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13TH MEETING OF APEC'S EXPERTS GROUP ON ILLEGAL LOGGING AND ASSOCIATED TRADE

RKI INDUSTRIES SDN. BHD.:
MOVING FORWARD WITH GREATER
AUTOMATION AND ADVANCED TECHNOLOGY



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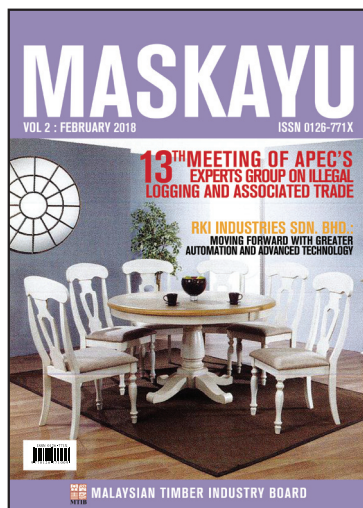
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13TH MEETING OF APEC'S EXPERTS GROUP ON ILLEGAL LOGGING AND ASSOCIATED TRADE

news



Meeting in progress.

The 13th Meeting of the APEC Experts Group on Illegal logging and Associated Trade (EGILAT 13) was held on 24 - 25 February in Port Moresby, Papua New Guinea.

Fourteen economies and the APEC Secretariat were represented at the meeting. These economies were: Australia, Chile, China, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea (PNG), Peru, the Philippines, Chinese Taipei, the United States, and Viet Nam. Representatives from the Interpol Forest Trends and FAO also attended the meeting as invited guests.

The EGILAT Chair, Dr. Putera Parthama delivered his first speech as the Chair and urged all member economies to work together to support positive deliberation in EGILAT 13.

The amended EGILAT's Multi-Year Strategic Plan 2018-2022 was adopted, and will be submitted to the Senior Official Meeting 1 (SOM 1) on 8 - 9 March for endorsement.

On the progress of work on compiling information

for the EGILAT Timber Legality Template, member economists took note of reports from Chile and the US on the completed EGILAT Timber Legality Templates of both economies. The EGILAT also noted the progress being made by Japan and Indonesia in preparing the EGILAT Timber Legality Guidance Template document. Malaysia will present its completed template at EGILAT 14.

On the exchange of information related to combating illegal logging and promoting trade in legal forest products, EGILAT noted and appreciated the information shared by following economies :

- Japan on the Act on Promotion of Use and Distribution of Legally-Harvested Wood and Wood Products
- Indonesia on V-Legal documents to support legal timber products trade from Indonesia
- Australia on developments on illegal logging laws a brief update on CSG policy and negotiation
- Peru on improving Forest Governance
- China on exploration and practices to establish timber legality verification system



CHINA

Rise in Flooring Sales in 2017

According to China National Forestry Forest Industry Association (CNFPFA), China's wood and bamboo flooring sales in 2017 totalled 415.2 million square metres, a year-on-year increase of 5%.

Of the total, the volume of solid wood flooring sales rose 9% to 47.9 million square metres, wood composite flooring sales grew 10% to 114.9 million square metres, laminate flooring sales increased 2% to 214.7 million square metres while bamboo flooring sales were down 1.2% to 33.6 million square metres, the balance being other flooring types.

Laminate flooring sales accounted for more than 50% of total sales followed by wood composite flooring which accounted for 28% of all sales. Solid wood flooring accounted for 12% of sales with the balance being mainly bamboo flooring.

globalwood.org, 1 - 15 February



INDIA

Wooden Flooring Import Likely to Face Anti Dumping Duty

The move is aimed at guarding domestic players from cheap imports of 'Veneered Engineered Wooden Flooring' from these regions. Greenlam Industries had asked for an anti-dumping probe and imposition of levy to discourage cheap imports.

The Directorate General of Anti-dumping and Allied Duties (DGAD), investigation arm of the Ministry Commerce in its probe has concluded that the product has been exported to India from these countries below its normal value, which has resulted in dumping.

The domestic industry has suffered material injury due to the dumping of the product, the DGAD said in a

notification. The duty recommended was in the range of USD 0.56 per square metres and USD6.9 per square metres. The finance ministry takes the final call to impose the levy. "The authority considers it necessary to recommend imposition of definitive anti-dumping duty on imports" of the goods imported from China, Malaysia, Indonesia and European Union. The imports increased to 313,622 square metres during the period of investigation (October 2015-September 2016) from 247,480 square metre sin 2013-2014.

Greenlam Industries had filed a written petition on behalf of the domestic industry, alleging dumping of the wooden flooring exported from those countries. Countries carry out anti-dumping probe to determine whether their domestic industries have been hurt because of a surge in cheap imports.

As a counter measure, they impose duties under the multilateral regime of WTO. The duty is also aimed at ensuring fair trading practises and creating a level-playing field for domestic producers about foreign producers and exporters. India has already imposed anti-dumping duty on several products to check cheap imports from countries including China.

woodzon.com, 19 February



JAPAN

Booming Timber Exports Due to Chinese Demand

China recently updated its building codes to include traditional Japanese wood-frame home construction methods, in which it also create demand for Japanese timber imports. This building style incorporates Sugi Cedar, Hinoki Cypress and Karamatsu Larch—three species that are common in Japan for use as beams, pillars and other structural components used by home builders.

The building code change and preference for Japanese wood has improved the demand for Japanese wood resources meanwhile, preliminary export values of Japanese timber products in 2017 hit their highest level in over four decades.

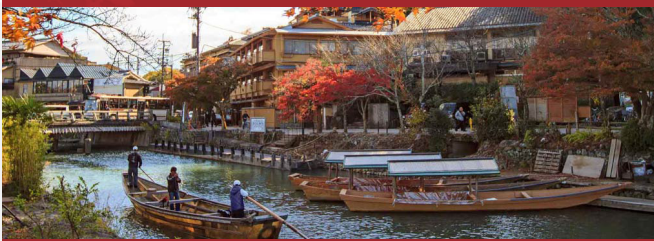
Hiroshima-based timber producer Chugoku Mokuzai says that exports of Sugi and Hinoki timber are growing for markets like China, Taiwan, South Korea and even the US. For Japanese producers which struggling with a shrinking labour force of loggers and a decline in

domestic demand, growing exports may be the future of the industry.

In 2017, exports figures will likely reach nearly 32 billion Yen (USD288 million), up more than 30% from 2016. Exports from January through November 2017 jumped 37% from the previous year to 29.2 billion Yen. Logs comprised the greatest proportion at 42% of exported products, with sawntimber making up 17%.

China was the largest import destination for Japanese wood resources by value, taking in roughly 40 %. China was the largest purchaser of Japanese logs, and Philippines was a major purchaser of lumber.

Forest2Market.com, 2 February



JAPAN

Plans Supertall Wooden Skyscraper in Tokyo by 2041

Timber tower construction is the current obsession of architects, with new projects claiming to be the world's next tallest popping up all over the globe. But this latest proposal from Japanese company Sumitomo Forestry Co. and architects Nikken Sekkei would blow everything else out of the water, as they have announced plans for the world's first supertall wood structured skyscraper in Tokyo. At 1,148 feet tall, the proposal outpaces similar timber-structured high rise proposals including Perkins + Will's River Beech Tower and PLP Architecture's Oakwood Tower.

Known as the W350 Project, the development would feature a mixed-use program in the hope of creating an environmentally and socially sustainable community in the sky. Renderings for the complex show light-filled apartments and public spaces on multiple building levels, with hotels, offices, retail and residences intermixing.

Early estimates indicated that W350 would use more than 6.5 million cubic feet of wood and would cost upwards of 600 billion Yen (USD5.6 billion). The building would not be a pure wood timber building, but rather a hybrid system constructed with a 9:1 ratio of wood to steel capable of handling Tokyo's high seismic activity.

archdaily.com, 15 February 2017



FINLAND

Sawntimber Production Increase in 2017

In 2017, the Finnish forest industry production increased in most of the main product categories. However, the production of mechanical pulp and paper decreased in comparison with the previous year, says Natural Resources Institute Finland (Luke) in its statistics report.

The production volumes of sawn softwood increased by half a million m³ to 11.9 million m³. The proportion of spruce has increased in recent years and, in 2017, a total of 6.2 million m³ of Spruce sawntimber were produced. The Finnish domestic consumption of sawntimber increased to 3.8 million m³ (0.70 m³ per capita), showing an increase by 20% over 2016. The production of chemical pulp totalled 7.7 million tonnes, 3% more than the previous year. Similar figures were last reached in 2007 before the economic recession.

Paper production in Finland has decreased since 2011. In 2017, the production volume of 6.7 million tonnes was 2% lower than in the previous year. Currently, around 20% less paper is manufactured than on average during the preceding 10 year period. The Finnish paperboard reached a new production record at 3.6 million tonnes, showing an increase of 9% from the previous year and 25% in terms of the long-term average.

forda.com, 16 February



SWEDEN

Logging Effected by Bad Weather

The weather-related problems that have been plaguing timber harvesting, logging, and transportation in many parts of Europe for quite some time have led to restrictions in the output of the sawmilling industry in southern and central Sweden as well.

Many sawmilling facilities have therefore been unable to obtain adequate supplies of logs in the past few weeks, preventing them from maintaining the hitherto high level of cutting and leaving them with no option but to throttle back their output.

Owing to the absence of or insufficient frost, the permissible gross laden weight for log-transport vehicles on forest tracks has been reduced to 12 tonne in some regions, transport vehicles with a gross weight of up to 64 tonne are normally permitted on forest roads in Sweden.

euwid-wood, 8 February



UNITED KINGDOM

Homegrown Sector Lobbies on Log Supply and Pricing Crisis

About 30 representatives across the UK homegrown timber industry met in Edinburgh with Scottish minister Fergus Ewing to discuss the current log supply and price crisis gripping the sector. Sawmills and other timber processors came together with the Forestry Commission and others in the supply chain at the meeting with the cabinet secretary for the rural economy and connectivity.

Stuart Goodall, chief executive of Confor, said the industry wanted to be open with decision makers about the situation which has seen many sawmills reduce production in the face of rocketing log prices. And, he said, the positive outcome was that the Scottish government would now be looking to issue clarifications to ease restrictions on harvesting so that more timber could be released on the market.

Mr. Goodall said there was an inconsistency in the way forest regulations were being interpreted, with the result that some areas had not been harvested. He also highlighted the need for more fulsome and clearer statistical information on timber flows.

There is a need to understand where timber is going. It is also an additional pressure for traditional buyers of timber, such as sawmills and panel mills, including increase in log exports and wood raw material purchasing by the biomass energy sector.

Ttjonline, 8 February



UNITED STATES

New Jersey to House Largest Timber Office

Canadian studio Michael Green Architecture has unveiled plans for a massive timber office complex on the waterfront of Newark, New Jersey, which is expected to be the largest of its kind in the US.

The design comprises three stepped volumes in rising heights of six, eight and 11 stories, which will be built with a mass-timber structure – a collective term describing engineered wood products like glulam and cross.

Measuring 500,000 square feet (46,451 square metres), the scheme is expected to surpasses the overall area of any other office building in the US that also uses engineered timber construction. It will be more than double the size of Michael Green Architecture's office and retail tower in Minneapolis, which was named the "largest mass-timber building" in the US when it was completed in 2016.

