

CINTRAFOR NEWS

THE CENTER FOR INTERNATIONAL TRADE IN FOREST PRODUCTS

India: An Emerging Market for Wood Products

By Indroneil Ganguly, CINTRAFOR graduate student and Ivan Eastin, Director, CINTRAFOR.

Rapid increases in the import of wood products by wood processors in India suggest that the country is opening up to the international timber trade. This can be in a large part attributed to a series of policy decisions including the economic liberalization policies implemented since 1991, timber harvest restrictions in public forests and a gradual reduction in timber import restrictions. However, gaining successful entry into the Indian market will require a concerted effort on the part of US forest products manufacturers and industry associations.

Country Profile

India is the seventh largest country with a land area of 3.29 million square kilometers (2.3% of the world's land area) and a population of 1,083,869,215 (16% of the world's population). The Republic of India occupies most of the subcontinent of India in south Asia; bordering on China in the northeast, Pakistan in the west, Nepal and Bhutan to the north, and Burma and Bangladesh on the east. India also includes several groups of islands—the Lakshadweep (14 islands) in the Arabian Sea and the Andaman (204 islands) and the Nicobar (19 islands) in the Bay of Bengal. The Himalayas isolate South Asia from the rest of Asia. South of these mountains, the climate, like the terrain, is highly diverse. India's rainfall is influenced by the monsoons, which generate almost 80% of the annual rainfall across India. Agriculture is the mainstay of approximately two-thirds of India's population. Economic liberalization policies initiated in 1991 have helped support a sustained expansion of the economy over the period 1995-2004 and most economists expect the Indian economy to maintain a growth rate of 7% over the next decade. India is a multilingual country with 18 officially scheduled languages. While it is estimated that only about 12% of the general population speak English fluently in India (although most people in urban areas speak English to varying degrees), within the business and government sectors English is considered to be the official language.

Forest Resource

The forest resource of India was recently estimated to be approximately 637,000 square kilometers (19.4% of the total land area). While recent surveys suggest

that the forest cover in India has increased modestly, decades of over harvesting and neglect have severely degraded the forest resource. Two-thirds of the Indian forest resource is classified as tropical-moist and dry-deciduous forest types. Indian forests are primarily state owned with private and community forest ownership accounting for less

"The size and nature of the Indian market suggests that this is a market that the US forest products industry would do well to investigate more closely. At present the market lacks sufficient information on the physical attributes and workability of softwood species in general and US species in particular."

than ten percent of total forest area. Over harvesting and forest degradation prior to 1980 led to the imposition of a timber harvest ban by private entities in public forests and state harvests were limited to specific forest areas. These limited harvest restrictions were expanded by the Supreme Court to a total timber harvest ban covering all publicly owned natural forests in December 1996. As a result, plantation forests have come to represent a major source of raw material for the domestic forest products industry. The harvest of timber for the domestic wood processing industry was approximately 56 million cubic meters in 2004.

Domestic Forest Products Industry

The wood and wood products sector in India constitutes about 4.1% of the factories in the country and provides about 5.2% of the total industrial employment. The output of this sector is almost 2% of the country's total industrial output. The value of the total output of the wood and wood manufacturing in India was approximately 4.1 billion US dollars during the financial year 2001 - 2002. The wood products industry generates total wages and salaries of approximately US\$ 200 million, directly employing approximately 180 thousand people within the formal sector. The informal sector is estimated to employ roughly twice as many people as the formal sector.

India's wood and wood products industry is domestically oriented, highly fragmented and

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Director's Notes:

by Ivan Eastin

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The Center for International Trade in Forest Products addresses opportunities and problems related to the international trade of wood and fiber products. Emphasizing forest economics and policy impacts, international marketing, technology developments, and value-added forest products, CINTRAFOR's work results in a variety of publications, professional gatherings, and consultations with public policymakers, industry representatives, and community members.

Located in the Pacific Northwest, CINTRAFOR is administered through the College of Forest Resources at the University of Washington under the guidance of an Executive Board representing both large and small companies, agencies, and academics. It is supported by state, federal, and private grants. The Center's interdisciplinary research is carried out by university faculty and graduate students, internal staff, and through cooperative arrangements with professional groups and individuals.

