 1994 Part 1 (section 3).

The objectives of OSHA 1994 are:

(a) to secure the safety, health and welfare of persons at work against risks to safety or health arising out of the activities of persons at work;

(b) to protect persons at a place of work other than persons at work against risks to safety or health arising out of the activities of persons at work;

(c) to promote an occupational environment for persons at work which is adapted to their physiological and psychological needs;

(d) to provide the means where by the associated occupational safety and health legislations may be progressively replaced by a system of regulations and approved industry codes of practice operating in combination with the provisions of this Act designed to maintain or improve the standards of safety and health.

A case study toured to Panasonic Manufacturing Malaysia Berhad in Shah Alam, Selangor.

In conjunction with the laboratory establishment and a pilot scale processing line at the Fibre and Biocomposite Centre (FIDEC), MTIB representative, Dr. Yeoh Beng Hoong attended a safety and health course to gain a better understanding of the importance of developing a Work Safety and Health environment in a workshop. The objective of the course was to provide work hazard identification, develop an OSHA management system, enhance technical knowledge, documentation, and safety and health supervisory skills in the workplace. The course was held at National Institute of Occupational Safety and Health (NIOSH), Bangi, from 4 to 30 April.

More than 20 experienced safety and health instructors from various sectors were invited by NIOSH to lecture and share their working experience. They were mainly from the telecommunication, construction, manufacturing, medical, chemical industry, and oil and gas sectors. There were also a machinery engineer, and an OSHA-18001/MS 1722 leader auditor, as well as hygiene tech and chemical health risk assessors. Last but not least, there were also speakers from the Government (PERKESO, DOSH, NIOSH, Universities).

Both theoretical and practical approaches were applied to enhance the participants' knowledge and skills in understanding the benefits of implementing a safety and health system in the workplace.

The topics comprised four modules:

Module 1: Occupational Safety and Health management
Module 2: Occupational Safety and Health Legislations
Module 3: Occupational Safety and Health Hygiene
Module 4: Occupational Safety

At the end of course, a practical hazard identification exercise in the workplace was conducted at Panasonic Manufacturing Malaysia Berhad, Shah Alam on 29 April.

Participants at the manufacturing line.

FURNITURE TECHNOLOGY COURSE FOR IKM INSTRUCTORS

The process of industrialisation and and modernisation of the wood-based sector as envisaged by the National Timber Industry Policy (NATIP) requires the application of technologies that are knowledge driven. In line with that strategy, WISDEC organised a Course on Furniture Technology from 6 to 10 April at its training centre in Olak Lempit, Banting. The course was attended by instructors from Institut Kemahiran MARA (IKM).

The objective of the course was to provide greater insights into furniture making technology particularly furniture design interpretation, preparation of materials, machining operations, parts assembling, furniture construction and quality control in furniture making. Encik Amri Mustaffa, WISDEC Officer and course instructor, noted that furniture making technology involves various stages of processing operations, and uses of a variety of machines, either manual or semi-automatic, or even fully automated high-technology ones.

Encik Amri was assisted by three other instructors namely Encik Ab. Razak Abdullah, Encik Mohd Azizi Razali (National Coach) and Encik Mohd Zabidi Mohd.

They demonstrated the proper way of operating machines such as the radial arm saw, jointer, narrow band saw and table saw as well as the boring machine. They explained that in furniture production technology, the machining processes is the most important value addition operation, as it converts the material into profiled components that are eventually assembled into final finished products. The effectiveness of gluing and finishing operations are dependent on the quality of the machining processes. Furthermore, the machining technology and processes also influence the structural rigidity of the furniture, as poorly machined components cannot be joined and fastened tightly.

Malaysia is ranked among the top 10 furniture producers. Under the National Timber Industry Policy (NATIP), an export target of RM53 billion has been set for the timber industry by the year 2020, with furniture export aimed at RM16 billion. In order to materialise such objectives, MTIB has also intensified human capital development programmes in the wood-based industry.

Hands-on practical at WISDEC Selangor.

Course instructors and participants.

GEOGRAPHIC INFORMATION SYSTEM (GIS) SOFTWARE COURSE

The need for the development of forest plantations has long been recognised as an important stride in supplementing the sustainable supply of timber in Malaysia. However, commercial forest plantation development in this country is relatively new compared to New Zealand, Australia, South Africa and Brazil, where commercial forest plantations have been successfully practised.

The Forest Plantation Development Programme has been identified as a viable and sustainable method to supply raw material to the timber industry. The government, through MTIB, has established a special purpose vehicle known as Forest Plantation Development Sdn. Bhd. (FPDSB) to implement the programme.