The whole development is intended to be environmentally friendly, so architect Michael Green chose mass timber over steel or concrete because of its sustainable credentials, as well as quality and speed of construction. "Good buildings are good neighbours and we envision a sustainable, efficient and architecturally stunning future for Newark," said the architect.

Timberbiz, 7 February



UNITED STATES

Super Wood Stronger Than Steel

Some varieties of wood, such as oak and maple, are renowned for their strength. But scientists say a simple and inexpensive new process can transform any type of wood into a material stronger than steel, and even some high-tech titanium alloys. Besides taking a star

turn in buildings and vehicles, the substance could even be used to make bullet-resistant armour plates.

Researchers have long tried to enhance its strength, especially by compressing and “densifying” it, says Liangbing Hu, a materials scientist at the University of Maryland, College Park.

Now, Hu and his colleagues say they have come up with a better way to densify wood. Their simple, two-step process starts with boiling wood in a solution of sodium hydroxide (NaOH) and sodium sulfite (Na₂SO₃), a chemical treatment similar in creating the wood pulp used to make paper. This partially removes lignin and hemicellulose (natural polymers that help stiffen a plant’s cell walls) but it largely leaves the wood’s cellulose (another natural polymer) intact, Hu says.

The second step is almost as simple as the first, compressing the treated wood until its cell walls collapse, then maintaining that compression as it is gently heated. The pressure and heat encourage the formation of chemical bonds between large numbers of hydrogen atoms and neighbouring atoms in adjacent nanofibers of cellulose, greatly strengthening the material.

The results are impressive. The team’s compressed wood is three times as dense as the untreated substance, adding that its resistance to being ripped apart is increased more than 10-fold. It also can become about 50 times more resistant to compression and almost 20 times as stiff. The densified wood is also substantially harder, more scratch-resistant and more impact-resistant. It can be moulded into almost any shape. Perhaps most importantly, the densified wood is also moisture-resistant. A five-layer, plywood like sandwich of densified wood can stopped simulated bullets fired into the material, as a result Hu and his colleagues suggest that it can be used as low-cost armour. The material does protect quite as well as a Kevlar sheet of the same thickness, but it only costs about 5 % as much.

Sceintificamerican.com, 7 February



UNITED STATES

Timber Outlook Positive in Trend

US Gross Domestic Product (GDP) continues to increase

from quarter to quarter and is forecast to continue its steady rise through out 2018. The Atlanta Federal Reserve recently projected that the US economy grew by 2.6% in fourth quarter 2017. Continued growth at this pace could affect demand for pulp and sawtimber in the coming months as residential construction and remodelling remain strong.

Forest2Market is forecasting housing starts growth to 1.26 million units in 2018 (+4.0 % relative to 2017) as Canadian forest products companies continue to expand operations in the US South to meet demand. However, there continues to be an oversupply of large logs in the market and regional stumpage prices will reflect this. The wide regional price variance for Pine sawtimber seen in fourth quarter 2017, from a 1.6% increase to an 11.7% will likely be the norm in the near term.

Forest2Market.com, 8 February



AUSTRALIA

Cross-Laminated Timber Earn its Place in Mainstream

Cross-laminated timber (CLT) is a viable and cost-effective alternative for mass market commercial buildings and provides radical opportunities to slash construction timeframes and waste, according to Bates Smart director Philip Vivian.

The firm is the design team behind 25 King Street in the Brisbane Showgrounds redevelopment in Fortitude Valley. The 52-metre-high tower is set to be the tallest engineered timber building in Australia and will also hold the title for the largest gross floor area for an engineered timber office building in the world.

It’s a cutting-edge element is to show that the industry can build quite cost-effective building, efficiently with flexible floor plates using the CLT in a large and tall construction for the Brisbane Central Business District (CBD) fringe.

Vivian says 25 King, which Bates Smart designed for Lendlease, will be an A-grade building. It’s the first time that they are building this sort of very cost-effective commercial office building. Commanding the same rents as any other building in the Brisbane CBD fringe and not particularly expensive

thefifthestate.com, 7 February



Malaysia: Westports Achieves 9.0 million TEUs of Container Throughput in 2017

Source: The SUNDAILY, 4 January

For the year ended 31 December 2017, Malaysian port operator Westports Holdings achieved 9.0 million twenty-foot equivalent unit (TEUs) of container throughput. This is in line with its guidance of a 7%-12% lower container volume compared to 2016. Its key clients include the Ocean Alliance and its members.

Malaysia/Indonesia: PDZ Holdings Inks MoU with IBC Group for Maritime Logistic Solutions

Source: The SUNDAILY, 10 January

As part of its plans to expand regionally, PDZ Holdings (PDZ) of Malaysia has inked a Memorandum Of Understanding (MoU) with Indonesia Bulk Carrier (IBC Group), an Indonesian shipping company for the provision of total maritime logistic solutions. The maritime logistic solutions will cover bulk cargo, tugs and barges, container liners, self-propelled barges, and oil and gas support vessels combined with other related services like vessel chartering,

shipping consultancy, pooling management and crew management.

By teaming up with IBC Group, PDZ is able to expand into the Indonesian shipping market, said PDZ's CEO Tan Chor How. He said the company is focusing on widening its footprint regionally, teaming up with a reputable maritime industry leader that has a similar target of taking advantage of the rising trade in ASEAN. Meanwhile, PDZ is carrying out a cash call exercise, through a rights issue with free warrants to raise as much as RM43 million (EUR8.57 million, USD10.24 million) to support its regional business. The company will use the proceeds to buy vessels, container tugs and barges as well as for security deposits, dry docking expenditure, containers and acquisition or investment into other complementary businesses, assets and working capital.

Finland: Port of Kaskinen Expects Traffic Growth of 10%-15% in 2018

Source: Vasabladet, 2 January

Traffic volume in Port of Kaskinen in Finland remained at recent years' level of about 1 million tonnes in 2017. Managing Director of Port of Kaskinen, Patrik Hellman, expects traffic and volume to grow by 10%-15% and 6%-8% respectively, in 2018. The majority

Shipments of Timber and Timber Products through Ports in Peninsular Malaysia, January 2018

Products	Port Klang		Kuantan		Pasir Gudang		Tanjung Pelepas		Penang		Total all Ports m ³	% Change Jan 2018/ Dec 2017
	m ³	% Change Jan 2018/ Dec 2017	m ³	% Change Jan 2018/ Dec 2017	m ³	% Change Jan 2018/ Dec 2017	m ³	% Change Jan 2018/ Dec 2017	m ³	% Change Jan 2018/ Dec 2017		
Sawntimber	84,802	7	15,076	64	1,421	3	175	-54	11,494	-13	112,968	9
MDF	26,006	12	450	75	4,403	-37	4,092	-25	13,710	16	48,661	2
Mouldings	13,975	22	226	17	1,862	13	872	-3	1,627	28	18,562	20
Plywood	2,324	-63	482	100	0	-100	171	6	14,062	26	17,039	-4
Veneer	504	-6	13	100	0	0	92	-16	2,887	19	3,496	14
Particleboard	27,606	-30	99	-85	2,963	-31	2,533	-32	5,284	95	38,485	-24
TOTAL	155,217	-3	16,346	59	10,649	-26	7,935	-26	49,064	15	239,211	0

Source : MTIB



of the traffic through Port of Kaskinen consists of transportation of forest industry products, such as pulp and sawntimber.

Finland: Traffic in Port of HaminaKotka up Almost 10% in 2017

Source: YLE Uutiset, 5 January

Traffic in Port of HaminaKotka in Finland totalled over 14.6 million tonnes in January-November 2017 up almost 10% from 2016. In particular, the volume of exports increased including exports of sawn timber. Managing Director of Port of HaminaKotka, Kimmo Naski, expects the upward trend to continue in 2018.

India: PSA International Completes BMCT Project's First Phase

Source: SteelGuru, 3 January

The first phase of a mega container terminal project in India, the Bharat Mumbai Container Terminals (BMCT), has been completed by PSA International, with Jawaharlal Nehru Port Trust (JNPT) gearing up towards launching full-fledged operations at the new terminal by February 2018.

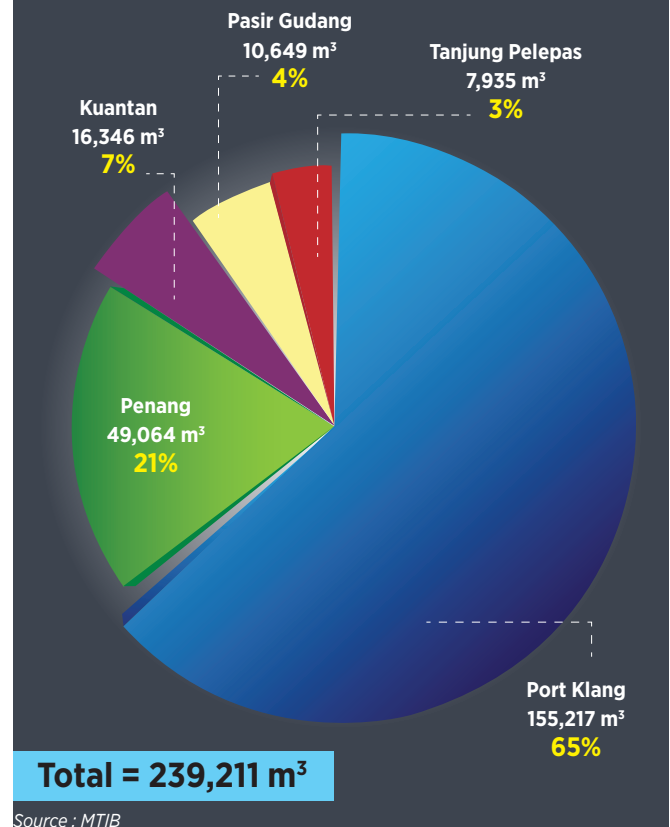
The project's first phase involves, among others, providing a capacity of 2.4 million TEUs annually and two berths with a total quay of 1,000 metre (3,281 feet). JPNT has stated that BMCT has a 30-year operating concession which will involve public-private investments worth INR79.35 billion (EUR1.02 billion, USD1.22 billion) in two phases. The terminal will have an annual capacity of 4.8 million TEUs and a 6,562 foot quay when it is fully-operational in the near future.

Denmark: Maersk Line Posts 26.8% Growth in Capacity

Source: Borsen, 18 January

Alphaliner has noted in a newsletter that the combined container capacity among the world's 15 biggest container shipping companies increased by 12.6% in 2017 to 18,32 million TEUs. Maersk Line showed the biggest growth with its container capacity rising by 26.8% to 1.8 million TEUs. This is largely attributed to its acquisition of Hamburg Süd.