In an earlier issue of the CINTRAFOR News I mentioned the critical role that graduate students play in the CINTRAFOR research program. This year we welcome three incoming graduate students at the start of the new academic year. The addition of these new graduate students brings the total number of graduate students in the CINTRAFOR program to eight, with seven receiving research assistantships through CINTRAFOR. In reflecting on our graduate program, I believe that there are three components to the education and training of these graduate students. The first component consists of the educational process that occurs as each student progresses through their academic coursework. The second component involves the application of the academic training through participation in relevant CINTRAFOR research. This second stage includes the mentoring that occurs as each graduate student works under the guidance of a faculty supervisor. Finally, the third component should include relevant work experience and mentoring within the forest products industry. Ideally both of these functions would be achieved through a summer internship for each graduate student.

Over the past several months I have engaged in informal discussions with a number of managers

from the forest products industry regarding the possibility of developing an internship program that would match CINTRAFOR graduate students with forest products companies in the Pacific Northwest. I was gratified by the enthusiasm with which the idea of graduate student internships was received. Several managers indicated that they would be willing to bring in an intern as soon as the program was up and running. Given this initial support for an internship program, it seems appropriate to move forward with the development of a CINTRAFOR graduate student internship program.

Over the next several months I will work with the CINTRAFOR faculty and Executive Board to develop the structure of an internship program. Key components of the internship program will likely include: developing an appropriate project for the graduate student to perform during their internship, identifying a mentor within the sponsoring company, and allowing the graduate student to participate in the broad array of work tasks within the company in order to enrich the internship experience. In anticipation of the development of the internship program, I would like to ask each of you to begin thinking about specific intern opportunities for a CINTRAFOR graduate student in your company for next summer. With your cooperation and support we can broaden and enrich the educational experience of our graduate students. And who knows, you may even identify a new employee through the CINTRAFOR internship program. ▲

CINTRAFOR to Co-Sponsor Upcoming China Conference in Vancouver BC

China continues to exert an enormous influence on the global forest products industry. On the demand side, China's biggest impact has been its increasing appetite for raw materials. However, the opportunities for exporting wooden building materials to China appear to be expanding and several presentations will focus on the market opportunity for imported value-added wood products in China. On the supply side, relaxed credit requirements,

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subsidies, and a low cost labor pool are just some of the factors that have contributed to the explosive export growth of wood products from China. This conference provides an opportunity to develop



a deeper understanding of the current and future impact of China on the global forest products industry through a broad range of in-depth presentations by some of the leading experts on China. *Please note that because of our extensive involvement as a co-sponsor of this conference, CINTRAFOR will not be holding our annual International Forest Products Marketing Conference in 2005.* ▲

Washington's Sawmilling Sector Analysis: Capacity Utilization Rates and Timber Outlook

By John Perez-Garcia, Associate Professor, CINTRAFOR,
J. Kent Barr and Jean Daniels, CINTRAFOR graduate students.

The state of Washington was the third largest producer of softwood lumber in the US during the period 1960-1991. The imposition of timber harvest constraints in California in the late 1980s resulted in Washington becoming the second largest producer of softwood lumber in the US. While harvest restrictions were also put in place in Washington and Oregon, their impact on the sawmilling sector in Washington was less. In fact, the volume of softwood lumber production in Washington is at its highest level since 1970 (Figure 1). However, regulatory constraints on timber harvests in state and federal forests in Washington have had a tremendous impact on the sawmill industry in two important ways. First, the size and quality of the log mix has changed substantially as the volume of private timber in the resource mix has increased. Second, the loss of federal timber resulted in the closure of many small mills that were almost totally dependent upon the federal resource for their raw material input.

Lumber manufacturing in Washington has become the principal consumer of wood fiber in the state. While there has been a substantial decline in the number of saw mills, and the volume of logs that cross timbershed boundaries continues to be significant, lumber manufacturing, a sector that consumed a small percentage of the log harvest level 20 years ago, is now the predominant end-user of logs harvested in Washington. This change is not the result of growth in the lumber manufacturing sector, but rather the decline in timber harvest levels from public forests.

Over the past 25 years lumber output in Washington increased while scaled-log input declined. This may best be explained by changes in the mix of log sizes coming off Washington's forested lands. Log sorts associated with larger diameter trees have declined over time. The effect of smaller diameter logs and greater use of lower log sorts by mills can have the effect of increasing the recovery ratio. These factors should be kept in mind when considering the increased productivity of wood use.

