The US market for tropical wood products

US domestic manufacturers are feeling the effects of surging imports of tropical hardwood products

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THE US consumes only a very small percentage of the world's tropical wood-based products despite being one the world's largest producers, consumers and importers of hardwood forest products. In 2006, the US imported hardwood products valued at an estimated US$3.6 billion. This number, which does not include furniture and builders' joinery, is more than double that of five years ago. Only an estimated 30% of US hardwood product imports are of tropical timber origin.

High-end markets: Kitchen cabinets and doors of *Tectona grandis* (teak). *Photo courtesy of Scottiedog Woodworks*

Surge in imports of tropical wood products from China

Much of the expanded imports have been the result of a surge in low-cost production in countries such as China, Brazil and Indonesia. For many hardwood products, US supply sources have shifted from domestic manufacturers to overseas suppliers. This trend is particularly prevalent for plywood, flooring and mouldings as a consequence of the major expansion of Chinese production capacity over the past few years. The value of imports of tropical wood products (excluding wood furniture) to the US was an estimated US$1.6 billion in 2006 *(Table 1)*. Despite being a large share of imports, domestic consumption of tropical hardwood-based products accounts for less than 2% of the total US hardwood consumption.

Tropical timber species are used in distinct and important niche markets, most often in high-end market segments of furniture, cabinets, flooring, architectural woodwork, decking and mouldings. Other unique markets include specialized industrial applications such as for marine use and truck beds. In some applications, tropical species compete directly with temperate domestic species such as oak, maple, birch and cherry. For some uses, such as in boat-building and decking, tropical wood has distinct performance advantages. Tropical wood species often compete successfully with US domestic species because of their unique properties and aesthetics.

Three other market segments that are of particular interest to suppliers of tropical hardwood products (plywood, lumber and flooring) are discussed in more detail in this article.

Trending up

Table 1: Value of US imports of tropical wood products, 2002–2006 *(million US$)*

						CHANGE (%)	
	2002	2003	2004	2005	2006	05/06	02/06
ROUNDWOOD	0.8	0.8	1	0.7	0.9	29	13
SAWNWOOD	160	163	218	252	274	9	71
PLYWOOD	322	326	547	476	531	12	65
VENEER	31	32	36	41	40	-2	29
FLOORING	43	66	131	185	146	-21	240
MOULDINGS	52	54	77	78	81	4	56
BUILDERS JOINERY	266	285	372	419	509	21	91
TROPICAL HW, TOTAL	**875**	**927**	**1382**	**1452**	**1582**	**9**	**81**

Sources: US Customs data, Seneca Creek estimates

Doubling of hardwood plywood imports

The US market for plywood is huge, totaling an estimated 18 million m^3 in 2005. However, three-quarters of US plywood consumption is softwood, which is primarily for structural purposes. Although the manufacturing sector is large, the US still imports more than 22% of its needs, predominantly from Asia and Latin America. Unlike softwood plywood, which has been losing market share to oriented strand board (OSB) in the structural panel sector, overall demand for hardwood plywood has been fairly stable over the past five years.

Imports of hardwood plywood have accounted for an increasing share of total consumption. The US import value of hardwood plywood has gone from US$1 billion in 2003 to almost US$2 billion in 2006. As with so many other changes in the commodity market, China is the major driving force behind these increases. From practically no imports at all from China in 2001, the country is now shipping over 2.3 million m^3 of temperate and tropical hardwood plywood to the US *(Figure 1)*. Other major suppliers of tropical hardwood plywood in recent years have been Malaysia, Indonesia and Brazil. Tropical hardwood plywood, which is often used for flooring, cabinets and furniture, typically has a tropical veneer face and poplar, pine, rubberwood or eucalyptus in its core. Common tropical species are *Shorea* spp (meranti) from Malaysia, *Aucoumea klaineana* (okoume) from Africa, *Dipterocarpus* spp (keruing) from Malaysia and Myanmar, and *Dryobalanops* spp (kapur) from Malaysia.