Timber Shipment through Ports in Peninsular Malaysia, January 2018



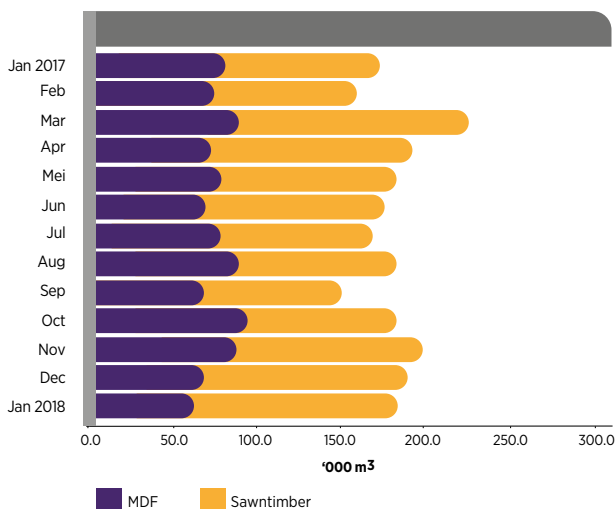




Lukisan Seribu Makna, Kayu Eratkan Semua
A Picture Paints a Thousand Words. Wood Binds Them All

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Malaysia : Export of Sawntimber and MDF
(Jan 2017-Jan 2018/Volume ('000m³)



Total export of Malaysia timber and timber products in January 2018 increased 8% valued at RM1.99 billion over the previous month. Meanwhile, compared to the previous corresponding period in 2017, export for the period of January 2018 also increased by 3%.

SAWNTIMBER

Export of sawntimber in January 2018 decreased 2% in volume and 1% in value to 184,090 m³ with a value of RM342.23 million as compared to the previous month due to declining intake from the Middle East and ASEAN countries.

Export of sawntimber to the EU for the month increased 11% to 12,861 m³ from 11,617 m³ in the previous month. Export to the Netherlands and Germany improved 22% and 76% to 6,169 m³ and 2,046 m³ respectively from the previous month. Similarly, export to Belgium increased 65% to 1,555 m³ followed by France with 33% to 1,262 m³. Meanwhile, export to the UK recorded a decline of 37% to 1,325 m³ from 2,089 m³ in the previous month.

Total exports to West Asia decreased 29% to 18,428 m³ from 25,889 m³ recorded in the previous month. Export of sawntimber to the UAE declined 21% to 6,097 m³ followed by Yemen with 74% to 2,363 m³, Saudi Arabia with 43% to 1,117 m³ and Qatar with 18% to 920 m³. On the other hand, Oman and Bahrain improved purchases of sawntimber by 57% to 4,426 m³ and 21% to 1,069 m³ respectively.

Buying from ASEAN decreased 14% to 57,346 m³ from 66,454 m³ registered in the previous month. Export of sawntimber to Thailand, major buyer of sawntimber from Malaysia decreased 11% to 25,425 m³ from 28,474 m³ in the previous month. Similarly, export to the Philippines declined 21% to 23,419 m³ from 29,476 m³ in the previous month. However, export to Singapore and Viet Nam increased 3% and 6% to 6,796 m³ and 1,510 m³ respectively.

In the meanwhile, shipments to East Asia increased 19% to 50,411 m³ with export to China and South Korea increased

26% to 32,241 m³ and 226% to 5,068 m³ respectively. However, export of sawntimber to Taiwan and Japan declined 17% and 13% to 7,901 m³ and 4,553 m³ respectively.

Elsewhere, exports to the US increased 49% to 1,557 m³ and intake by Australia also increased by 113% to 757 m³. Demand from South Africa rose 70% to 6,126 m³ from 3,604 m³ in the previous month.

The average FOB price of sawntimber increased 1% to RM1,859 per m³ from RM1,846 per m³ in the previous month. Price of Dark Red Meranti increased 5% to RM2,732 per m³ from RM2,615 per m³ in the previous month. Price of Dark Red Meranti to the Netherlands increased 53% to RM3,376 per m³ from RM2,212 per m³ in the previous month. Keruing was traded at RM2,130 per m³, an increase of 5% from RM2,022 per m³ in the previous month.

MEDIUM DENSITY FIBREBOARD (MDF)

Malaysia's exports of MDF for January 2018 decreased 3% in volume and 4% in value compared to previous month. Export totalled 66,617 m³ at RM 81.64 million.

Exports to East Asia registered an increase of 76% to 16,242 m³ from 9,209 m³ in the previous month. Exports to Taiwan grew by 6% to 572 m³ followed by South Korea at 72% increased to 513 m³. Furthermore exports to Japan also recorded positive growth with an increase of 81% to 14,672 m³ followed by China (including Hong Kong) increased by 87% to 485 m³.

Meanwhile, exports to West Asia decreased 34% to 16,556 m³ from 25,040 m³ in the previous month. Export to Iran recorded negative growth of 11% to 186 m³ followed by Jordan at 24% decreased to 259 m³ and Oman at 27% decreased to 1,564 m³. Export to UAE and Kuwait also recorded negative growth by 44% to 7,659 m³ and 68% to 1,231 m³ simultaneously. However, export to Saudi Arabia, Qatar and Bahrain increased by 5% to 2,486 m³, 13% to 690 m³ and 49% to 1,952 m³ respectively. Syria did not make any purchase for the month of January.

Furthermore, export to South Asia also recorded negative growth by 2%. Export to India decreased by 0.4% to 5,616 m³, followed by Pakistan decreased by 19% to 6,438 m³. However, export to Sri Lanka increased by 5% to 1,372 m³ and Bangladesh increased by 125% to 1,822 m³.

Elsewhere, exports to USA and Australia decreased by 0.2% to 1,187 m³ and 15% to 2,389 m³ simultaneously. However export to UK showed positive growth by 9% to 387 m³, South Africa increased by 90% to 680 m³ and Mauritius increased by 102% to 172 m³.

In ASEAN, total export to ASEAN region for the month of January increased by 0.5% to 10,941 m³ from 10,891 m³ in the previous month. Export to Indonesia and Philippines increased by 22% to 3,402 m³ and 24% to 2,150 m³ respectively. However, Viet Nam and Singapore decreased

by 18% to 5,032 m³ and 37% to 72 m³ respectively.

The FOB price of MDF decreased to RM1,225 per m³ from RM1,246 per m³, a decrease of 2% from the previous month.

PLYWOOD

Export of plywood in January 2018 increased by 23% in volume to 221,485 m³ and 21% in value at RM424.94 million as compared to the previous month.

Total exports to the EU decreased by 6.2% to 6,034 m³. Exports to Italy and the Netherlands have decreased by 9% and 73% to 79 m³ and 78 m³ respectively. Contrarily, the UK has increased their intake of plywood by 2% to 5,877 m³. Meanwhile, Belgium, Denmark, France, Germany and Ireland did not make any purchases for this month.

Exports to ASEAN and East Asia region increased by 28% with 178,082 m³ compared to previous month. All countries in the region reflected an increase in export of plywood except for Thailand which has reduced its intake by 18% to 3,053 m³. Japan still the lead importer with an increase of plywood intake by 22% to 118,967 m³. South Korea and Taiwan also increased their intake by 51% and 42% to 29,498 m³ and 13,522 m³ respectively. Similarly, China and Hong Kong have increased their exports by 50% and 53% by 2,454 m³ and 3,758 m³ respectively.

Meanwhile, Malaysia's plywood trade with its ASEAN partners showed mixed trend this month. Exports to Singapore and the Philippines have increased by 18% and 66% to 2,954 m³ and 1,655 m³ respectively. Similarly, Brunei Darussalam has increased their intake by 32% to 865 m³ respectively. On the other hand, Thailand has reduced its intake by 18% to 3,053 m³ and Indonesia did not make any purchase for this month.

Overall exports to West Asia increased by 100% to 15,442 m³ as compared to the previous month. Exports to the Yemen and Qatar have increased by 277% and 45% to 9,610 m³ and 375 m³ respectively. Similarly, exports to the UAE and Bahrain have increased by 126% and 278% to 2,686 m³ and 552 m³ respectively. In contrast, Saudi Arabia has decreased their intake of plywood purchase by 41% to 944 m³ and Kuwait did not make any purchases this month.

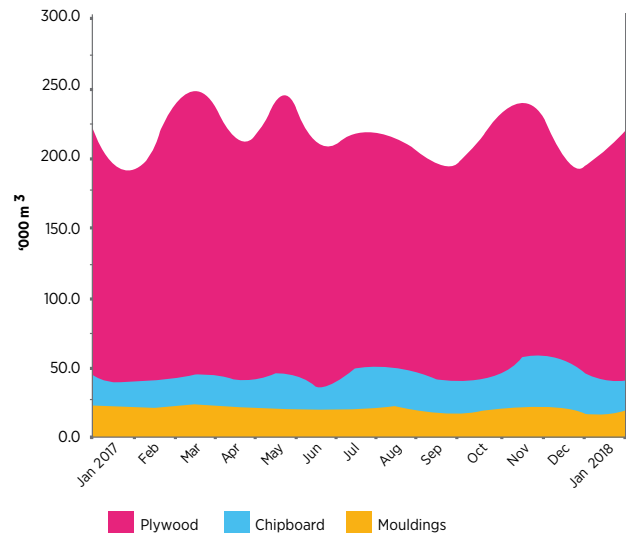
Export of plywood to the Americas region has decreased by 30% to 14,665 m³. Exports to the US and Canada have decreased by 38% and 29% to 10,429 m³ and 241 m³ respectively. In contrast, Mexico has increased by 12% to 3,995 m³. Meanwhile, export to Australia and New Zealand have increased by 36% and 307% to 3,837 m³ and 171 m³ respectively.

Exports to African continent have increased by 24% to 985 m³ for this month. Mauritius makes their first purchase of the year for plywood with 86 m³ meanwhile South

Africa has decreased their plywood intake by 64% to 253 m³. Algeria did not make any purchases for this month. The FOB price of plywood decreased by 2% to RM1,919 per m³ from RM1,949 per m³ in the previous month.

Malaysia : Export of Plywood, Chipboard and Mouldings

(Jan 2017-Jan 2018/Volume ('000m³)



MOULDINGS

Exports of mouldings for the month increased by 12% in volume and 7% in value to 22,122 m³ and RM76.01 million respectively. However, cumulative exports for the period of January 2018 increased by 12% in volume and 15% in value to 22,122 m³ and RM76.01 million respectively as compared to the previous corresponding period in 2017.

Exports to the EU for the month recorded at 8,758 m³, an increase of 10% compared to the previous month. Germany and Belgium both increased their purchased by 48%, to 1,358 m³ and 1,021 m³ respectively. Moreover, the Netherlands also increase their intake by 5% to 4,965 m³. Meanwhile, UK decreased its intakes by 36% to 512 m³ compared to the previous month. However, Italy did not make any purchases.

Exports to ASEAN region increased as Viet Nam and Singapore intake of mouldings increased by 108% and 7% to 227 m³ and 1,380 m³ respectively. Indonesia resumed its purchases by 40 m³ this month.

Meanwhile, exports to China, Taiwan, South Korea and Hong Kong increased its intake by 157%, 112%, 61% and 57% to 1,157 m³, 138 m³, 1,771 m³ and 363 m³ respectively. However, exports to Japan decreased by 27% to 1,530 m³ compared to the previous month.

Elsewhere, export to the Australia and Canada increased their intakes by 32% and 12% to 3,331 and 29 m³ respectively. However, the US decreased its intakes by 25% to 1,908 m³ compared to the previous month.