The sawmill industry has consolidated, and a reduction in the amount of labor employed by sawmills has followed. Lumber mills in Washington have transitioned from a large number of smaller-sized mills capable of utilizing a wide range of log sizes to a smaller number of larger mills that utilize smaller logs, more capital intensive technology and require less labor inputs (Figure 2). This process of consolidation has resulted in much less diversity within the sawmill industry.

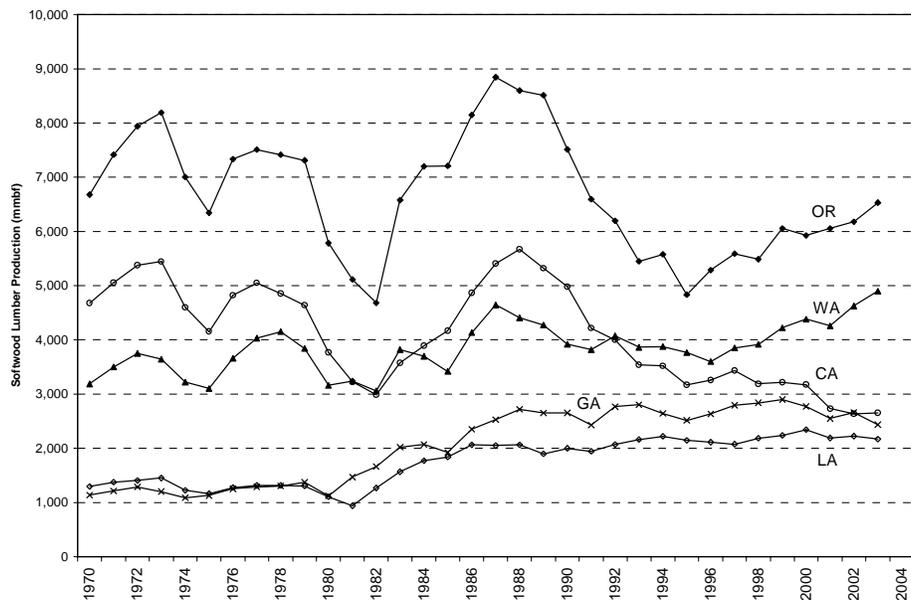


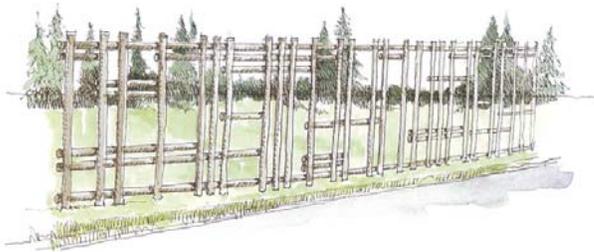
Figure 1. Softwood lumber production volume for leading states, 1970-2004.
Source: WWSA Annual Statistical Yearbook, various years.

To better understand the behavior of the sawmilling sector, the Washington State Department of Natural Resources mill surveys from 1968 to 2002 were analyzed. The analysis defined five timbersheds in western Washington and two timbersheds in eastern Washington. The study then focused on an analysis of log utilization by the sawmilling sector. Trends in the log utilization rates were identified and potential reasons for rate changes over time were examined. Periods of high prices were generally related to increased utilization rates, with some exceptions. During the 1980's, a shut down of capacity improved the average utilization rate for the sector following a collapse of lumber prices. Currently, the average utilization rate is at a historically high level as one might expect given the strong U.S. housing sector. Lumber prices have recovered after several years of low prices, and are currently at high levels. Our timbershed level



CINTRAFOR Announces Publication of Fence Design Book

The marketplace has demonstrated repeatedly that design can be used to increase the economic value of low value industrial materials. The fence designs developed for this design book represent an effort to increase the economic value of small diameter timber derived from the thinning of overly dense forests. By increasing the value of a traditionally low (or negative) value material, we hope to provide an economic incentive for thinning over-mature, over-crowded and unhealthy forests, resulting in healthier forests that are more resistant to insect attack and devastating forest fires. In addition, we hope that providing unique and innovative fence designs incorporating small diameter timber can provide the basis for economic development in rural timber-dependent communities. CINTRAFOR gratefully acknowledges funding for this project received from the USDA Forest Service Economic Action Program. The design book includes two chapters on the importance of thinning in reducing fire risk and promoting healthy forests. The book also features full color illustrations of 28 innovative fence designs. Copies of the full color Fence Design Book can be purchased from CINTRAFOR. ▲