In its effort to monitor the Forest Plantation Development Programme, MTIB through the Forest Plantation Division and Information Technology Unit organised a Course on the Implementation of the Geographic Information System (GIS) at Universiti Putra Malaysia (UPM), Serdang, Selangor. The three-phased course were held on the following dates :

COURSE	DATE	PLACE
Introduction to ERDAS	13-15 April 2015	Geospatial Technology Lab , Forestry Faculty, UPM
Introduction to ArcGIS	20-22 April 2015	
Introduction to GPS	23 April 2015	

The main objective of the course were as follows:

- To improve knowledge in operational GIS software tools.
- To provide knowledge and skills through hands-on training.

All three phases were conducted by Geo Spatial Solution Sdn. Bhd. in collaboration with Geo Tech Precision Sdn. Bhd. In the first phase workshop, Introduction to ERDAS, focus was on the functions of both image processing and GIS. These functions include importing, viewing, altering, and analysing raster and vector data sets.

In the second phase, the course touched on introduction of ArcGIS. ArcGIS provides an integrated platform for efficiently sharing and accessing geographic content and functionality. ArcGIS platform enables the creation of focused, highly effective, end to end GIS solutions with minimal effort. The Global Positioning System (GPS) is a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the earth where there is an unobstructed line of sight to four or more GPS satellites.

The course was attended by MTIB and FPDSB officials.

FEATURE

THE OIL PALM TRUNK: OPPORTUNITIES AND STRATEGIES

Introduction

The Malaysian timber industry is an important income generator for the Malaysia's economy. In 2014, the export revenue of timber and timber products was valued at an excess of RM20 billion. The supply of raw material is central in further developing this thriving industry. With natural forests being kept safe via sustainable forest management practices and with a heightened awareness in conservation and green practices, the timber industry is looking at alternative raw material.

Oil palm plantations, so abundant in Malaysia, are undergoing a somewhat replanting activities similar as rubber plantations. Generally, after 25 years, palm trees will begin to yield less fruit and will need to give way to new young trees. Malaysia, as one of the top global producers of palm oil, has oil palm plantations covering almost 15% of the nation's land area, an area amounting to approximately 5.3 million hectares. The annual availability of oil palm trunks (OPT) is estimated to be around 18 million logs or 10 million m^3 based on about 130,000 hectares being replanting each year.

This phenomenon has come at the right time as with tough competition in the global marketplace, rising costs and a tight supply of timber, the plywood and timber industry is looking for alternative material. The OPTs are the solution which it can be processed into both plywood and timber.

Initiatives carried out by MTIB and the timber industry, in the past and present, have enabled OPT to become a new and an important source of raw material for conversion into veneer, plywood and other timber products. To date, MTIB has promoted a number of activities particularly in the processing of OPT into value-added downstream products for further utilisation in both construction and furniture industries.

OPT is perceived to be a credible substitute for hardwood logs for the production of plywood and sawntimber. Such a development would also be a tangible contribution to forest conservation activities in Malaysia. The production of plywood and sawntimber using this material has been proven to be technically feasible as well as commercially viable. Since this material is also derived from a plantation species, it can be certified as environmentally friendly material. In other words, palm plywood and sawntimber will not only be able to compete effectively in the market, it will also be marketed as 'green".

Currently, MTIB is spearheading the development of the oil palm plywood and sawntimber industries to achieve quality standards suitable not only for domestic but also international markets. OPT is a biomass material resource from the Malaysian oil palm plantation and it appears well suited as raw material input for the wood-based industry such as plywood and sawntimber mainly because OPT is a renewable resource and locally available on a sustainable basis.

The area of greatest potential in the optimal utilisation of oil palm trunk lies in the production of wood-based products. These abundant and readily available fibre materials make excellent alternative sources of lignocellulosic materials in the manufacturing of particleboard, Medium Density Fibreboard (MDF), plywood, sawntimber and pulp & paper. OPT is more suitable for plywood and timber manufacturing. Nevertheless, inherent features in OPT such as high moisture content, high density variation and diverse anatomical structure along the stem make further processing difficult.

Oil palm plantations cover about 15% of Malaysia's land area.

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The peeling process is undertaken at the rotary lathe and spindle-less lathe, converting the OPT logs into thin sheets of veneer.

Oil Palm Plywood

In plywood, the strength of the bonded joint depends on how well the adhesive penetrates and forms an anchor with the wood cells. The presence of parenchyma cells significantly influence the rate of adhesive penetration where in some instances the adhesive spread rate may reached as high as 450g/m^2 for veneers peeled from the inner section and 250g/m^2 from outer section of the trunk.

Another crucial problem in utilising OPT in plywood manufacturing is its extremely high moisture content (MC) (i.e., 100% - 400%) that requires much longer drying time compared to wood. Depending on how efficient the boiler system is in the mill, a normal drying time for wood veneers is approximately 25 minutes (on a 15-m roller veneer dryer) whilst a typical OPT veneer takes at least 45 minutes.

Even though several companies have initiated commercial production of OPT plywood, the long drying time, high adhesive consumption and lower dimensional stability are the three main challenges that need to be resolved before further developing this product.