FOB unit value decreased to RM3,436 per m³ a decrease of 4% compared to the previous month.

JANUARY 2018

Supply and price of logs continued to stable in the market. Most mills reported that they have adequate log inventories for current usage.

LOGS

Log prices for the species of Chengal, Balau and Red Balau stood firm at RM4,500 per tonne, RM3,000 per tonne and RM2,200 per tonne respectively. Similarly, prices of Keruing, Kempas and Kapur continued to be traded at RM1,200 per tonne, RM1,750 per tonne and RM1,700 per tonne respectively. Meanwhile, price of Sepetir increased by 7.9% to RM1,370 per tonne. On the other hand, logs prices for Mixed Heavy Hardwood dropped by 1% to RM961 per tonne compared to the previous month whilst prices of Mixed Light Hardwood remained at RM827 per tonne.

SAWNTIMBER

The average sawntimber prices reported to remain firm with no significant changes in prices due to slow demand from domestic markets.

The sawntimber prices of Chengal dropped slightly by 1% to RM6,780 per m³. Price of Red Balau however, increased by 1.2% to RM2,931 per m³ over previous month. Prices of Keruing and Kempas maintained at RM968 per m³ and RM2,331 per m³ respectively. Meanwhile, Dark Red Meranti dropped by 7.7% to RM2,036 per m³. Prices of Red Meranti and Nyatoh sustained at RM1,992 per m³ and RM1,518 per m³ respectively. Price of Sepetir increased by 4.3% to RM1,695 per m³. On the other hand, Sawntimber prices of Mixed Heavy Hardwood and Mixed Light Hardwood remained at RM965 per m³ and RM1,024 per m³ respectively.

PLYWOOD

The supply of plywood to the domestic market remained adequate for the month under review. The prices of plywood of 4 mm, 6 mm, 9 mm and 12 mm of thicknesses were continued to be traded at RM14.60, RM22.00, RM38.00 and RM48.00 per piece respectively.

MEDIUM DENSITY FIBREBOARD (MDF)

Industry reported that the supply of MDF to the domestic market continued to be sufficient whereby slow demand from domestic markets. Prices of MDF slightly dropped by 1% to 3.4% in average for the month under review. MDF of 4 mm, 6 mm, 9 mm and 12 mm of thicknesses were sold at RM13.50, RM17.50, RM23.85 and RM31.10 per piece respectively.

INTRA-MALAYSIA TRADE - JANUARY 2018

From	Product	DEC 2017		JAN 2018		% Change in Volume Jan 2018 / Dec 2017	% Change in Volume Jan 2018 / Dec 2017
		Volume (m ³)	Value (RM '000)	Volume (m ³)	Value (RM '000)		
SABAH	Logs	0	0	0	0	0	0
	Sawntimber	146	262	117	354	-20	35
	Plywood	8,234	15,811	6,121	12,092	-26	-24
	Veneer	0	0	0	0	0	0
SARAWAK	Logs	0	0	0	0	0	0
	Sawntimber	866	1,398	2,857	4,128	230	195
	Plywood	5,530	8,955	5,828	8,662	5	-3
	Veneer	5,108	7,751	7,405	12,010	45	55

Source : Department of Statistics, Malaysia

The shipments of sawntimber from Sabah to Peninsular Malaysia dropped by 20% in volume to 117 m³ worth at RM354,000. Similarly, trade of plywood dropped by 26% to 6,121 m³ valued at RM12 million for the month.

Movement of sawntimber from Sarawak to Peninsular Malaysia increased significantly to 2,857 m³ from 866 m³ recorded last month, worth at RM4.1 million. Similarly, trade of plywood increased

INTRA-MALAYSIA TRADE *

- JANUARY 2018

by 5% in volume at 5,828 m³ worth at RM8.6 million. Trade of veneer rose by 45% in volume to 7,405 m³ from 5,108 m³ worth at RM12 million.

No intra trade from Peninsular Malaysia to Sabah and Sarawak was recorded in January 2018.

* Source: MTIB and Department of Statistics, Malaysia

*AVERAGE DOMESTIC PRICES OF LOGS, SAWNTIMBER, PLYWOOD AND MDF IN PENINSULAR MALAYSIA JANUARY 2018 (VALUE IN RM)

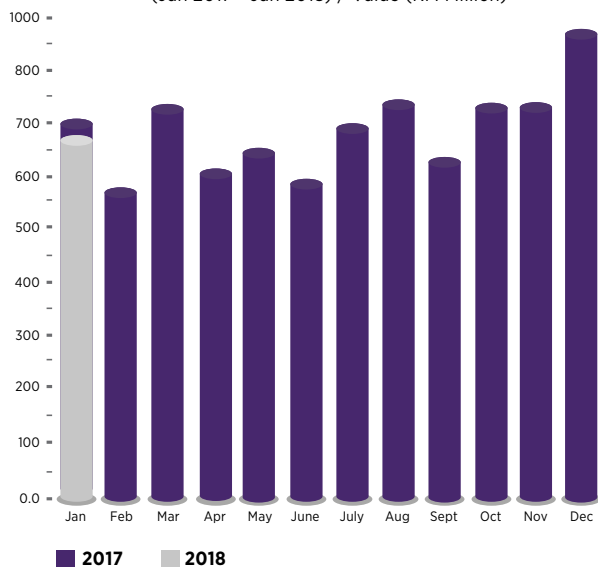
SPECIES	LOGS/tonne	SAWNTIMBER/m ³			
	18" UP	GMS	STRIPS	SCANTLINGS	
HEAVY HARDWOOD					
Chengal	4,500	6,780	5,297	7,415	
Balau	3,000	3,178	2,684	2,743	
Red Balau	2,200	2,931	2,613	3,178	
Merbau	3,150	4,500	3,178	3,955	
Mixed Heavy Hardwood	961	965	706	960	
MEDIUM HARDWOOD					
Keruing	1,200	968	1,059	2,203	
Kempas	1,750	2,331	2,239	2,331	
Kapur	1,700	1,746	1,412	1,746	
Mengkulang	1,250	2,119	996	2,119	
Tualang	1,400	2,472	2,331	2,493	
LIGHT HARDWOOD					
Dark Red Meranti	2,100	2,036	1,695	1,947	
Red Meranti	1,770	1,992	1,801	2,119	
Yellow Meranti	1,200	1,342	1,236	1,271	
White Meranti	1,480	2,472	1,412	2,260	
Mersawa	1,550	1,730	1,589	1,907	
Nyato	1,300	1,518	1,059	1,130	
Sepetir	1,370	1,695	918	1,695	
Jelutong	1,100	1,780	1,215	1,730	
Mixed Light Hardwood	827	1,024	904	918	
MALAYSIAN RUBBERWOOD					
<i>Hevea brasiliensis</i>	LOGS/tonne	SAWNTIMBER/m ³			
		1" X 1"	2" X 2"	3" X 3"	4" X 4"
	180	890	1,359	1,530	1,768
PLYWOOD 4' X 8'					
(RM per piece)	4 mm	6 mm	9 mm	12 mm	
	14.60	22.00	38.00	48.00	
MDF 4' X 8'					
(RM per piece)	4 mm	6 mm	9 mm	12 mm	
	13.50	18.05	23.85	31.10	

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

* Prices are only indicative

Cont. from page 11

Malaysia : Export of Wooden Furniture (Jan 2017 - Jan 2018) / Value (RM Million)



Source : Department of Statistics, Malaysia

VENEER

Export of veneer for January 2018 increased by 14% in volume and 2% in value to 17,084 m³ at RM25.94 million as compared to the previous month. Exports to Taiwan and Australia have both increased by 102% to 8,285 m³ and 103 m³ respectively. Similarly, the Philippines also increased its intake by 1% to 808 m³. Contrarily, China and South Korea have decreased their intake 19% and 15% to 2,267 m³ and 4,189 m³ respectively. Exports to India and Singapore also have decreased by 70% and 36% to 186 m³ and 9 m³ respectively. Meanwhile, Canada, Chile and Viet Nam did not make any purchases this month, however, Italy resume its intake.

The FOB price of veneer for January 2018 is at RM1,518 per m³, a decrease of 9% from RM1,670 per m³ on the previous month.

BUILDERS JOINERY AND CARPENTRY (BJC)

Total BJC cumulative exports from January 2018 decreased 2% to RM99.30 million as compared to RM101.72 million in the corresponding period last year. Export to the EU increased 6% to RM31.11 million. Export to the Netherlands, France, Belgium and the UK increased by 159%, 105%, 46% and 22% to RM2.34 million, RM4.34 million, RM 4.57 million and RM13.73 million respectively. Meanwhile, export to the Denmark and Germany decreased by 54% and 25% to RM1.63 million and RM1.76 million compared to the previous year. However, Sweden, Italy and Turkey did not make any purchases.

In Asia, exports to Viet Nam, Taiwan and Thailand grew 396%, 11% and 1% to RM 6.23 million, RM1.05 million and RM2.54 million compared to the previous month. However, exports to Pakistan, Saudi Arabia, the UAE, Japan, Singapore and India decreased by 97%, 93%,

31%, 28%, 24% and 14% valued at RM152.11 thousand, RM77.41 thousand, RM610.50 thousand, RM5 million, RM8.35 million and RM3.50 million respectively. However, South Korea, Qatar and Bahrain did not make any purchases.

Exports to Australia increased by 7% to RM21.70 million compared to the previous year. Meanwhile, South Africa also increased its purchases by 35% to RM1.44 million. Likewise, the US increased its intake by 15% to RM10.66 million from RM9.30 million in the previous corresponding period. However, Reunion Island and Mauritius did not make any purchases.

FURNITURE

Exports of wooden and rattan furniture for the period under review in 2018 decreased 2% compared to the corresponding period of 2017. Total shipment recorded RM682.26 million against RM698.44 million in 2017.

The US reduced its consumption by 5%, into RM253.15 million in 2018 from RM 266.92 million. Canada saw a modest increase of 10% to RM21.15 million.

In East Asia, China and Taiwan boosted its wooden furniture consumption by 74% and 80% with a purchase of RM15.20 million and RM6.16 million respectively. Meanwhile, Japan reduced its consumption by 16% to RM56.66 million.

In addition, shipments to ASEAN region such as Singapore increased by 19% to RM50.13million. The Philippines increased its intake by 66% to RM17.65 million.

Exports to West Asia saw positive improvements as the UAE and Saudi Arabia increased their intake by 8% and 1% to RM14.24 million and RM10.24 million respectively. Kuwait and Qatar increased their wooden furniture consumption by 11% and 96% to RM5.02 million and RM1.47 million respectively. Moreover, shipment to India recorded an increase of 29% to RM 18.90 million.

In Europe, the UK and France reduced its intake by 18% and 4% to RM35.83 million and RM5.46 million respectively. However, Belgium and Sweden increased their intake by 3% and 36% to RM3.67 million and RM2.80 million respectively.

Australia reduced its intake by 18% to RM44.76 million and export to South Africa also decreased by 14% to RM5.40 million.

Rattan furniture shipments in January 2018 recorded a negative growth with a decreased of 80% from RM3.05 million to RM612.65 thousand.