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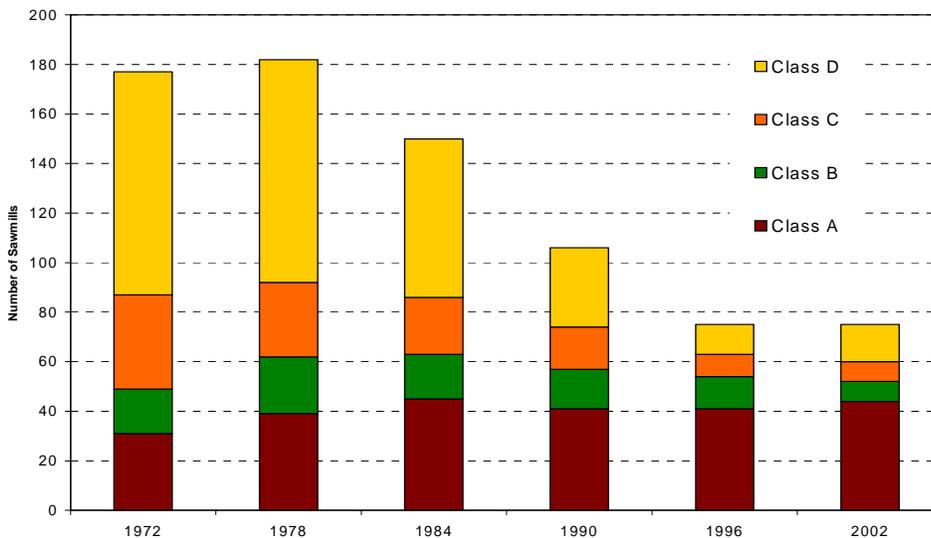


Figure 2: Number of sawmills by class operating in Washington.

Mill-size classes identified as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 – 79,999; B = 80,000 -119,999; A = 120,000 +. Source: WA DNR Mill Surveys various years.

analysis indicated that utilization rates varied substantially among timbersheds.



We followed the utilization rate analysis with an assessment of log consumption. Log use by saw mills within respective timbersheds was compared with timber harvest levels. Much variability existed in the

utilization by saw mills of timber harvested within the timbershed. Except for the South Coast, Southwest and eastern Washington timbersheds, saw mills are now the principal consumer of timber. Substantial volumes of saw logs continue to move from one timbershed to another. In 2002 approximately 600,000mbf of timber was transported across timbershed boundaries to be used by saw mills in other timbersheds. Timber heading to Oregon continued to be significant, and logs are now being imported from British Columbia.

The study also projected the potential supply of timber from western Washington timbersheds. The complexity of projecting uneven-aged stands in eastern Washington limited this preliminary analysis to western timbersheds. While this analysis is preliminary, it is a useful first step in estimating the timber supply required to maintain or expand the sawmilling capacity in western Washington. Further sensitivity analysis is required, although it was beyond the scope of this phase of the research. The timber supply projections indicate that current harvest levels can be sustained, and in the case of the South Coast

timbershed can be increased slightly, over the next several decades. The analysis did not suggest that harvest levels will fall below the current level of 2.8 billion board feet. Timber inventories in all timbersheds revealed growth in the volume of older age classes given the harvest level projections. Figure 3 displays the historical harvest level and a projection of harvest levels for western Washington as well as the log consumption by western Washington sawmills.

Our projections assumed that the harvest conditions that existed in the past will continue to exist into the future. The timber supply analysis demonstrates that the biological potential of the timber land itself will not likely be a constraining factor in future timber harvest levels, but rather regulatory and land-use constraints will impede reaching the biological potential of the forested lands.