US domestic plywood manufacturers are clearly feeling the effects of the surge in Chinese imports and have questioned practices conducted by Chinese plywood manufacturers and exporters. US companies have multiple complaints about Chinese plywood: 1) it is being sold at artificially low prices because of Chinese government subsidies; 2) it is being shipped with fraudulent labeling; 3) it is being misclassified to avoid tariffs; and 4) it is being manufactured from illegally harvested Southeast Asian logs. In addition, there are criticisms that this plywood emits higher levels of formaldehyde than American-produced plywood. The US government has formally filed a request with the World Trade Organization (WTO) regarding Chinese manufacturing subsidies and the US Senate has requested a government study on the competitive conditions affecting US hardwood plywood and flooring manufacturing.

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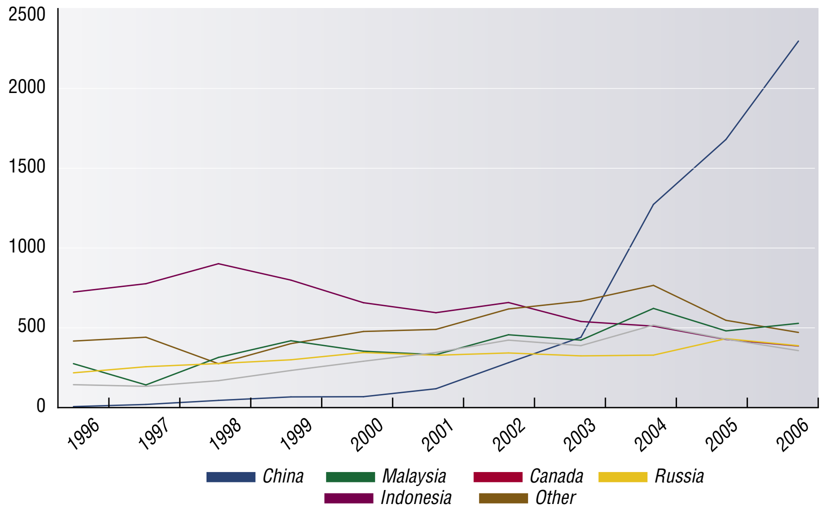
To keep or increase market shares in the US market, manufacturers of tropical hardwood plywood should be cognizant of HPVA voluntary plywood standards, focus on quality, reduce formaldehyde (particularly for product sales in the State of California where stricter regulations are expected), work more closely with US market intelligence sources and introduce lesser-known species that can be easily stained. In order to invest in quality, it is important to work through the entire production chain. Important steps include maintaining consistent quality of the veneer, having a better oversight of the gluing process and strict control of the moisture content (often less than 12%), ensuring consistency in dimensions and reliable supply for the customer, and finally, keeping timely deliveries and responding to customer complaints without delay.

Soaring China

Figure 1: US imports of hardwood plywood, 1996–2006 *('000 m³)*



Source: US Customs data

Tropical species: less than 2% of hardwood lumber demand

The total consumption of hardwood lumber in the US has averaged approximately 25 million m³ per year over the past ten years, with surprisingly small fluctuations over this time period. Demand surged briefly in 1999 and 2000 during the 'dot-com era', when demand for furniture and flooring increased hardwood lumber consumption to 28.5 million m³. The US relies predominantly on domestic sources of hardwood and very few imports. Less than 7% of consumption, or 1.6 million m³, was imported in 2006 (including both temperate and tropical hardwood), while total imports were valued at over $710 million *(Figure 2)*. In fact, the US has been a net exporter of hardwood lumber for many years. The major end-uses for high-quality hardwood are for furniture and remodeling, while much of the low-grade lumber is consumed in the industrial sector.

Hardwood lumber import volumes to the US fell last year from a record 1.9 million m³ in 2005, but were still twice as high as imports ten years ago. The biggest increase in imports in recent years has occurred for temperate hardwood species. However, tropical hardwood lumber accounted for 21% of hardwood imports by volume and 38% of value in 2006. Canada is by far the dominant supplier of hardwood lumber to the US, accounting for 54% of total imports in 2006. Germany is the second largest supplier of temperate hardwood, including oak and beech, accounting for about 4% of total imports.