Export to Singapore decreased by 99% to RM5.21 thousand from RM573.34 thousand in the previous year. Similarly, other major countries did not make any purchases in January 2018. Elsewhere, Belgium resumes its intakes by RM43.79 thousand.

Cont. from page 3

Malaysia has also volunteered to be in the Core Group which includes member economies Australia, Canada, Chile, China, Japan, Indonesia, Malaysia, PNG, Peru, Philippines and USA. The function of the Core Group is to support the work of the Chair and the intersessional discussion on specific topics.

The Malaysian delegation was led by Encik Mohd Kheiruddin Mohd Rani, MTIB Director of Trade Development. Other delegates from Malaysia were Encik Abdul Wahab Ahmad, Forest Department Sarawak; Puan Hjh. Eda Hj. Edan, Sarawak Timber Industry Development Corporation; Cik Annie Ting Yien Ding, Sarawak Timber Association and Encik Md. Yusoff Ismail from MTIB.



Malaysian delegates.

The EGILAT 14 meeting is tentatively to be held in August 2018 in Papua New Guinea.

Timber World In Brief

Cont. from page 7



NEW ZEALAND

Radiata Pine Logs Firm Demand from China

In 2017, China once again increased its percentage share of New Zealand export of logs. China purchased an additional NZD519 million worth of logs than in 2016. China absorbed 76% of New Zealand's export logs in which by value increased 71% compared to the previous year.

China logs market was extremely stable through 2017. This stability is forecast to continue through 2018 due to the new China Building Code that will enforce in August which recognise radiata pine as timber structures and the continuation of manufacturing reforms in China.

The Chinese government also announced ban of harvesting indigenous forests which is favourable toward the demand for imported logs and wood products into China and Russia signalling tariff increases on wood exported to China will likely continue to have the greatest impact for radiata pine log exports.

interest.co.nz, 14 February



GHANA

Inaugurates Wood and Furniture Testing Centre

Ghana has established wood and furniture testing centre at Fumesua, near Kumasi, as part of a deliberate push to add more value and substantially improve the quality of locally-manufactured furniture.

Equipped with the state-of-the-art facilities for furniture, wood, plywood and wood-based panels testing, it would aid the growth of the sector through efficient utilisation of wood species, product development and standardization.

The centre is the first of its kind in the West Africa sub-region and the third in Africa, coming only after Egypt and South Africa, and it was set up by the United Nations Industrial Development Organization (UNIDO), with the inauguration of the facility, furniture manufacturers could now process and produce products that met international standards.

The Government of Switzerland provided the funding under the Trade Capacity Building (TCB) Programme of the State Secretariat for Economic Affairs (SECO).

businessghana.com, 9 February

NATIONAL CERTIFICATION SCHEME FOR PLYWOOD

The Product Certification Scheme for plywood is operated by the MTIB Certification Body (MTIB CB) which started in 2012. The scheme is essentially voluntary in nature, which determines conformity with product standards through initial testing and assessment of a Factory Quality Management System. It is followed by Surveillance that takes into account the Factory Quality Management System and the testing samples.

We committed:

- To provide services to our customers consistently, efficiently and professionally
- To conform customers' needs and to all product certification requirements

**Products Certification -
Towards Widen Market
Access and Trade
Facilitation**

Further enquiries or information kindly contact:

Product Certification Unit
Director-General Office
Malaysian Timber Industry Board
Level 13-17, Menara PGRM, No.8, Jalan Pudu Ulu, Cheras
P.O Box 10887, 50728 Kuala Lumpur
Tel: 603-9282 2235
Fax: 603-92003769/ 92846214
website: www.mtib.gov.my



Ministry of Plantation
Industries and Commodities



MS ISO/IEC 17065:2012
PC 03042012 CB/06



COMMITTEE MEETING ON CHAIN OF CUSTODY OF WOOD AND WOOD-BASED PRODUCTS

news



Attendees during the meeting

The ISO/PC 287: Chain of Custody of Wood and Wood-based Products Committee is responsible for the development and the standardisation of the chain of custody (CoC) of wood and wood-based products as well as other materials such as bamboo. The CoC relies on a control system to track the products through a supply chain which includes transportation, receipt, production, sale, resale and declaration.

The Fifth Meeting of the ISO/PC 287 was held from 5 to 9 February in Berlin, Germany, hosted by German Institute for Standardisation (DIN). The objectives of this meeting were to further deliberate on the document of ISO/DIS 38200, Chain of Custody of wood and wood-based products as well as to amend and consider collated comments from participating member countries from the previous meeting held in 2016 in China. The meeting was chaired by Mr. Jorge Emanuel Reis Cajazeira, Corporate Director, Suzano Pulp and Paper, Brazil. The convener of the working group ISO/PC 287/WG 1, Prof. Dr. Michael, presented an overview of the critical issues related to the annexes and tasks for the revision of ISO/DIS 38200. A total of 375 comments received from participating member countries towards the ISO/DIS 38200 draft which were circulated during a balloting process, were discussed and reviewed thoroughly by the experts.

In addition, several issues were also discussed during the meeting including the proposal to expand the work of Project Committee ISO/PC 287 through the establishment of a new technical committee which covers forest activities. The proposed scope of the new TC 287 is standardisation in the field of forest activities including systems and good practices, logging processes, CoC of wood and wood-based products, timber tracking as well as timber measurement. In this context, the committee proposed to create an adhoc group comprising Brazil, Canada, Denmark, France, Sweden and the United Kingdom to consolidate the proposal prior to submitting to the ISO Technical Management Board (ISO TMB).

The meeting was attended by 39 delegates from 12 countries namely Austria, Brazil, Canada, China, Denmark, Finland, France, Germany, Malaysia, Sweden, Spain and the United Kingdom. Representatives from liaison organisations namely European Environmental Citizens' Organisation for Standardisation (ECOS), Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC) were also in attendance during the discussion sessions. Malaysia was represented by two delegates - Puan Nor Shahira Mat Nasir from MTIB and Puan Pang Suet Kim from Malaysian Wood Industries Association.

39 delegates from 12 countries namely Austria, Brazil, Canada, China, Denmark, Finland, France, Germany, Malaysia, Sweden, Spain and the United Kingdom

Meeting on Chain of Custody of Wood and Wood-based Products

RKI INDUSTRIES SDN. BHD.:

MOVING FORWARD WITH GREATER AUTOMATION
AND ADVANCED TECHNOLOGY

BRIEF HISTORY

Latitude Tree Holdings Berhad was incorporated in Malaysia as an investment holding company. Through its subsidiary companies, the Group specialises in the manufacturing and sale of wooden products, mainly furniture, furniture components, laminated boards and panel boards for both the domestic and export markets.

The Group has carved out a strong niche in the household furniture segment, specifically dining and bedroom sets. From its humble beginnings as a manufacturer of chairs for dining sets in 1988, the Group has grown into a complete high-and-medium-end dining and bedroom sets manufacturer. About 60% of its raw materials are Rubberwood-based with the remaining being Oak, Cherry, Poplar, Beech, Ash, Pine and other wood-based materials.

The Group has made great advances to position itself as one of the largest wood furniture manufacturers and exporters in Malaysia and Viet Nam. Approximately 99% of the



Encik Mohamad Annuar Hj. Kamarudin
(Business Development)

**A company that utilises
modern technology
to build high quality
wood-based panels.**

**“ELEGANT, NEW
DESIGN AND BETTER
QUALITY”**

Encik Mohamad Annuar Hj. Kamarudin



Rhong Khen Industries Sdn. Bhd. factory.

Group's products are exported overseas, mainly to Europe, the United States of America, Canada, China, South Africa, Australia and the Middle East.

Rhong Khen Industries Sdn. Bhd. (RKI) is a subsidiary of Latitude Tree Holdings Berhad. The company was incorporated in Malaysia in 1992 and its principal activities are manufacturing and exporting of wooden furniture and products.

RKI manufacturing activities are operated from its factory in Kapar, Klang with a total floor area of approximately 200,000 square feet. The current workforce is made up of about 100 workers.

PRODUCTS

Solid Rubber Wood Furnitures

From traditional piece-meal furniture, RKI has shifted strategically into the manufacture of panel furniture, decorative wood panels, printed panels, polyester boards and paper printing as a response to the shortage of skilled furniture workers in Malaysia.

RKI specialises in decorative wood panels, printed panels, polyester boards and paper printing. RKI has developed an extensive range of products to cater for different customers' requirements and expectations. The company has a team of in-house designers, technicians and developers who are able to develop products that meet customer requirements and tastes for different markets. RKI has an extensive range of designs, patterns, and concepts to choose from which can be altered to suit individual needs and the designs are fresh, dynamic and original.

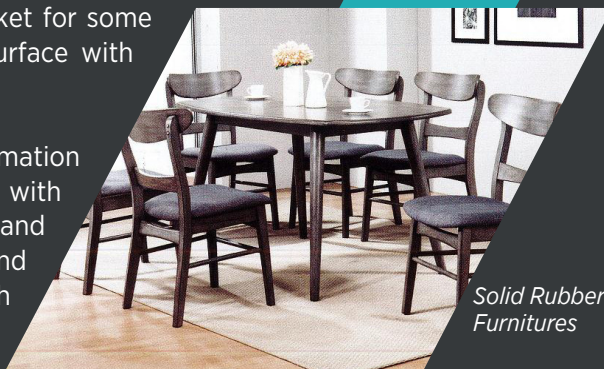
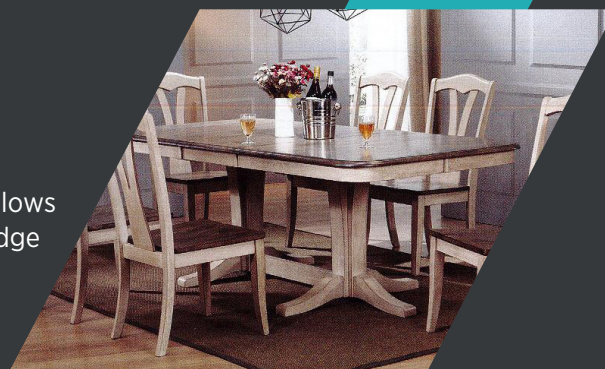


BUSINESS STRATEGY

RKI's strong focus on production efficiencies and production costs allows it to produce higher quality products which maintain a competitive edge over similar products in the marketplace.

With advancements in the technology printing industry especially in 3D printing, the market for decorative panel boards and printed panel boards are expanding and replacing the market for some veneer products because they can enhance the surface with natural woodgrain characteristics.

RKI has also been moving towards greater automation in its production facilities by equipping its factory with technologically-advanced automated machinery and equipment such as the 6-head Printing Machine and fully automated lamination and UV machines, which allow for greater productivity and efficiency in the production process.



Solid Rubber Wood Furnitures

Company Details

Encik Mohamad Annuar bin Hj. Kamarudin (Business Development)

Rhong Khen Industries Sdn. Bhd.

Lot 519, Jalan Jati Kiri, Batu 8,
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42200 Klang
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Fax : +603-32507988

Email : nuarja84@gmail.com



References :

- Company's promotional media
- Interviewed Encik Mohamad Annuar Haji Kamarudin, representative from Rhong Khen Industries Sdn. Bhd.