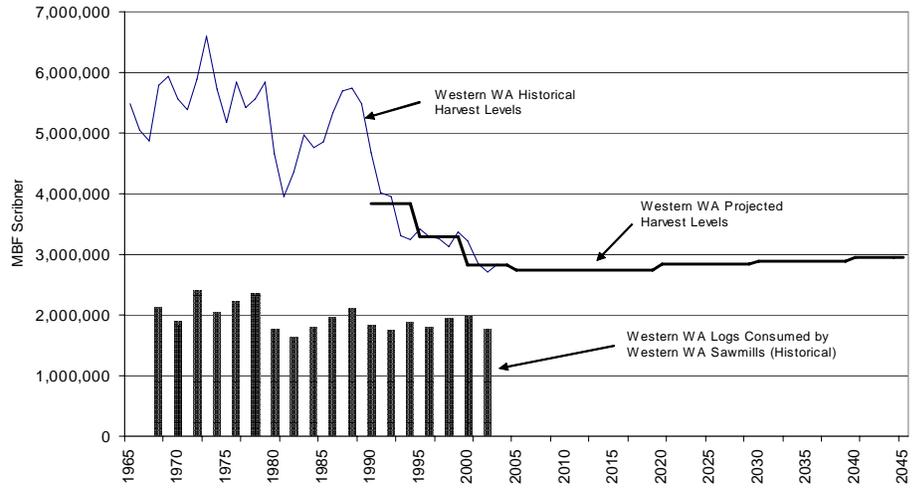


Figure 3: Historical and projected harvest levels for western Washington and historical log consumption levels by western Washington sawmills.

Source: WA DNR Mill Surveys and Timber Harvest Reports (various years).

Working Paper 99, *Washington’s Sawmilling Sector Analysis: Capacity Utilization Rates and Timber Outlook*, is now available. Interested readers should refer to the CINTRAFOR website at www.cintrafor.org to obtain a complete copy of this publication. ▲

India continued from page 1

unorganized. Sawnwood accounts for the largest single category of the Indian forest based industry. Sawmills are still very primitive and labor intensive with a large part of sawing still being done at the felling site with handsaws. There are approximately 23,000 sawmills in the country with an annual capacity of 29.5 million cubic meters of sawnwood per year. Out of the total sawnwood produced, 80% comes from hardwood species, particularly teak which accounts for approximately 50% of domestic consumption. In recently years the consumption of teak has declined due to the high price and low quality of the available teak. On the other hand, consumption of softwood lumber, engineered wood products and wood based panels are gaining popularity among the Indian population. India’s plywood and panel industry is relatively better organized than the sawmill sector, although it too is dominated by a large number of ‘backyard’ operations that produce small volumes of low-cost plywood that are largely consumed in the immediate vicinity of the factory. Since the imposition of the logging ban, the Indian plywood industry has begun relying almost exclusively on imported logs.

Table 1. Rate of Tariff on wood articles imported into India.

Description	WTO Bound Rate	Basic Customs Duty	Effective Customs Duty	Previous Customs Duty
Logs	40%	5%	5.10%	9.20%
Lumber	40%	15%	15.30%	30.0%
Veneer plywood	40%	15%	34.44%	56.83%
Wood, continuously shaped	40%	15%	34.44%	56.83%
Particleboard & OSB	40%	15%	34.44%	56.83%
Plywood and laminated panels	40%	15%	34.44%	56.83%
Builders’ joinery, windows and doors	unbound	15%	34.44%	56.83%

Tariffs and Restrictions on Imported Wood Products

Historically, India has employed a variety of tariff and non-tariff barriers to protect its large and inefficient wood processing sector. These trade barriers included quantitative import restrictions, import tariffs and countervailing duties. However, accession into the WTO and the implementation of economic liberalization policies, in conjunction with domestic timber harvest restrictions, have led to the easing of restrictions on timber imports. During the period 1996-2000, the quantitative import restrictions applied to logs, sawn lumber and several value-added products were gradually phased out. In addition, import tariffs for all wood products have



been reduced significantly. For example, the 2005-2006 budget specifies that logs are subject to a basic customs duty of 5%. Lumber, veneer, plywood, fiberboard and particleboard are subject to a basic customs duty of 15%, a substantial reduction from the previous 30% to 57% basic customs duty. The countervailing duty has been dropped for logs and lumber. In addition, the special additional duty has been replaced by a lower education assessment that is 2% of the total applicable import duty. Some cities (e.g., Mumbai) have levied an Octroi duty ranging from 2%-8% on goods imported for use, consumption or sale within the city. Finally, customs and forwarding charges range of 1% to 4% of import value. Despite the seeming plethora of duties, taxes and fees, the effective customs duty applied on logs has decreased from 9.2% to 5.1% and from 30% to 15.3% for sawn lumber. The effective customs duties on all other wood articles have been reduced 56.8% to 34.4%.