The improvement in palm plywood manufacture is usually related to the drying process and chemical treatments of OPT veneers. Besides conventional dryers, a pre-drying process and a platen dryer have been developed to ensure higher efficiency to dry OPT veneers.

The chemical treatment of veneer with phenolic or equivalent resin polymer or other chemicals, on the other hand, is to enhance the quality of OPT veneers and the resulting plywood. It is anticipated that the loosely bound parenchyma tissues will significantly absorb the chemicals, and once cured, increase its density. As a result, density gradient within the veneer is reduced and thus a stronger and more stable plywood can be produced.

Raw material for the timber industry.

The oil palm plywood are packed and ready for delivery.

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MTIB

Shaping the Timber Industry of Malaysia

One Man's Waste, Another Man's Wealth

To many of us, rice husks, coconut trunks, oil palm fronds and empty fruit bunches are nothing but a pile of residue. But did you know that they can be turned into furniture and building materials?

For many years now, the demand for wood far exceeds the supply. The biggest challenge has always been fulfilling demand without sacrificing our beautiful forests. Little did we know, the things we often regard as junk could actually be a solution to this problem. Possessing excellent mechanical and physical properties, wood made from agricultural by-products is not only durable, but also highly customisable in terms of weight, structure and density.

We at MTIB are committed in finding solutions to make both you and Mother Nature happy. With MTIB, your wastes are not wasted.

Malaysian Wood
Standing on Excellence

MTIB is committed towards enhancing the sustainable growth of the Malaysian timber industry through various initiatives and innovations.

For more information, contact:

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Oil Palm Timber

As with all timber material, OPT is vulnerable to insect and fungi attack. Hence, the first order of things is to try to get OPT to the factories as soon as possible.

Variable and general low densities, high moisture content, and its structural makeup are the key challenges faced by production facilities. These characteristics require special handling of the timber because uneven densities react differently to a standard drying process, and to conventional sawing, causing many defects. Hence, recovery rates are quite low.

Studies and research have shown that the highest density timber material is obtained from the base of the tree (1 to 4 metres from the base), and the outer parts of this section of the log are the driest. Selecting this section of the trunk would improve the ultimate recovery rate.

Sawing this material is also a problem due to the structure of the palm material. Traces of silica in the material tend to blunt the blades and reduce the efficiency of sawing. Hence, blades need be changed often. Nevertheless, research has shown that carbon steel and tungsten carbide blades are suitable, although the latter is more expensive. Tipping the teeth with stellite alloy can also improve its performance.

Chemical treatment is needed to reduce the potential impact of fungi and insect attack. It is important to deliver the OPT to the mill within a week. Several chemicals have proven their efficacy against wood decay fungi, wood boring beetles and termites.

The palm timber material would have to be dimensionally stable if it were to be used to make wood products. In this regard, the drying process is extremely important. To further process palm timber, workability is important as the material would have to be moulded into various sizes and shapes to make the product suitable for final uses.

Timber pieces from OPT.

Elegance dining set from OPT.

Various machines used for this work include sanding, lamination, moulding machines, etc. Other machining operations include cross-cutting, screwing, gluing, etc.

Finishing is an important part of making the final product. Certain spraying methods with coating operations have been researched and recommended. Combinations of coating methods have also proven to provide good finished quality.

Today, the OPT has become a regular raw material input in some plywood factories and sawmills in Peninsular Malaysia, where a palm material product is produced and sold in the domestic market or test-marketed overseas. Though as an industry, the palm plywood and sawn timber industries are still at their early stage of development, the wood industry is convinced that this is the way forward as their potential is enormous.

The wood-based industry in Malaysia has arrived at an important crossroad. The industry has proven that it is developing with the times, transforming itself into a flourishing high value-add producer of a wide range of products, including palm plywood, palm timber and palm furniture.

In developing with the times, challenges to the industry are emerging even as solutions are being devised and developed. Some key strategies are already in place to face the expected challenges. Through tireless collaboration between the government, research bodies, universities, associations, proponents and producers, several key initiatives have been implemented. This has led to commendable achievements in the nation's wood-based industry, resulting a good performance.

In addition, the National Timber Industry Policy has set directions for the industry to maintain and enhance its competitive edge in the global marketplace by 2020. The policy covers industry structure, supply of raw material, innovation and technology, marketing and promotion, human capital development, funding and incentives as among its main thrusts. The way forward holds immense opportunities, having dynamic export-oriented potential that will thrive on palm plywood's and palm timber's inherent eco-friendly character that also lessens the pressure on the demand for timber. Research and development, as well as innovation initiatives are well on the way to produce high quality products with higher value. The global market is gradually seeing these benefits as well as the beauty of palm plywood and palm timber products through the industry's efforts in market development.