LEAN TRANSFORMATION PROGRAMME AS A GAME CHANGER FOR INNOVATION CULTURE

IN C.K. BAN SOON LEE COMPANY

FEATURE

I have never heard of the word Lean before we joined this programme. But today, Lean practice has helped us generate unconventional and effective solutions for daily challenges.

The Lean effort has also helped us to increase productivity by using less resources while the company can enjoy more benefits. Now we know how to map our processes with Visual Stream Mapping (VSM) and other Lean tools, in order to deliver premium products to the whole world, on time, at a competitive price.

Comments from Encik Ch'ng Cheng Hai, Managing Director

COMPANY BACKGROUND

In 1986, Perabot Soon Lee was founded by Encik Ch'ng Cheng Hai. The company initially manufactured and sold kitchen cabinets and bedroom sets. After its sixth year of operation, Ban Soon Lee Industries Sdn. Bhd. was established in order to diversify the business into metal furniture. Both companies then moved to its current location at Changkat, Nibong Tebal, Penang, which measures 32,758.00 sq metres of land area and they were both renamed C.K. Ban Soon Lee Industries Sdn. Bhd. and N. T. Soon Lee Furniture Sdn. Bhd. in year 1997.

After 31 years since their establishment, the companies have set up two new production lines, with the capacity to produce 60 - 100 40-ft

HQ containers a month. The companies are 100% export-oriented and mainly export to Japan, Europe and Australia. The company's R&D innovative ideas blending with skilled craftsmanship, create popular mixed wood and metal furniture. Thirty-one years of industry excellence has led C.K. Ban Soon Lee Industries Sdn. Bhd. to become an established international furniture supplier.

Perabot Soon Lee renamed to C.K. Ban Soon Lee Industries Sdn. Bhd.

SPECIALITIES PRODUCTS

The speciality products made by C.K. Ban Soon Lee Industries Sdn. Bhd. depend on customer orders such as Do-It-Yourself (D.I.Y) and Ready to Assemble (RTA) furniture, space saving furniture, bedroom sets, storage furniture systems and multiple-use furniture for work and rest in the same comfort zone.

MARKET SEGMENT

More than 95% of C.K. Ban Soon Lee Industries Sdn. Bhd.'s customers are from highly-developed economies such as Japan, the United Kingdom, the USA, Singapore, Italy and France. The biggest annual buyers in 2016 were Japan with 58%, followed by Australia and New Zealand (19%), Europe (15%), other Asian countries (3%) and other countries (5%).



Bedroom sets for children.



INTRODUCING LEAN TRANSFORMATION PROGRAMME

11 November 2016 was the day C.K. Ban Soon Lee Industries Sdn. Bhd. took the first step forward in adopting an innovative work culture in their manufacturing process. Lean management was a new term to the company. The company took part in the Lean management journey, organised by MTIB for 13 timber companies around the Peninsular Malaysia, for a six-month implementation period.

The top management took one month to shift the mind-set paradigm of their workforce and have them learn the new work culture, adopted from Toyota Production System (TPS). Lean Management, as it is called, is applied in manufacturing processes in global companies such as Toyota Motor Corporation, Boeing, Mitsubishi Corporation, General Motors, Ford and Spirit Aerospace.

During its Lean journey, four Kaizen projects were chosen from CK9964 (products code) - packing processes for bedroom sets comprising of desk, chest, open shelf and bed parts/long shelf using the Value Stream Mapping (VSM) scope. The Lean tools used for the projects were Plan Do Check Action (PDCA), Heijunka (Level Scheduling), Value Stream Mapping (VSM), Takt time, Re-arrange, Visual Factory, Standardised Work and Gemba.

After a brainstorming prioritisation session was conducted, 11 issues were identified by team members. The list of major issues are as below:

- Dowel is difficult to complete
- Touching and edging takes time
- Assembling metal rail process takes time
- Setting up work takes time
- Packing process is imbalanced
- Removing to warehouse takes time
- Huge manpower is required to run a complete flow
- Lack of talented workers and too many new part

time workers

- Too many pre-packaging steps
- Operators are forced to work longer and harder, causing sickness and increased leaves
- Workers refuse to work in packing department

Before the Kaizen process, the company faced a lot of problems, as stated below:

9964 – Desk Code

- Some of the parts especially desk frames and desk drawers were processed as Work In Process (WIP)
- Workers always accidentally damaged the WIP when they moved the pallets in a small area
- The flow of packing process was imbalanced
- The output was inconsistent and hard to track
- At least 10-12 workers were needed to do pre-packing tasks such as inserting dowels, installing drawer slides, assembling desk frames and desk drawers
- Too many non value-added activities
- Lead time = 28-42 hours for 1,800 sets of desk (Packing department only)
- Complaints/negative feedback from customers pushed workers to pack faster, causing inability to control quality
- Management and workers felt stressed when working in the production floor

9964 – Chest Code

- Some of the parts especially side panels and chest drawers were processed as WIP
- Workers always accidentally damaged the WIP when they moved the pallets in a small area
- The flow of packing process was imbalanced
- The output was inconsistent and hard to track
- At least 15 workers were needed to do pre-packing tasks such as inserting dowels, installing drawer slides, assembling side panels and chest drawers

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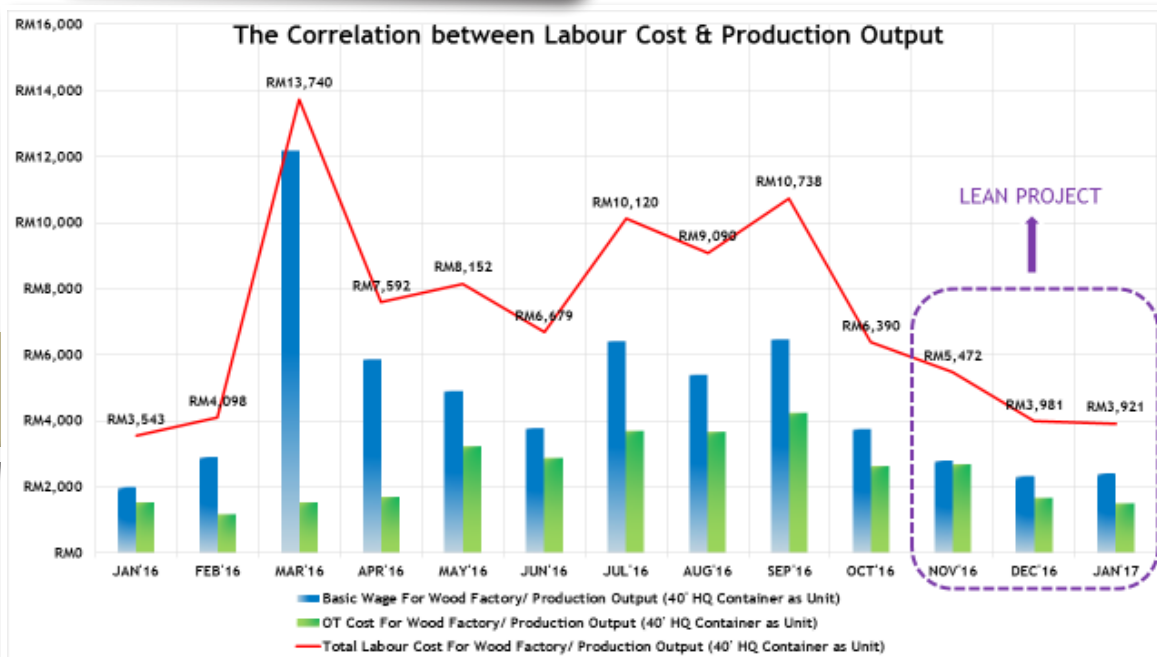
- Too many non value-added activities
- Lead time = 42-50 hours for 1,800 sets of desk (Packing department only)
- Operators were too tired and afraid to work in the packing line due to tedious packing method
- Management and workers felt stressed when working in the production floor

9964 - Open Shelf Code

- The output was inconsistent and hard to track
- At least five workers were needed to do pre-packing tasks such as inserting dowels and placing stickers
- Unnecessary motions and transportation were occurring
- Changeover time between each batch order was long
- Lead time = 18-20 hours for 1,800 sets of open shelf (Packing department only)

A time study, a re-layout of the work station, a pull system, a line balancing and a continuous flow were done by the Lean team during the Lean implementation period from November 2016 until January 2017. The results showed a positive impact on their working environment, an increase in productivity at company level, reduce of waste in production manufacturing and a higher profit margin.

Graph 1: The Correlation between Labour Cost and Production Output



Source : C.K. Ban Soon Lee Industries Sdn. Bhd.

LEAN IMPACT PROJECTS

The Lean Impact Project in C.K. Ban Soon Lee Industries Sdn. Bhd. was divided into intangible and tangible benefits. The list of intangible benefits are as below:

- Reduced space requirements
- A less stressful environment
- A better and clearer roadmap for management on the production schedule
- Strong foundation to start other Lean processes such as Just in-time (JIT) and Kanban
- Main elements such as 4M become controllable for production management
- Production management starting to be concerned about D.O.W.N.T.I.M.E. and trying to eliminate waste
- Improved throughput by strengthening the weakest link (packing department) in the manufacturing process

Tangible benefits were seen in the amount saved by the company and in the increase in profit margin. The total amount saved by the company was RM4,694,486. The savings from labour cost and overtime were RM612,000, the increase in productivity was RM814,154, while the quality aspect such as rework and products rejected was RM66,012. Due to the creative and innovative use of the Kaizen approach, the company increased its production output from 20 containers to 44 containers from November 2016 to January 2017 and sales margin (Lean time reduction) was RM3,202,320.

LEAN ACHIEVEMENT AND RECOGNITION

C.K. Ban Soon Lee Industries Sdn. Bhd. won first place in the MTIB Lean Creanova 2017, held on 13 April 2017 in Bangi, Selangor and won the Best Kaizen Award during the MPC National Lean Creanova, organised the Malaysian Productivity Corporation (MPC) on 19 May 2017 in Shah Alam, Selangor.

Conclusion



C.K. Ban Soon Lee Industries Sdn. Bhd. factory.

The outcome of Lean transformation journey of C.K. Ban Soon Lee Industries Sdn. Bhd. has impressed many furniture companies in the Northern region resulting in their interest to learn and adopt Lean manufacturing in their production systems. Encik

Ch'ng Cheng Hai spoke on the impact of the Lean project during the Lean Creanova and Lean Awareness Programmes conducted by MTIB in 2017 to promote Lean culture in the timber and furniture industry in Peninsular Malaysia.



More space available after application of the Lean Heijunka technique.

For further information, please contact:

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References:

- C.K. Ban Soon Lee Industries Sdn. Bhd. slide presentation on MTIB Lean Creanova and MPC Lean Creanova
- Interviewed with Encik Ch'ng Cheng Hai, Managing Director by MTIB on 10 December 2016 and 24 January 2017.
- Interviewed with Encik. CL Ch'ng, Chairman Lean Team and Ch'ng Ai Lin, Finance Manager C.K. Ban Soon Lee Industries Sdn. Bhd. by MTIB on 10 December 2016, 24 January 2017 and 19 May 2017.

