

Development of Markets for Lesser Known Species (LKS) from Bolivia

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Abstract

A nationwide mail survey was conducted among importers and other members of the supply chain linked to the importation of tropical hardwood products to assess the market potential for Bolivian lesser-known wood species (LKS) in the U.S. market. The results indicate that tropical hardwoods represent 33% of the product mix of companies that purchased wood products. Typically, companies imported less than 100 MBF in 2006. Sawnwood was the product that was imported the most, followed by plywood, veneer and flooring. Six Bolivian LKS are among the top 16 new wood species purchased by respondent companies in 2006 and three Bolivian LKS are part of the top 12 common tropical wood species imported in the U.S. Sixty-seven percent of overall respondents stated that they have plans to increase the imports of tropical hardwoods in 2007.

Keywords: Markets, Wood, Lumber, Lesser Known Species, Bolivia

Background

The import of tropical timber into the U.S. has increased remarkably during the last decade. In 2002 the U.S. imported \$400 million in tropical sawnwood and plywood (Metafore 2004d), while in 2004 it imported \$842 million (ITTO 2006). The volume of tropical timber products imported in 2001 were: 277,000 m³ of sawn lumber, 72,000 m³ of veneer and 1.05 million m³ of plywood; while in 2005 imports were as follows: 356,000 m³ of sawn lumber, 100,000 m³ of veneer and 2 million m³ of plywood. The import of logs remained balanced at 2,000 m³ per year since 2002 (ITTO 2006). Duery (2006) assessed the U.S. market for tropical wood products among members of the supply chain and concluded that the market is very small. Usually tropical wood products represented 1% to 9% of the overall mix of the members of the supply chain (importers, wholesalers, distributors and retailers), and they usually import from 1 to 25 containers of tropical wood products per year. The main source of information that they use to locate tropical wood products were: distributors, company sales representative, and “word of mouth.” Another important conclusion stated was that the U.S. market for tropical hardwoods does not have preference for environmentally certified forest products and they are not willing to pay premium prices for certified wood. Eastin and Wright (1998) provided some insights for marketing lesser-known wood species in the U.S. The authors surveyed 719 firms in the U.S. among tropical hardwood and veneer importer/wholesalers and lumber wholesalers. They found that, by far, the most important factor was the *availability of reliable supply* of LKS. Other factors, in order of perceived importance were *availability of technical data*, and *availability of small trial volumes*, and *low initial trial price*. Recently Metafore (2004b, 2004c) has conducted several studies to assess the U.S. market for tropical hardwoods, certified tropical hardwoods, and non-traditional wood species. In the case of non-traditional species, Metafore identified three principal market opportunities: commodity lumber market, specialty lumber market, and finished products market. According to the authors, the best opportunities for non-traditional species are markets that are not constrained by price, volume, rigid specifications, and environmental niches.

Objectives

The objectives of this study were to: (1) Identify Bolivian lesser-known wood species imported in the U.S.; and (2) Identify marketing opportunities in the U.S. for Bolivian lesser-known wood species.

Methods

The methodologies used in this study were: (1) A mail survey of importers of Bolivian wood products and importers of non-Bolivian wood products. However, other members of the supply chain such as wholesalers, distributors, retailers and manufacturers were included to identify similarities and differences regarding the usage and interest on environmentally certified lesser-known wood species; and (2) Personal interviews with owners, managers, or primary-decision-makers of selected companies. Based on the research objectives and secondary data a questionnaire was developed to conduct the study. The questionnaire was designed to gather demographic information, wood species importation and substitution, and marketing issues of the companies under study. Several open-ended questions aimed at obtaining the point of view of respondents. Two definitions were clarified at the top of the questionnaire to avoid misinterpretations: 1) “lesser-known” wood species, and 2) “environmentally certified” wood products. The questionnaire was assessed for clarity, completeness, and content by industry experts and was frequently revised based on the suggestions received. A total of 138 questionnaires were returned, of those 17 were discarded because they were returned in blank or with insufficient information, 111 questionnaires were considered useful for data analysis, resulting in a 27.8% response rate and adjusted response rate was 32.3 %. The adjusted response was calculated when bad addresses and incomplete questionnaires were taken into account. Based on the results of two non-response tests, non-response bias was removed as a limitation to this study. Personal interviews were conducted at the participating importing firms in May 2007. Five importing companies were interviewed personally: two importers of tropical veneer, one importer of tropical wooden doors and two importers of tropical lumber.