References :

- *Handbook of Oil Palm Trunk Plywood Manufacturing, MTIB*
- *Palm Timber: A New Source of Material with Commercial Value, MTIB*
- *Malaysia Palmwood – A New Frontier for the Plywood, Timber and Furniture Industry, MTIB*

POLAND – FURNITURE INDUSTRY OUTLOOK

Poland is a country in Central Europe bordered by Germany to the west; the Czech Republic and Slovakia to the south; Ukraine and Belarus to the east; and the Baltic Sea and Lithuania to the north. The total area of Poland is 312,685 sqm making it the 70th largest country in the world and the nineth largest in Europe. With a population of over 38.5 million people, Poland is the 34th most populous country in the world and the sixth most populous member of the European Union.

Economy

Poland's economy weathered the post-2007 economic crisis very well. After a modest slowdown in 2009, the country enjoyed a strong upswing in 2010 – 2011, followed by moderate growth in 2012 – 2013. Economic activity accelerated in 2014 as private consumption and investment replaced external trade as the main growth engine. Real GDP has increased cumulatively by 19% since 2008, an unparallel performance among EU member states.

In the meanwhile, private consumption is expected to remain strong supported by solid real wage and employment growth and inflation is expected to pick up moderately fuelled by falling food prices as well as robust domestic demand. Poland's good economic performance in the past 25 years relied strongly on competitive labor costs and after several years of moderate increases, unemployment fell substantially from 10.3% in 2013 to 9.1% in 2014.

Forest Resources

The total forested area of Poland is 9.089 million hectares which is 29% of its territory. Poland rank seventh in the EU in terms of forested area after Sweden, Spain, Finland, France, Germany and Italy. Coniferous species represent over 70% of Poland's forest. The common varieties are Pine (62%), Spruce (7%), Beech (7%), Oak (6%) and Alder (5%). Approximately 18% of Poland's forests are under private administration and around 82% under public administration (State Forest).

There has been an increase in the size of Poland's forest area due to controlled harvests and implementation of the National Program of Forestation beginning 1995. In total, nearly 250,000 hectares were forested since the introduction of the programme. The programme anticipates an increase in forest cover to 30% by 2020 and 33% by 2050.

Malaysia's Export of Timber and Timber Products to Poland

In 2014, export of Malaysian timber and timber products to Poland registered an increase of 11% to RM54.0 million from RM48.7 million in the previous corresponding period. Main products exported to the Polish market were wooden furniture, mouldings and sawntimber.

Export of wooden furniture to Poland for the year 2014 recorded at RM35.1 million, an increase of 4% from RM33.6 million in 2013. Similarly, export of mouldings and sawntimber to Poland's market improved 17% and 80% to RM11.3 million and RM6.6 million respectively. Other products exported were Builders Joinery and Carpentry (BJC) totalled RM0.11 million and rattan furniture worth RM0.73 million.

Import of timber and timber products from Poland were on increasing trend from 2010 to 2014. Import of timber and timber products from Poland in 2014 totalled RM24.4 million, an increase of 26% over the previous corresponding period. Major products imported from Poland are wooden furniture and sawntimber.

In 2014, Malaysia imported RM15.9 million worth of wooden furniture from Poland, a slight increase of 1% over the previous corresponding period. Import of sawntimber recorded a significant increase of 187% to RM6.7 million from RM2.4 million in 2013. Other products imported by Malaysia were particleboard and fibreboard with a value of RM0.13 million and RM0.30 million respectively.

Timber Production

Poland has a significant logs production. In 2013, production of logs in Poland totalled 38.9 million m³, an increase of 2% over the previous corresponding period. Production of sawntimber and fibreboard also recorded an increase of 2% to 4.3 million m³ and 18% to 3.7 million m³ respectively. Production of particleboard by Poland recorded at an average of 4.7 million m³ annually.

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Malaysia : Export of Timber and Timber Products to Poland, 2010-2014

(Value : RM)

Product	2010	2011	2012	2013	2014
Sawntimber	5,500,369	5,381,068	2,370,455	3,690,743	6,641,275
Plywood	61,597	0	0	0	0
Veneer	186,001	0	0	0	0
Mouldings	9,778,219	7,502,969	8,723,809	9,717,511	11,326,358
Fibreboard	28,644	0	0	0	0
BJC	3,292,019	1,566,086	599,914	0	111,796
Wooden Furniture	46,804,022	43,222,140	37,605,254	33,626,457	35,108,100
Rattan Furniture	53,778	53,778	0	1,371,252	731,228
Other Products	132,468	132,468	237,669	279,064	106,817
TOTAL	**65,837,117**	**57,858,509**	**49,537,101**	**48,685,027**	**54,025,574**

Sources: MTIB and DOSM

Malaysia: Import of Timber and Timber Products from Poland, 2010-2014

(Value : RM)