UPCOMING events - JUNE 2018

**5-8
JUNE 2018**

KBC-KITCHEN AND BATH CHINA 2018

International Exhibition for Modern Decoration, Home and Office Design, and Furniture
VENUE : Shanghai New International Expo Centre, China.

ORGANISER : Wes (Worldwide Exhibition Services Co. Ltd.
Tel : + 86 21 - 32224777 Fax : + 86 21 - 62557740 E-mail : info@wes-expo.com.cn

LAOFURNITURE 2018

Laos International Furniture, Architecture and Interiors Show
VENUE : Lao-ITECC Exhibition Centre Vientiane Capital, Lao PDR

ORGANISER : AMB Tarsus Event Group Kuala Lumpur, Malaysia
Tel : + 603 2692 6888 Fax : + 603 2692 2788 E-mail : support@ambtarsus.com

**7-9
JUNE 2018**

**8-10
JUNE 2018**

LEBENSAER MESSE - BAD NEUENAGR 2018

International Garden, Home and Lifestyle
VENUE : Kurpark Bad Neuenahr, Germany

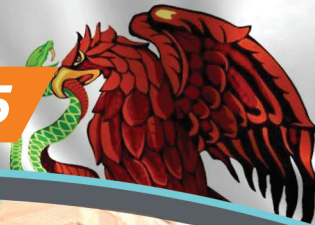
ORGANISER : Das AgenturHaus GmbH
Tel : + 49 0451 899060 Fax : + 49 0451 899063 E-mail : info@das-agenturhaus.de

HEIMTEXTIL INDIA 2018

International Trade Fair for Home Furniture, Textile and Accessories
VENUE : Pragati Maidan Delhi, India

ORGANISER : Messe Frankfurt Trade Fair India Pvt, Ltd.
Tel : + 91 22 61445900 Fax : + 91 22 61445999 E-mail : info@india.messeiefrunkfurt.com

**27-29
JUNE 2018**



MEXICO

FURNITURE OUTLOOK



Mexico is a federal constitutional republic located in North America. It is bordered on the north by the United States of America; on the south and west by the Pacific Ocean; on the southeast by Guatemala, Belize and the Caribbean Sea; and on the east by the Gulf of Mexico. Mexico is the fifth largest country in the Americas by a total area covering almost two million square kilometres and it is also the 13th largest nation in the world. In addition, Mexico is the world's 11th most populous country and the most populous Spanish-speaking country. Mexico's economy is also part of the North American Free Trade Agreement (NAFTA), a trilateral trade bloc in the region comprising the US, Canada and Mexico.

Economy

Mexico has a free market economy in the trillion-dollar class. It contains a mixture of modern and outmoded industry and agriculture, fisheries and farming and increasingly dominated by the private sector. The government has expanded competition in seaports, rail transportation networks, telecommunications, electric power generation, natural gas distribution, and airports.

The Mexican economy performed better than expected during 2017 with an annual Gross Domestic Product (GDP) growth at 2.4%. Conditions on financial markets have also improved as the Peso appreciated with respect to the US dollar, following a significant depreciation in the early of 2017. Resilience to shocks, sensible monetary and fiscal policy responses, as well as a gradual improvement in the country's external environment managed to restore confidence and strengthen economic activity.

The Organisation for Economic Co-operation and Development (OECD) raises outlook for Mexico economy for the 2018-2019. After achieving 2.4% in 2017, the Mexican economy will continue to grow at rates above 2% in 2018. The same will hold in 2019. Fiscal performance is improving with the process of fiscal consolidation is on track, limiting the growth

of debt and keeping financing costs low. Monetary policy continues to be independent, responsible and reliable. Although inflation has exceeded its forecast range, the Bank of Mexico has taken appropriate decisions to reduce the inflationary index over the course of 2018, raising interest rates from 3% at the end of 2015 to around 7% at the end of 2017.

Forest Distribution

Mexico is moderately forested with about 30% forest and woodland cover. Mexico is rich in temperate and tropical forests. Mexico possesses 1.3% of the world's total forest resource, with one quarter of the total land area classified as forest lands. Mexico is exceptionally rich in Pines in which there are in total 72 species, varieties and forms, more than any other country in the world.

Of 192 million hectares total land area, approximately 50 million hectares are wooded, made up of both coniferous and broad-leaved forests. Mexico has, however, a broad range of climatic zones and these give rise to a broad range of vegetation and forest types. More than 70% of the country is classified as semiarid, or drier, but Mexico also has wet humid zones, as well as montane and alpine vegetation. Lowland forest is mainly broadleaved, with significant areas of dry and arid-tropical forest, particularly on the west coast, and moist tropical forest on the



southern Yucatan peninsula. Inland montane regions, notably in the Sierra Madre ranges, have large areas of mixed coniferous forest, dominated by Pine and

Fir species, but also with significant proportions of Oak. Mexico has a moderate area of, mainly Pine species, plantations.

Timber Production

According to the FAO 2016 forest statistics, Mexico

produced about 4.1 million m³ of logs followed by 2.2 million m³ of sawntimber, particleboard 754 thousand m³ and veneer 350 thousand m³.

Mexico : Production of Timber, 2012-2016

(Volume:m³)

Product	2012	2013	2014	2015	2016
Logs	4,017,000	4,124,000	4,124,000	4,124,000	4,124,000
Sawntimber	2,210,000	2,268,000	2,248,000	2,248,000	2,248,000
Veneer	350,000	350,000	350,000	350,000	350,000
Plywood	135,000	127,000	111,000	111,000	111,000
Particleboard	738,000	769,000	754,000	754,000	754,000
Total	7,450,000	7,638,000	7,587,000	7,587,000	7,587,000

Source: FAO

Mexico's Import of Timber and Timber Products

Mexico's import of timber and timber products in 2017 worth USD4.3 billion, an increase of 2% over the previous corresponding period. Mexico import mainly wooden furniture, sawntimber, plywood,

and mouldings. Import of wooden furniture and sawntimber totalled USD2.7 billion and USD574.8 million respectively. In the meanwhile, import of plywood totalled USD302.9 million followed by mouldings with USD172.3 million and fibreboard with USD152.5 million.

Mexico: Import of Timber and Timber Products, 2013-2017

(Value: USD'000)

Product	2013	2014	2015	2016	2017
Wooden Furniture	2,584,187	2,673,975	2,772,203	2,684,091	2,711,086
Sawntimber	499,761	517,241	542,160	534,661	574,840
Plywood	282,213	314,832	324,354	304,266	302,933
Mouldings	92,637	124,849	154,498	155,372	172,256
Fibreboard	237,524	208,544	221,354	176,564	152,450
Particleboard	66,715	68,996	76,455	81,601	83,505
Veneer	67,660	67,048	75,908	67,573	65,547
BJC	51,369	65,479	61,592	54,108	46,571
Logs	8,381	11,831	12,383	11,955	10,030
Others	143,039	145,680	160,127	175,230	193,732
TOTAL	4,033,486	4,198,475	4,401,034	4,245,421	4,312,950

Source: International Trade Centre

Mexico's Export of Timber and Timber Products

Mexico's export of timber and timber products in 2017 recorded an increase of 4% to USD8.3 billion compared from the previous year. Mexico export mainly wooden furniture, mouldings, BJC and

particleboard. Export of wooden furniture and mouldings totalled USD7.8 billion and USD99.3 million respectively. In addition, export of BJC totalled USD66 million followed by particleboard at USD11.4 million.



Mexico: Export of Timber and Timber Products, 2013 - 2017

(Value: USD'000)

Product	2013	2014	2015	2016	2017
Wooden Furniture	6,223,216	7,241,700	7,310,263	7,542,194	7,758,862
Moulding	77,055	78,963	85,410	85,029	99,336
BJC	45,901	53,317	60,743	55,832	66,032
Particleboard	29,451	13,104	12,824	12,562	11,359
Logs	17,355	15,621	8,113	7,101	9,505
Sawntimber	15,554	11,977	9,505	9,480	9,445
Fibreboard	1,769	1,249	2,160	2,554	6,244
Plywood	4,109	5,401	4,327	3,813	4,941
Veneer	2,667	2,129	2,231	1,859	2,308
Others	294,119	294,557	314,724	319,083	353,749
TOTAL	6,711,196	7,718,018	7,810,300	8,039,507	8,321,781

Source: International Trade Centre

Malaysia's Export of Timber and Timber Products to Mexico

In 2017, export of Malaysia timber and timber products to Mexico registered a decrease of 30% to RM98 million from RM140.6 million in 2016. Mexico ranked 30th with 0.42% of Malaysia's total market share. The majority of timber products exported

from Malaysia to Mexico is plywood. In 2017, plywood made up of 78% of Malaysia's total exports of timber and timber products in terms of value to Mexico. Other products exported were wooden furniture with a total value of RM15.6 million followed by fibreboard with RM4.2 million and particleboard with RM233 thousand.

Malaysia : Export of Timber and Timber Products to Mexico, 2013-2017

(Value:RM)

Product	2013	2014	2015	2016	2017
Sawntimber	0	0	0	99,347	0
Plywood	105,542,241	88,320,547	81,040,673	111,145,143	77,297,341
Veneer	0	0	0	88,956	233,442
Chipboard/Particleboard	0	0	0	0	396,024
Fibreboard	926,479	3,489,799	7,997,881	5,177,708	4,160,060
Wooden Frame	11,472,200	8,438,913	7,136,877	4,427,612	0
Wooden Furniture	10,348,744	9,138,139	15,607,138	19,262,563	15,572,451
Rattan	0	0	0	155,800	0
Other Products	47,364	58,706	356,659	202,015	379,553
Total	128,337,028	109,446,104	114,546,329	140,559,144	98,038,871

Source : DOSM/MTIB

Malaysia's Imports of Timber and Timber Products from Mexico

In 2017, import of Malaysian timber and timber products from Mexico registered a decrease of 78% to RM33.7 thousand from RMRM155.9 thousand in

2016. Major product imported from Mexico were wooden furniture with a total value of RM33.7 thousand.





Malaysia : Import of Timber and Timber Products from Mexico, 2013-2017

(Value:RM)					
Product	2013	2014	2015	2016	2017
BJC	5,823	0	0	0	0
Wooden Frame	0	0	306,797	0	0
Wooden Furniture	0	298,650	184,605	121,005	33,662
Other Products	0	132,392	0	34,930	0
Total	5,823	431,042	491,402	155,935	33,662

Source:DOSM/MTIB

Import Tariff

Mexico's import duty on timber and timber products ranges from 0 – 15%. Details are as follows:

HS Code	Product	Duty (%)
4401	Fuel Wood	0
4402	Wood Charcoal	0
4403	Logs	0
4404	Hoop Wood	5 – 8
4405	Wood Wool and Wood Flour	5
4406	Sleepers	5
4407	Sawntimber	0 - 5
4408	Veneer	0
4409	Mouldings	10 - 15
4410	Particleboard	10 - 15
4411	Fibreboard	3.3 – 5.0
4412	Plywood	7.0
4413	Densified Wood	6.7
4414	Wooden Frames	15
4415	Packing Cases	15
4416	Cask,Barrels, Vats and Tubs	10
4417	Tools Bodies and Handle	10
4418	BJC	14 - 15
4419	Tableware and Kitchenware	15
4420	Wood Marquetry	15
4421	Other Articles of Wood	10 - 15
9401-9406	Wooden Furniture	0 - 15

Source: WTO

Malaysia's Prospects in Mexico Furniture Industry

According to the International Trade Centre Statistics 2017, Mexico ranked sixth as furniture supplier in the world. The furniture industry had more than 20,000 companies, and employed almost 150,000 people. From the total of Mexican exports, 70% was wooden and the rest, metal and iron forged furniture. Ninety percent of exported furniture goes to the US and Canada , and in a marginal way to Europe, Caribbean and Central America.