Overall, importers and distributors are optimistic about the prospects for imported tropical hardwood lumber, although the softening in housing and construction activity will result in a short-term reduction in demand for hardwood lumber. While still accounting for a very small portion of US hardwood lumber consumption, the use of tropical lumber has been steadily increasing, and tropical species have found expanded use in applications such as decking and flooring.

Plummeting mahogany imports from Brazil

The majority of tropical lumber imported by the US originates from Latin America. Other major supply regions include Southeast Asia (Malaysia and Indonesia) and West Africa (principally Ghana and Cameroon). *Swietenia* spp (mahogany) has long been one of the most popular tropical

In demand: Floor of jatoba, also marketed as Brazilian cherry (*Hymenea* spp). *Photo courtesy of Scottiedog Woodworks*

species as well as one of the more expensive species imported to the US. Historically, Brazil was the largest supplier, but trade restrictions have curtailed most exports. Instead, Peru has taken Brazil's position as the major mahogany supplier, and in recent years mahogany lumber has also been sourced from Bolivia and a few other Latin American countries.

Mahogany imports plummeted after it was listed on the Convention on International Trade in Endangered Species (CITES) Appendix II in 2003. A listing requires official US permission for imports and a certificate from the exporting country assuring that exporting the product is non-detrimental to the survival of the species and that the product was obtained in compliance with all domestic laws.

The full impact of reduced availability of *Swietenia macrophylla* (big-leaf mahogany) is just starting to be recognized as fabricators have been working off of fairly large inventories built up before curtailments in shipments. Furniture and flooring manufacturers, as well as millwork shops, are beginning to use substitutes including less expensive species such as *Entandrophragma cylindricum* (sapele) and *Entandrophragma utile* (sipo, also marketed as utile or African mahogany). Other common species imported from Latin America are *Tabebuia* spp (ipe) and *Peltogyne* spp (purpleheart).

Manufacturers of tropical lumber need to understand the National Hardwood Lumber Association (NHLA) grading standards to enjoy more success in the US market, as well as work closely with importers to be able to ship the dimensions required by manufacturers of flooring, decking and furniture. Exporters can also increase the value of lumber by shipping kiln-dried wood (preferably with a moisture content less than 10%) and by offering products that are consistently high in quality and in dimensions.

Traditional oak flooring challenged

The US market for wood flooring has been growing fairly steadily since the second half of the 1990s. Government statistics put the hardwood flooring market at about US$2 billion, but other market research suggests it to be higher. The best estimate of hardwood flooring sales in 2005 places them at US$2.5 billion and laminate flooring sales at an estimated US$1.5 billion. Because laminate flooring sells for half as much, it has overtaken hardwood flooring in volume.

In the mid-1990s, imports of hardwood flooring to the US were insignificant, totaling only around US$20 million annually. In 2005, hardwood flooring imports totaled US$371 million and laminates added US$667 million. The big change came between 2002 and 2005, when China dramatically increased shipments to the US market ten-fold from US$15 million to US$140 million. With the declining US housing market in 2006, demand for flooring decreased slightly and Chinese imports were down to about US$115 million. Total imports of hardwood flooring in 2006 were valued at US$347 million.