Results

Imported Tropical Hardwood Species

Companies were asked to estimate the percentage of the type of wood products purchased in 2006. On average 50% of respondents' product mix was made from U.S. domestic hardwoods. Imported temperate hardwood, on average, represents 12% of the product mix of those companies that import it, typically range from 10% to 25%. The product mix of those companies that purchase tropical wood products, on average, includes 33% of tropical hardwoods. The product mix of those companies that purchase softwoods (imported or not) represents 30% of their product mix. In 2006, 50% of the companies that responded purchased 100 MBF or less in tropical hardwoods and only 1 company bought more than 5,000 MBF. The seven major countries of origin of imported wood species mentioned by respondents were: Brazil (23.2% of overall respondents), China (10.7%), Peru (7.4%), Indonesia (5.5%), Bolivia (4.4%), Chile (3.7%), and Russia (3.7%).

Mahogany (*Swietenia macrophylla*) and jatoba (*Hymenaea courbaril*) were mentioned as the most common wood species imported with 24% (each) of overall respondents. Other species mentioned were: African Mahogany (*Khaya spp.*), ipe (*Tabebuia spp.*), sapele (*Entandrophragma cylindricum*) and meranti (*shorea spp.*). Seventy-four companies (67% of overall respondents) stated that they have plans to increase the imports of tropical hardwoods in 2007. Most of these companies will increase imports between 6% and 10%.

One characteristic of Bolivian LKS is that they are environmentally certified. Thus it was considered important in this study to assess the market for environmentally certified wood products. Respondents were asked if those products that they import are environmentally certified. Their responses were as follows (n=102):

They do not know if their products are environmentally certified	17%
Their imported products are not environmentally certified	35%

Their imported products are environmentally certified 48%

Results indicated that typically respondent companies tried 1 or 2 new wood species in 2006. The trial of new wood species was more variable within importers and distributors than wholesalers, retailers or manufacturers. Importers and distributors, on average, tried three new wood species in 2006, but in many cases tried more, even 30 or 40 species (commonly ranged from 1 to 7). Even though retailers tried on average 5 new wood species, they did not try more than 10 species in any case. Manufacturers, like retailers, at most tried 10 new wood species and on average tried three new wood species in 2006. Wholesalers tried maximum 4 new wood species in 2006, and on average tried 2 new wood species. These results suggest that importers and distributors may be are trying to “push” the market with new wood species. On the other hand, retailers are trying to “offer” more variety on new wood species to their customers. Meanwhile wholesalers and manufacturers are waiting the reaction of the market. These conjectures were stressed in comments of respondents in open-ended questions. Seventy-four wood species were mentioned as the last new wood species purchased. Results indicated that South American wood species garapa (*apuleia leiocarpa*), ipe (*Tabebuia spp.*) and jatoba (*Hymenaea courbaril*) were the most recently purchased wood species. It is important to note that six of these top species are Bolivian LKS: garapa, ipe, jatoba, jequitiba, santa maria and tigerwood.

An open-ended question aimed to find out why respondents look for new species. The main reasons were *price* and *availability*. Thirty-nine percent of respondents stated that price is the main reason, while, 27% of respondents stated that availability would be the main reason. Twenty-three percent stated that appearance and wood properties are the main reasons, while only 9% stated that they seek environmentally certified wood products. Other reasons, but in less extent, included customer-demand driven, quest a competitive advantage, and diversification. Respondents were asked to evaluate the importance of different factors when they try new imported wood species in a 5-point Likert scale. In general, respondents gave more importance to *quality*, *trustworthy*,

stability, straightness, price and long-run availability. On the other hand, they gave little importance to *environmentally certification, density (SG) or surface hardness.* But these results are general for all market sectors and all type of businesses (Table 1).

One binary question aimed to find out if respondent companies import any of the 20 potentially marketed Bolivian lesser-known wood species (BOLFOR II 2006). To validate the responses, four commonly wood species imported into the U.S. were introduced in the question as well. The results show that three Bolivian LKS should not be classified as lesser-known, because they are well-known by respondent companies. Those species are paquio (58.5% of respondents import it), tajibo (52.3%) and cumarú (33.3%). Almost in the same proportion than mahogany. Other Bolivian LKS imported, but in lesser extent, were sangre de toro (21.6% of respondents import it), cambará (14.4%), yesquero negro (13.5%), sirari, curupau, cuta, and palo maria. The rest of imported Bolivian LKS account to less than 5% each. Three Bolivian LKS were not imported by respondent companies: cuchi, verdolago and soto.