Product	2010	2011	2012	2013	2014
Logs	33,088	0	0	0	0
Sawntimber	599,238	290,744	477,771	2,351,680	6,738,303
Veneer	0	0	224,541	0	36,880
Particleboard	0	75,215	0	63,913	134,836
Fibreboard	0	0	0	128,579	296,028
Wooden Furniture	7,606,730	9,641,085	12,497,442	15,783,282	15,888,578
Rattan Furniture	79,645	58,289	11,823	18,668	6,516
Wooden Frame	24,074	0	0	0	0
BJC	0	0	0	0	8,434
Others	22,483	335,259	1,042,470	1,039,885	1,298,872
TOTAL	**8,365,258**	**10,400,592**	**14,254,047**	**19,386,007**	**24,408,447**

Sources: MTIB and DOSM

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Poland: Production of Timber and Timber Products, 2009-2013

(Volume:'000 m³)

Product / Year	2009	2010	2011	2012	2013
Fibreboard	2,714	2,977	3,018	3,171	3,738
Logs	34,629	35,467	37,180	38,015	38,939
Particleboard	4,703	4,684	4,917	4,879	4,786
Plywood	312	402	411	388	430
Sawntimber	3,850	4,220	4,422	4,249	4,321

Source: FAO

Poland's Timber Import

Poland's import of timber and timber products in 2014 increased 18% to USD2.3 billion over the previous corresponding period. Poland import mainly furniture, particleboard, sawntimber and fibreboard. Import of furniture and particleboard increased 15% and 26% to USD667 million and USD338.7 million respectively. Similarly, import of sawntimber and fibreboard improved 10% to USD284.5 million and 34% to USD192.3 million respectively.

Although Poland is one of the major exporters of furniture in the world, Poland still imported furniture from other countries to fulfill the demand from their domestic market. In 2014, the majority of furniture imported by Poland was mainly from China, Germany and Italy. Import of furniture from China amounted to USD149.9 million, an increase of 29% over the previous corresponding period. Malaysia ranked 15th as Poland's import partner for furniture.

Poland's Timber Export

Poland's export of timber and timber products in 2014 increased 11% to USD8.4 billion from USD7.6 billion in the previous corresponding period. Poland's major products exported were furniture with a total of USD4.2 billion, an increase of 15% from the previous corresponding period. Similarly, export of BJC and fibreboard registered an increase of 7% and 13% to USD1.2 billion and USD620 million respectively. Other products exported by Poland were mouldings, sawntimber, particleboard and plywood.

As Poland is one of the largest furniture exporters in the world, timber and timber products are important trade commodities as well. In 2014, the majority of exported furniture was sold to the EU member states mainly Germany with a total of USD1.4 billion, an increase of 14% over the previous corresponding period. Apart from intra-EU trade, most furniture produced in Poland was exported to the United States. In 2014, the total value of exported furniture to the United States reached USD297.5 million.

Poland: Import of Timber and Timber Products, 2010-2014

(Value: USD'000)

Product	2010	2011	2012	2013	2014
Logs	123,207	205,980	124,460	127,542	168,061
Sawntimber	227,787	319,964	247,228	257,792	284,535
Veneer	64,326	68,289	53,868	59,115	62,334
Mouldings	59,761	56,393	51,331	44,320	41,251
Particleboard/ Chipboard	272,644	271,798	230,855	268,522	338,737
Fibreboard	181,320	191,987	124,900	143,377	192,337
Plywood	95,672	126,188	115,493	128,913	169,726
BJC	133,868	138,950	94,737	92,707	103,055
Furniture	535,673	611,939	539,949	577,470	666,969
Others	181,492	277,606	281,562	253,993	273,847
TOTAL	**1,875,750**	**2,269,094**	**1,864,383**	**1,953,751**	**2,300,852**

Source: International Trade Centre

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Poland's Furniture Industry

Poland's furniture is sold all across the world and is one of the most important production industries for the economic growth of the country. Poland's furniture industry ranks fourth in the world after China, Italy and Germany and third largest producers of furniture in Europe.

The industry employs around 140,000 persons in 14,421 companies, ranking first in the EU by employment. Furniture production in Poland is about 3% of the total world furniture production and annually over 90% of furniture produced in Poland is exported.

Furniture industry contributes relatively more to the Polish economy with furniture sales represent 2.1% of its GDP. Since more than 90% furniture produced is being exported, the industry is essential to the Polish economy growth. The largest export market is Germany, the United States, the United Kingdom, France, Sweden and Italy.

The development prospects of the furniture in Poland are very good and resulting from various factors. Among the important factors is the long-term experience in the trade with Western Europe market and the abilities to meet the high quality and technical requirements of those markets. In addition, active products development including the continuous improvement of design and structure of brands' image enable Poland's furniture industry to further penetrate greater market access. Another factor contributing to the positive development is the ability of Poland's furniture industry to attract new foreign investments. In addition, the industry also comparatively has relatively lower cost of production as compared to other EU member states. These factors enable the domestic furniture industry to develop globally and competitively.