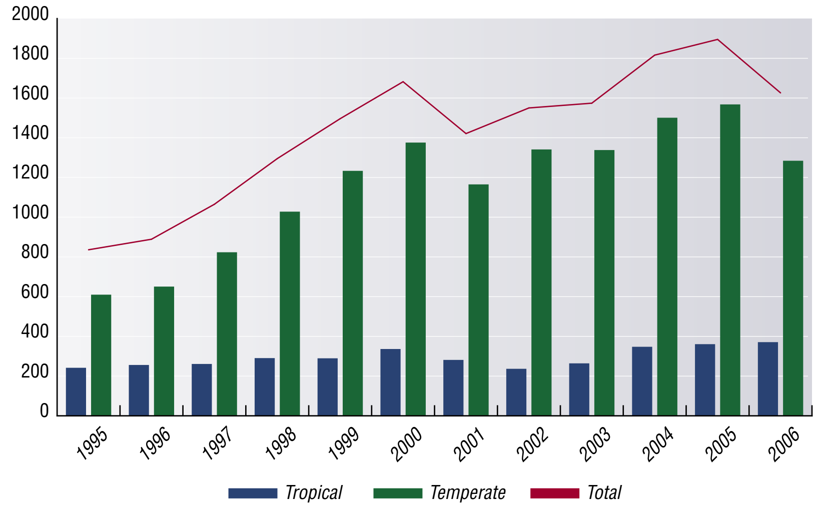
China supplies about one-third of all imported hardwood flooring

Although China has supplied about 30% of all imports by value for the past five years, a number of tropical wood-producing countries such as Brazil, Taiwan and Indonesia have also benefited from the increased interest in sourcing flooring products from outside the US. About one-third of flooring imports are supplied by ITTO-producing countries, including Malaysia, Indonesia and Brazil.

China is exporting flooring products of both tropical and temperate hardwood species predominantly produced from imported logs and lumber. This includes domestic species from the US shipped to China in the form of lumber for further processing into flooring products, and then re-exported back to the US market, as well as both temperate and tropical species from Asia, Latin America and Africa. Based on interviews and field work for this assessment, it

Holding steady

Figure 2: Hardwood lumber imports to the US, 1995–2006 *('000 m³)*



Source: US Customs data

is believed that approximately 65% of US total hardwood flooring imports and as much as 80% of US imports of Chinese flooring use tropical timber species. This estimate recognizes the fact that European and, to a lesser extent, Canadian flooring companies also produce some tropical wood flooring for export to the US market.

Although *Quercus* spp (oak) has traditionally been the species of choice for hardwood flooring in the US, demand has shifted to a broader mix of species, including many exotic tropical species. Among the popular tropical species for flooring are *Hymenea* spp (jatoba), sapele, and mahogany. Jatoba, also marketed as Brazilian cherry, accounts for the largest single share of the imported flooring market, an estimated 8%. While *Intsia bijuga* (merbau) from Southeast Asia used to be imported into the US, it accounts for a negligible volume of flooring sales today.

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Market research by the organization Metafore shows that there are opportunities for suppliers of tropical hardwood flooring products to increase sales in the US market, particularly for fixed-width lumber and pre-finished flooring products. In particular, light-colored species that can be easily stained to uniform colors have great potential. This trend towards higher usage of pre-finished products should create excellent prospects for suppliers that can deliver lesser-known tropical species of uniform quality.

Although there are opportunities to increase shipments of tropical hardwood flooring to the US by promoting certified wood, wood from plantations and by marketing new lesser-known species, there are also some major obstacles to an expansion of the market share for tropical wood. Some large importers of hardwood products to the US believe that certifying the wood might not help much in terms of marketing, as many in the general public are suspicious of all wood coming from tropical regions of the world, certified or not.

Challenges and opportunities ahead

Producers and exporters of tropical wood products will face a number of challenges in the US market in years to come. There will be increased pressure from large retailers to ensure legality of timber sourcing. Certain panel products will also have to meet stricter US standards in some places (eg, new regulations on permissible levels of formaldehyde emissions from panel products in California). It can also be expected that the demand for certified wood products will increase but probably not until sufficient and stable supplies are available without a significant premium. To date, the US market is not offering much of a premium, if any, for certified wood products. In 2007 and 2008, it can be expected that demand for most forest products, domestically produced as well as imported, will slow down, as the economy is weakening and housing starts are declining.

Despite these issues, there will continue to be great opportunities for manufacturers willing to adapt to new market conditions by producing high-quality products made to customers' specifications.

This article is an excerpt from the report Tropical Timber Products in the U.S. Market *by Seneca Creek Associates and Wood Resources International, LLC which was commissioned by ITTO in October 2006. The complete report is available from the ITTO Secretariat (itto@itto.or.jp)*