Marketing Issues

Several questions intended to get information about the preferred business and marketing practices of respondent companies. It was inquired about pricing, promotion and distribution channels. No general preferred distribution channel was identified. Companies generally prefer to deal with producers in the country of origin and they do not want to deal with governmental organizations or international agents.

Pricing

Results indicated that respondent companies are not willing to pay more for a Bolivian lesser-known wood species that could substitute their currently purchased species. Ninety-three percent of these companies would pay the same price or less for that substitute. Only 7 companies (7%) would pay a maximum of 10% more for that substitute. On average importers, wholesalers and distributors would pay between 6% and 10% less for a good Bolivian substitute wood species, manufacturers would pay 1%

to 5% less for that substitute, and retailers would pay the same price. Likely importers, wholesalers, distributors and manufacturers have to face extra financial costs of trying the new species, while retailers do not have to charge that cost. Respondent companies usually would not pay premium prices for an imported environmentally certified wood product. Results indicated that on average distributors would pay between 1% and 10% more for environmentally certified wood products. Importers, manufacturers and retailers would pay between 1% and 5% more, and wholesalers are less willing to pay more for environmentally certified wood products.

Promotion

Respondents were asked to provide the preferred source of information that they consult when they are looking for new imported wood species. Contacting producers in the country of origin, word of mouth, web sites, and trade associations were the preferred source of information to find new imported wood species, respectively. Respondents were asked to provide the preferred source of information that they consult when they are looking for new imported wood species. Majority of companies that responded prefer to contact producers in the country of origin. “Word of mouth” is the second preferred source of information (52%), web sites is the third (29%), followed by trade associations (26%) and trade shows in the U.S. (19%). The least consulted source of information were catalogs (2%), newsletters (6%) and trade magazine advertisements (9%). One question aimed to find out possible brand names for Bolivian substitute species. Results suggest that customers would accept brand names that include currently marketed U.S. domestic wood species. However there are several brand names that already have a good acceptance in the U.S. market such as *ipe* or *jatoba*.

Bolivian Wood Products

Three questions (open-ended) aimed to find out the point of view of U.S. companies about Bolivian wood products and to ask some recommendations to increase the imports of Bolivian LKS in the U.S. In the first question respondents were asked to rate in a five-point Likert scale the potential barriers that would difficult the importation of Bolivian LKS in the U.S. Respondent companies find a barrier in *punctual delivery*, *Bolivian*

production capacity, Bolivian governmental policies, and knowledge of Bolivian wood products. The second question aimed to find out the image of Bolivian wood companies in the U.S. wood market. Fifty-eight percent of respondent companies did not import Bolivian wood products in the past, thus 47 respondent companies (42%) rated their past experience importing Bolivian wood products in a five point scale from very bad to very good. They also were asked to give the reason of that score. In general Bolivian companies are rated in a mediocre position of “neither good nor bad”. Some reasons of bad experience mentioned were: *late delivery, quality and grading problems, high price and non-reliable supply.* The third question aimed to obtain some recommendations to increase the imports of Bolivian LKS in the U.S. An affinity diagram was used to group the general recommendations that respondents stated. Primarily the recommendations were centered on the “increase of marketing efforts in promotion and advertisement”, and “to provide samples of wood species to potential buyers”. Basically, companies want to see and feel the alternative substitute, test it and assess the price advantage. Other recommendations include create marketing centers (offices) in key states with the ability to fill small samples, organize conventions, increase knowledge of species, comparison with U.S. species, technical information and availability of species.

Conclusion

The results indicate that tropical hardwoods typically represent 33% of the product mix of the company that purchases wood products. Companies usually imported less than 100 MBF in 2006. The sawnwood industry is the sector that import tropical species the most, followed by plywood, secondary wood products, veneer and flooring. South America is the major region of origin of imported wood species into the U.S., and 23% of overall respondents import from Brazil, while 4.4% import from Bolivia. Six Bolivian LKS are within the list of new wood species purchased by respondent companies in 2006 and 3 Bolivian LKS are part of the top 12 common tropical wood species imported in the U.S. Sixty-seven percent of overall respondents stated that they have plans to increase the imports of tropical hardwoods in 2007. Typically, members of the supply chain tried 1 to 2 new wood species in 2006, retailers is the sector that tried the most, on average 5 new species. Price and availability were the major reasons to try new wood species. This

research demonstrated that the U.S. market offers potential opportunities for Bolivian LKS. However, marketing efforts are required to provide technical specifications and samples of specific species. Differentiated promotional campaigns can be conducted to reduce promotional costs and reach the adequate market segment.