Poland: Furniture Import by Country of Origin, 2010-2014

(Value: USD '000)

Rank	Destination	2010	2011	2012	2013	2014
1	China	110,782	117,698	105,230	115,908	149,920
2	Germany	71,308	90,817	89,805	111,347	126,508
3	Italy	49,194	59,255	59,463	54,608	54,767
4	Lithuania	25,482	30,618	27,369	37,321	52,407
5	Austria	43,687	46,482	39,160	37,799	41,023
6	Sweden	35,254	59,654	50,434	39,574	37,067
7	Slovakia	17,648	23,751	22,248	23,663	29,043
8	Denmark	24,156	24,975	16,914	19,595	21,482
9	Czech Republic	25,266	18,159	18,909	19,228	18,735
10	Romania	4,118	4,124	6,322	10,494	13,164
15	Malaysia	9,970	10,111	9,295	6,753	7,832

Source: International Trade Centre

Poland: Export of Timber and Furniture by Poland, 2010-2014

(Value: USD '000)

Product	2010	2011	2012	2013	2014
Logs	154,399	169,925	189,315	265,774	245,365
Sawntimber	177,696	185,551	173,077	207,776	229,680
Veneer	38,318	34,453	32,371	30,368	30,353
Mouldings	195,539	228,831	225,096	254,954	256,775
Particleboard / Chipboard	153,119	189,225	181,198	205,992	200,223
Fibreboard	473,941	514,690	490,493	549,613	619,993
Plywood	101,348	130,603	135,589	155,968	176,801
BJC	769,357	911,368	869,182	1,077,176	1,153,320
Furniture	2,920,056	3,459,390	3,154,318	3,693,911	4,234,346
Others	997,101	1,093,795	978,337	1,159,971	1,294,076
Total	5,980,874	6,917,831	6,428,976	7,601,503	8,440,932

Source: International Trade Centre

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Poland: Export of Furniture by Destination, 2010-2014

(Value: USD '000)

Rank	Destination	2010	2011	2012	2013	2014
1	Germany	855,098	1,026,789	1,008,780	1,240,476	1,411,761
2	USA	228,113	288,255	215,329	265,599	297,467
3	UK	175,397	186,501	171,192	215,387	280,126
4	France	231,074	283,452	238,027	219,244	258,383
5	Sweden	119,599	151,510	132,029	171,467	189,079
6	Italy	135,389	158,647	122,340	128,268	163,028
7	Czech Republic	146,513	156,065	149,563	151,429	154,094
8	Russian Federation	59,844	87,376	110,303	134,201	143,515
9	Netherlands	90,930	100,174	94,567	123,292	136,897
10	Belgium	82,528	105,324	87,131	90,893	100,425
52	Malaysia	1,379	1,426	1,519	2,359	1,783

Source: International Trade Centre

Import Tariffs

Poland's import duty on timber and timber products ranges from 0–10%. Details are as follows:

HS : Code	Product	Duty (%)
4401	Fuel Wood	0
4402	Wood Charcoal	0
4403	Logs	0
4404	Hoop Wood	0
4405	Wood Wool and Wood Flour	0
4406	Sleepers	0
4407	Sawntimber	0 - 2.5
4408	Veneer	0 - 6
4409	Mouldings	0
4410	Particleboard	7
4411	Fibreboard	7
4412	Plywood	6 - 10
4413	Densified Wood	0
4414	Wooden Frames	0 - 2.5
4415	Packing Cases	3 - 4
4416	Casks, Barrels, Vats and Tubs	0
4417	Tool Bodies and Handel	0
4418	Builders Joinery and Carpentry	0 - 3
4419	Tableware and Kitchenware	0
4420	Wood Marquetry	0 - 4
4421	Other Articles of Wood	0 - 4
9401,9402,9403	Wooden Furniture	0 - 5.6

Source: WTO

Prospects

Poland's timber industry is an export oriented industry thus to sustain strong competition in the highly demanding markets, producers need to focused on improving quality of their products and production efficiency. In order to attract foreign investment, the Poland's government has opened up five Special Economic Zone in the Eastern Poland. The special zone creates an excellent climate for the investor to set up businesses and investments. It also offers income tax exemptions to the potential investors.

In addition, the Poland's furniture industry will continue to grow as many European companies are moving their production to Poland, Czech Republic and Hungary to take advantage of the lower production costs. There will be a need for the imports of other materials such as sawntimber, mouldings and joinery products. These offer opportunities for Malaysian timber producer to supply our timbers for their furniture production and in future opened up opportunities for joint venture or collaborations between Malaysian and Poland's industrial players.

References:

- *MTIB's Statistics*
- *International Trade Centre*
- *World Furniture Outlook 2014/2015, CSIL*
- *GAIN Report – Forestry Situation and Solid Wood Products in Poland*
- *Polish Furniture Outlook by Tomasz Wiktorski*
- *http://msp.gov.pl/en/polish-economy/economic-news*

SUNGKAI: A FUTURE PLANTATION SPECIES

NSPC 2015 was held on 29-30 April at Universiti Malaysia Sabah (UMS) in Kota Kinabalu. The objective of the seminar was to enlighten the community especially the timber industry about Sungkai timber and its potential as one of the forest plantation species. The event was jointly organised by the Faculty of Science and Natural Resources UMS, Forest Research Institute (FRIM), MTIB and Sabapuri Nursery SBH.