Table 2: Indian imports of wood products from 1999 to 2004 (in US\$).

Description	2000	2001	2002	2003	2004
Logs	\$467,936,578	\$487,291,926	\$375,199,637	\$581,792,794	\$802,210,642
Lumber	\$2,923,265	\$9,339,476	\$8,355,880	\$7,177,177	\$16,696,193
Veneer	\$2,245,094	\$2,510,938	\$3,204,700	\$3,275,098	\$4,877,067
Particleboard	\$7,269,640	\$8,820,340	\$6,417,950	\$11,576,639	\$15,312,853
Fiberboard	\$7,755,461	\$10,089,660	\$9,405,195	\$12,271,442	\$15,616,004
Plywood	\$5,000,161	\$4,469,200	\$3,785,445	\$3,891,922	\$4,671,101
Total	\$496,499,469	\$527,834,163	\$413,133,810	\$628,738,708	\$873,267,343

Sources: Directorate of Statistical and Commercial Intelligence, Ministry of Commerce, Govt. of India & Global Trade Information Services, Inc.

Imports of Wood Products

The ban on timber harvests means that India's domestic wood industry is increasingly relying on imports in order to meet rising demand. The value of log imports almost doubled between 1999 and 2004, increasing from US\$418 million in 1999 to US\$802 million. Log imports represented over 90% of total wood imports by India in 2004, with almost two-thirds of log imports coming from Malaysia and Myanmar. India's log imports were primarily composed of hardwood species with teak being the dominant species. The Indian market has a strong preference for teak, much of which is imported from Myanmar, Malaysia, Nigeria and Cote d'Ivoire. The softwood species are less in demand in the Indian market as neither wood manufacturers nor consumers are familiar with the species and characteristics of softwoods. However, in the past few years imports of softwood lumber has experienced a strong increase rising from less than \$2.8 million in 1999 to \$16.7 million in 2004. Indian imports of US wood products have remained relatively stable over the past several years, averaging about \$2.6 million per year. Imports from the US are primarily, hardwood logs, hardwood lumber,



hardwood veneer, fiberboard and doors. Recently, the weaker dollar has helped US exports of wood products to India increase by 41.3% during the first half of 2005.

Opportunities for US Wood Products in India

While India's wood manufacturing industry is dominated by the small and inefficient processors, the demand for wood products in the Indian market is huge and growing steadily. The domestic supply of timber has been dramatically reduced over the past few years and the wood products industry is now, and will continue to be, heavily dependent on imported timber. In recognition of this, the government is continuing to adopt policies to encourage timber imports. However, the plethora of import duties, taxes and fees, continue to represent a barrier to exporters of wood products, particularly value-added wood products.

With liberalization of the economy and increase in income of the middle class population, the demand for wood products is expected to increase substantially. Various estimates suggest that the size of the Indian market with both an income and interest in wood products could be as high as 150 million people. India has a traditional culture of wood and consumers have had a preference for teak based on its durability, beauty and resistance to termite attack (a big concern in many parts of India). However, concerns regarding the high price and lower quality of teak have provided an opportunity to introduce new products and species into India. These opportunities include treated lumber and naturally durable species such as western red cedar, redwood, cypress, and Alaska yellow cedar. Similarly, it appears that there are good opportunities for Douglas-fir lumber for the manufacture of doors, windows and casework.

US forest products exporters continue to face several challenges in the Indian market, including the price sensitivity of the Indian market, lack of knowledge of US wood species (especially softwood species), and a tariff structure designed to discriminate against the import of higher value-added wood products. Despite this, the size and nature of the Indian market suggests that this is a market that the US forest products industry would do well to investigate more closely. At present the market lacks sufficient information on the physical attributes and workability of softwood species in general and US species in particular. With rising incomes, a continued opening to global trade, a substantial wood deficit, and attempts to increase knowledge of North American wood species, India should prove to be a profitable market for the US wood products industry. ▲

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