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Table 1. Important Factors Considered When Try New Imported Wood Species

Factor	Mean ^a					Significance ^c p-value
	Secondary ^b (n=8)	Floorin ^g (n=6)	Plywoo ^d (n=15)	Sawnwoo ^d (n=18)	Veneer (n=9)	
Easy to machine	3.4	2.8	3.7	3.5	2.9	0.44
Easy to finish	4.7 ^{◊,†,◦}	3.2 [◊]	3.7 [†]	3.4 [◦]	4.1	0.03*
Mechanical properties	3.3	3.3	3.2	3.5	3.2	0.90
Natural durability	3.7	3.8	3.4	3.4	2.4	0.36
Color	4.6 [◊]	3.0 ^{◊,†}	4.0	3.9 [◦]	4.9 ^{†,◦}	< 0.01***
Strength	3.3	3.7	3.3	2.9	2.7	0.20
Texture	3.3	2.0 ^{◊,†,◦}	3.6 [◊]	3.4 [†]	4.1 [◦]	< 0.01**
Density(Specific gravity)	2.7	3.0	3.3	3.0	2.6	0.23
Surface hardness	3.3	4.2 ^{◊,†}	3.3	2.9 [◊]	2.8 [†]	< 0.01**
Stability (shrinkage/swell)	4.1	4.3	4.3	4.1	4.0	0.80
Straightness	4.3	3.5	4.5	4.3	4.1	0.06
Environmentally certified	4.0 [◊]	3.3	2.5 [◊]	2.8	3.8	0.04*
Price	3.6	4.2	4.7	3.9	4.3	0.07
Long-run availability	4.1	3.5 ^{◊,†}	4.7 [◊]	3.9	4.8 [†]	0.01*
Trustworthy (supplier)	4.6	4.2	4.8	4.5	4.9	0.13
Kiln-dried	4.4	3.7	4.1	4.1	2.4	0.08
Graded under US standards	3.5	3.0	3.7	3.7	3.2	0.55
Quality	4.9	4.5	4.7	4.7	4.9	0.55
Known supplier	3.0	3.3	3.5	3.6	3.9	0.58

Note. ^a Companies dedicated exclusively to the sector and import wood products made from tropical species; ^b includes millwork, doors, cabinets and furniture; ^c non-parametric On-way ANOVA test, * significant difference at $\alpha = 0.05$, (** at $\alpha = 0.01$ and *** at $\alpha = 0.001$), ^{◊,†,◦} significant difference between groups.

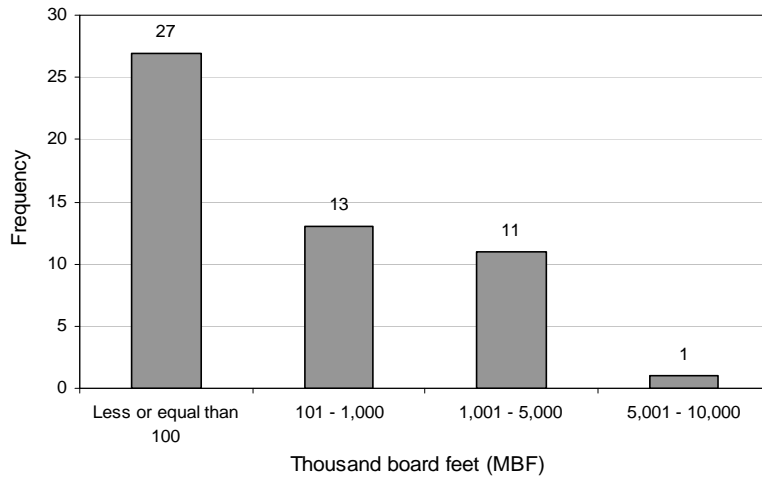


Figure 1. Estimated Volume of Imported Tropical Hardwoods Purchased in 2006 (n=52)