The seminar was officiated by YB Datuk Hj. Sairin bin Hj. Karno, Assistant Minister of Agriculture and Food Industry Sabah. In his speech, he noted that dependence on a single species would pose a risk to the forest plantation industry. "Threats such as diseases and insects could hurt the industry. Hence, the search for a new species for forest plantation is crucial", he said.

''I also understand that a committee has been formed with members from UMS, MTIB, FRIM and Sabapuri Nursery SBH to run researches on the tree'', he added.

Eleven scientific presentations on the species, its cultivation, management, utilisation, economic and future prospects were made during the seminar. The papers presented were as follows:

- Simulation, Production and Reasonable Investment of Sungkai (*Peronema canescens)* in East Kalimantan Province by Prof. Dr. Abu Bakar M Lahjie, Mulawarman University, Kalimantan, Indonesia
- Forest Plantation Development Programme by Tuan Hj. Kamaruzaman Othman, MTIB
- *Peronema canescens*: An Ideal Reforestration and Agroforestry Tree Species by Encik Shye Ming Chung, Sabapuri Nursery SBH
- Properties and Growth Potential Utilisation of Sungkai by Prof. Dr. Mohd Hamami Sahri, UMS
- Mass Production of *Peronema canescens* Using Tissue Culture Techniques by Dr. Nor Hasnida Hassan, FRIM
- *Peronema canescens*: Is it a Promising Forest Plantation Species? by Dr. Ahmad Zuhaidi Yahya, FRIM
- The Growth Performance of 13-years Old *Peronema canescens* Jack (Sungkai) in Lungmanis Forest Reserve by Encik Jaffirin Lapongan, Sabah Forestry Department
- Growth Ring Formation *Peronema canescens* Grown under Tropical Rainforest and Monsoon Climate in Peninsula Malaysia by Dr. Amir Affan Abdul Azim, UPM
- Growth and Yeild of *Peronema canescens* at the Dryland Tropical Forest in Central Kalimantan by Dr. Wahyudi, Department of Forestry, University of Palangka Raya
- Indigenous Tree of the *Genus Tristaniopsis (Myrtaceae)* for Forest Plantation by Dr. Berhaman Ahmad, UMS
- Potential Utilisation of Sungkai by Encik Awang Ahmad bin Mohd Yunus, UMS

On the second day, a tree planting activity was held at UMS campus, followed by a field excursion to Kinarut to visit the trees of Sungkai planted in Kampung Nanapad.

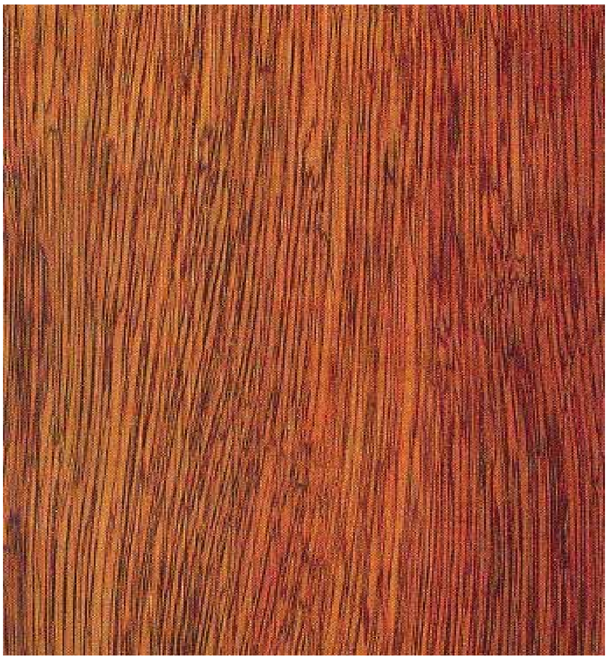
Seventy participants including officials from various State Forest Departments in Malaysia, Sarawak Timber Industry Development Corporation, Universiti Malaysia Kelantan, Sabah Forest Development Authority, as well as industry players and tree planters attended the seminar.

Attendees at the seminar.

Q & A session with speakers.

Tree planting activity at UMS campus, Kota Kinabalu.

PENAGA- SUITABLE FOR HEAVY CONSTRUCTION



Wood colour and texture

Penaga is the Standard Malaysian Name as well as the ASEAN Standard Name for the timber of Mesua ferrea (Guttiferae). *Vernacular names applied include lenggapus (Peninsular Malaysia) and matopus (Peninsular Malaysia). This timber is mainly from one species, viz.* Mesua ferrea.

The species is also known as Bosneak (Cambodia); Mesua (India); Nagasari (Indonesia); Ka thang and Mai lek (Lao PDR); Gangaw and Ngaw (Myanmar); Na (Sri Lanka); Bannak and Bunnak (Thailand); and Vap (Viet Nam).