In 1994 when the North American Free Trade Agreement (NAFTA) come into force started enter the market through WalMart, Office Depot, Home Depot and Office Max and the consumer has begun to purchase furniture, especially office furniture, of medium or low quality at low prices and a limited variety. To find a distributor of wooden furniture in Mexico, it is a common business practice to participate in trade shows and to conduct personal visits to furniture distributors and departmental stores. Large distributing companies prefer to negotiate directly with the foreign manufacturer. Medium, small and micro distributors usually prefer to deal with a representative based in Mexico, which could be one of those trading companies with ample knowledge on import regulations.

The companies devoted exclusively to the distribution of wooden furniture had a higher bargaining power than the producers. Some big producers of furniture (Riviera, International Kitchens, Burton, Grupo Dixy, Lopez Morton, Galerias Chipendale, Industrias Quetzal and Esquerro y Catala) had developed their own points of sale throughout the country to reach the final consumers. Most of the other producers reached their final consumers through big department and

retail stores such as Palacio de Hierro, Liverpool, Sears, Salinas y Rocha, and Dico (for the medium and high end market), and Viana and Elektra (for the medium-low end market segments). Since most wooden furniture sold in Mexico are made out of Pine and quality varies very much, Malaysian tropical woods are highly appreciated for their higher quality and price, although some furniture manufacturers are not aware nor familiar with Malaysian timber products.

Few companies are importing directly from Malaysia and have indicated that the Malaysian medium-priced furniture (dining rooms, bedrooms and office seats) could have a good reception in the Mexican market.

For the Malaysian wooden furniture exporter, the medium priced furniture (dining rooms and office seats) could have a good reception in the Mexican market. Another advantage of Malaysian wood furniture manufacturers is the difficulties faced among Mexican companies to offer a high and stable volume of wooden furniture to big domestic distributors. Not only that, Mexican exporting companies and big manufacturers of wood furniture offer a great potential for Malaysian timber exports such as plywood and veneer.

In addition due to the shrinking Mexican market, producers are focusing on foreign markets instead of the local market, specially the US and Central America. In this sector (Mexican exporting companies) could be a good market for Malaysian timber products.

In order to access the North American markets, some producers are taking advantage of the low labour costs to assemble furniture parts in Mexico and carry out other labour intensive activities like polishing, carving, marqueterie and varnishing. The design of the furniture, alongside its parts originates from the US. There are practically no import tariffs for Mexican furniture in the US. This scheme could be used by Malaysian companies already exporting to the US in order to secure access to the North American markets and lowering production costs.

References:

- economywatch.com/world_economy
- state.sc.us/forest
- World Trade Atlas (WTA)
- Department of Statistics Malaysia (DOSM)
- Malaysia External Trade Development Corporation (MATRADE)
- MTIB's statistics 

Malaysian Wood

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Tel : 603 - 9282 2235 , Fax : 603 - 9285 1477 / 9200 3769, E-mail : info@mtib.gov.my, Website : www.mtib.gov.my



Surian leaves

SURIAN

SUITABLE FOR DECORATIVE PANELLING

Surian is the timber belonging to the genus *Cedrela* of the family *Meliaceae*. The Standard Malaysian Name of the timber is Limpaga. It is of Sabah origin. In Peninsular Malaysia, two species are recognised, Surian Bawang (*C. serrata*) and Surian Wangi (*C. sureni*) (Desch, 1954). These two species have often been synonymously known as *Toona serrata* and *T. sureni* (Wong, 1980). Other vernacular names used are Ranggau (Sabah) and Tangisan burung (Peninsular Malaysia).

Common equivalent names in other ASEAN member countries are Surian (Indonesia) and Yom-Hom (Thailand). Both species, *C. serrata* and *C. sureni*, occur in hill forests between 600 m (2000 ft) and 1370 m (4500 ft) altitude, but *C. sureni* has been found at altitude as low as 240 m (800 ft) (Desch, 1954). *C. serrata* is common in Pahang, Perak and Selangor and *C. sureni* in the state of Kedah, Kelantan, Langkawi

Island, Negeri Sembilan, Perak, Pahang, Perlis and Selangor. The trees of *C. serrata* are generally tall and large. Specimens are often up to 4.6 m (15 ft) in girth and well above 30 m (100 ft) in height. The crown of Surian trees is large and deciduous. Its bole is the longitudinally fissured type with small or no buttresses. The bark is light or dark chocolate in colour.

General Characteristic

Surian is a soft and light timber with air-dry density ranging from 270 to 530 kg/m³ (17-33 lbs/ft³). The sapwood is grey-white or pink and is sharply differentiated from the heartwood. The heartwood is light red or red-brown when freshly cut, becoming russet-brown to quite dark-brown on prolonged exposure, with an aromatic smell. The grain is wavy or interlocked and the texture is moderately coarse and uneven due to the ring-porous nature of the wood. The timber with its wavy grain is highly lustrous and ornamental when polished.



Surian tree

Wood Anatomy

Growth rings are distinct to the naked eye due to their ring-porous structure. The vessels of the pore-ring are moderately large and the remainders are medium-sized. They are solitary and radial groups of two to three and are open or filled with dark-coloured, gum-like deposits. Wood parenchyma is rather scarce and in terminal layers just visible to the naked eye, while vasicentric parenchyma forming narrow sheaths to the vessels is visible only with lens. Rays are moderately fine to medium-sized and distinct to the naked eye on end and tangential surfaces but not conspicuous on radial surface. Ripple marks are absent. Intercellular canals of the traumatic type are present occasionally.

Sawing and Woodworking

The sawing and woodworking properties of Surian were assessed at the Forest Research Institute Malaysia, (FRIM) Kepong. The results are summarised in **Table 1**.

Table 1: Sawing and Woodworking Properties of Surian

Test Condition	Sawing		Planing		Boring		Turning	
	Resawing	Cross Cutting	Ease of Planing	Quality of Finish	Ease of Boring	Quality of Finish	Ease of Turning	Quality of Finish
Green	Easy	Easy	Easy	Smooth	Easy	Moderately smooth	Easy	Smooth
Airdry	Easy	Easy	Easy	Smooth	Easy	Moderately smooth	Easy	Smooth

Its resistance to splitting when nailed is rated as excellent.

SEASONING

The air seasoning results of Surian based on the standard test methods conducted by the FRIM, Kepong are summarised in **Table 2**. The timber seasons fairly rapidly, without any degrade, except for some slight warping.

Table 2: Air Seasoning Characteristics of Surian

Species	Air-dry Moisture Content (%)	Shrinkage (%) Green to Air-dry		Time to Air-dry (months)
		Radial	Tangential	25 mm board
<i>C. sureni</i>	18	1.1	2.7	3.5

Kiln Drying

Surian timber can be kiln-dried easily without any degrade. Boards of 25 mm kiln dry from 50% to 10% moisture-content in six days using schedule J (**Table 3**).

Table 3: Kiln Schedule J

Moisture Content (%)	Temperature (Dry Bulb)		Temperature (Dry Bulb)		Relative Humidity (%) (approx.)
	° F	° C	° F	° C	
Green	135	57	123	50.5	70
50	135	57	119	48	60
40	140	60	118	47.5	50
30	150	65.5	121	49	40
20	170	76.5	127	53	30

Source : Grewal (1979)

Table 5: Basic and Grade Stresses of Surian

Grade	Test Condition	Modulus of Elasticity		Modulus of Rupture (MPa)	Compression Parallel to Grain (MPa)	Compression Perpendicular to Grain (MPa)	Shearing Strength (MPa)
		Mean (MPa)	Minimum (MPa)				
Basic	Green	6,610	5,740	7.11	4.80	0.38	0.98
	Air-dry	7,120	6,050	10.35	8.90	1.11	2.18
Select	Green	6,610	5,740	5.69	3.84	0.30	0.78
	Air-dry	7,120	6,050	8.28	7.12	0.89	1.74
Standard	Green	6,610	5,740	4.48	3.02	0.24	0.62
	Air-dry	7,120	6,050	6.52	5.61	0.70	1.37
Common	Green	6,610	5,740	3.56	2.40	0.19	0.49
	Air-dry	7,120	6,050	5.18	4.45	0.56	1.09

References:

- Desh, H.E. (1954) - Manual of Malaysian Timbers. Mal. For. Rec. No. 15 Vol. 11.
- Grewal, G.S. (1979) - Kiln-drying Characteristics of Some Malaysian Timbers. Mal. For. Ser. Trade Leaflet No. 42.
- Mohd. Shukari Midon - Malaysian Timber. Mal. For. Ser. Trade Leaflet No. 93.
- Wong, T.M. (1980) - Leeser Known Timbers - III "Limpa" Timber Digest No. 22.

Mechanical Properties

Standard mechanical tests were conducted on small clear specimens of both green and air-dry materials.

The result are tabulated in **Table 4**. Based on the bending and compressive strength parallel to the grain, Surian is classified under Strength Group D. The basic and grade stresses were calculated and presented in **Table 5**.

Table 4: Strength Properties of Surian

Species	Test Condition	Modulus of Elasticity (MPa)	Modulus of Rupture (MPa)	Compression Parallel to Grain (MPa)	Compression Perpendicular to Grain (MPa)	Shearing Strength (MPa)
<i>C. sureni</i>	Green	6610	29.1	14.7	1.70	4.5
	Air-dry	7120	41.6	21.5	2.10	5.6

MTIB's courtesy visit to Majlis Rekabentuk Malaysia (MRM), Kuala Lumpur on 12 February 2018.



YBrs. Dr. Wan Lizozman bin Wan Omar, Permanent Secretary, Ministry of Urban Development and Natural Resources, Sarawak (front row-eighth from left) with his officials visited MTIB, Kuala Lumpur on 15 February 2018. YBrs. Dr. Wan was also accompanied by officials from Forestry Department Sarawak, STIDC, SFC, STA and Harwood Timber Sdn. Bhd.



Retreat for MTIB Management held on 2-3 February 2018 at Seri Kembangan, Serdang, Selangor. YBhg. Dato' Dr. Jalaluddin Harun FASc, MTIB Director-General (seated, centre) posing with MTIB officials.



MTIB's Corruption-Free Pledge Ceremony held on 15 February 2018 at MTIB HQ in Kuala Lumpur.



Students under the Vocational College Training Programme of WISDEC Selangor attending a briefing on 21 February 2018 at MTIB, Kuala Lumpur.



YAM Tunku Sallehuddin Ibni Almarhum Sultan Badlishah, Sultan of Kedah (right) visiting the MTIB booth during "Expo Muafakat Kedah" held on 24 February-3 March 2018 in Alor Setar, Kedah.