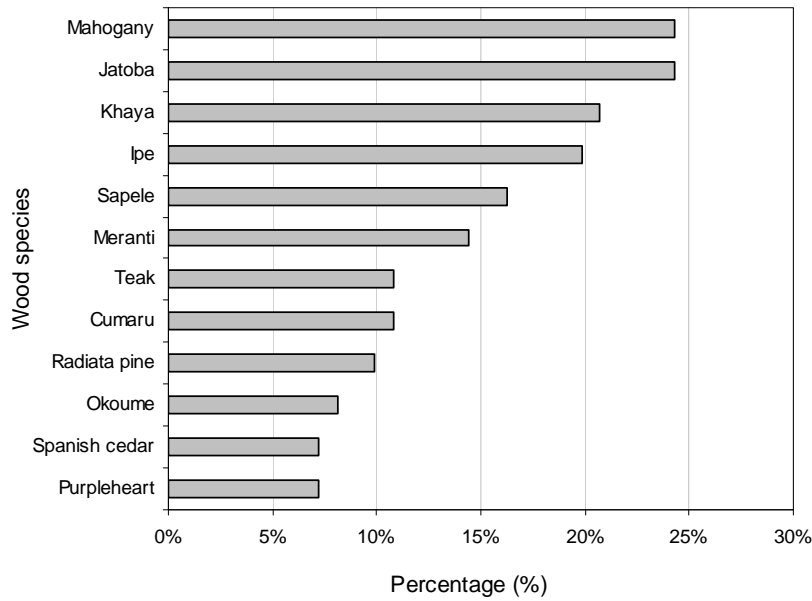


Figure 2. Respondents' Common Imported Wood Species

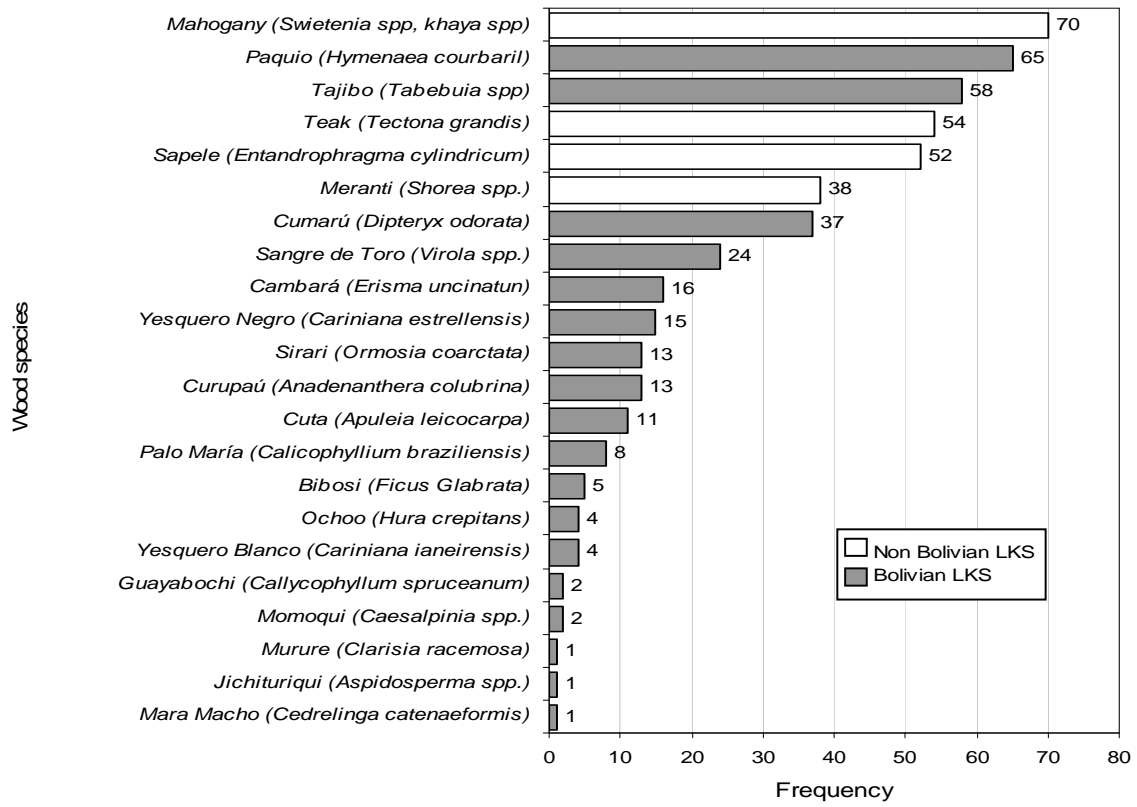


Figure 3. Bolivian LKS Imported by Respondent Companies (n=111)