General Characteristics

The sapwood is pale yellow with a pink tinge, becoming grey-brown on exposure and is sharply differentiated from the heartwood, which is red-brown with a purple tinge when fresh, becoming dark red-brown on exposure.

Wood Anatomy

The grain is interlocked or spiral while texture is rather fine and even, with interlocked or spiral grain. Vessels are few to moderately numerous, medium sized, almost exclusively solitary, but arranged in oblique rows of two or three, forming festoons; tyloses and deposits are abundant. Wood parenchyma is abundant, apotracheal in regularly spaced and narrow bands. Rays are very fine and not visible to the naked eye.

Tree Characteristics

Messua ferrea is a canopy component in lowland forest, but is commonly featured as an understorey tree in montane evergreen or semi-evergreen forest. In Borneo, the species is associated with dipterocarps. *Mesua ferrea* is a medium-sized or fairly large evergreen tree up to 36 m tall, bole cylindrical to poorly shaped, up to 95 cm in diameter, often fluted at base.

Bark surface is smooth to adherently scaly, sometimes somewhat dippled, ochrous-brown revealing a bright orange layer below. Leaves are opposite, simple and entire, usually elliptical to narrowly elliptical, glabrous or occasionally glaucous. Leaves are shiny with numerous secondary veins, looping, running parallel nearly to the margin, frequently with equally prominent reticulating tertiary veins. Sometimes with more or less persistent stipule-like interpetiolar modified leaves.

Flowers are terminal or axillary, bisexual, solitary or in an up to nine-flowered open panicle, pedicel with small paired bracts. Sepals are four decussate, sub-orbicular, persistent and variously enlarged and thickened in fruit. Petals are four, white or pink.

Stamens are numerous, free or connate only at the base, they are ovary superior (one to two celled), each cell with one to two axillary ovules. The style is slender with a peltate to four-lobed stigma. Its fruit is in capsule form, usually globose, often beaked, thinly woody, usually dehiscing with two to four valves before falling, often exuding resinous droplets. One fruit contains one to four seeds.

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Mechanical Properties

The timber falls into Strength Group A or SG 1 (MS 544:Part 2:2001)

Tree Management

Seedlings are planted in the field after one year when they are about 30 cm tall or after two years when they are about 75 cm tall. The tree grows very slowly and is not popular for plantations. Its logs sink in water and should be either rafted to lighter logs or transported by road.

The seed is easy to handle in the nursery and germination is good and rapid. Seedling germination is hypogeal. Seed germination rates are in the 30-70% range, however, record germination rates of 75-90% in 11-24 days have been made. The seed loses its viability quickly, two to three months. Best storage is done using perforated polythene bags at 5°C. Protection from moisture and sunlight is essential for fair germination and early growth. There are 300-500 seeds/kg.

Messua ferrea can be propagated by seed, which can be collected from underneath the tree or from the branches. Vegetative propagation by means of cuttings is not promising. Container raised seedlings are the best planting stock and should be planted preferably in fairly rich and well drained sites under suitable shade. Stumps do not thrive well, nor does bare-rooted planting stock.

Uses

The timber is suitable for all forms of heavy construction, heavy duty furniture, flooring (heavy traffic), posts, beams, joists, rafters, joinery, cabinet making, pallets (permanent and heavy duty type), tool handles (impact), staircase (angle block, rough bracket, carriage, newel, riser, stringer, tread, bullnose, round end and winder), columns (heavy duty) as well as telegraphic and power transmission posts and cross arms. In India, this timber has been used successfully as railway sleepers.

References:

- *http://www.worldagroforestry.org/treedb AFTPDFS/ Mesua_ferrea.pdf*
- *http://mtc.com.my/wizards/mtc_tud/items/report (73).php*
- *100 Malaysia Timber 2010 MTIB.*
- *Specifying Timber for Building Construction, MTIB*

Penaga tree.

Photo of Penaga tree taken from a different angle.

Penaga leaves.

MTIB Moments

A Stakeholder Workshop on Consultation Session for the Feasibility Study on Branding for Sustainable Materials – Acacia and Oil Palm Trunks, held on 1 April 2015 at MTIB, Kuala Lumpur.

A course on Understanding of the Forest Plantation Auditing for Acacia, held from 1-4 April 2015 in Mersing, Johor.

A meeting on the preparation of the documents on Certification MS ISO/IEC 27001: 2013 (MTIB Information Security Management System), held from 7 to 11 April 2015 in Langkawi, Kedah.

A course on Introduction to the Bamboo Industry and its Plantation, held on 27-28 April 2015 in Sg. Siput, Perak. Thirty participants attended the programme.

MTIB organised a programme entitled Consultation with Industry : Public Comment on FDMS Specification for Plywood, held on 30 April 2015 in Kota Kinabalu, Sabah.