Bolivian woods could find a niche in the German parquet market

by Jhony Zapata

PhD candidate

Technische Universität München
Forestry Department

Germany

zapata@bwgp.forst.tu-muenchen.de

Jhony.ZapataAndia@fao.org

GERMANY is the leading market for parquet in Europe. It consumed 22.3 million m² of it in 2001, almost one-quarter of Europe's total consumption of that wood product and 75% more than in 1991. About 1.8 million m³ of raw wood was used to meet the 2001 consumption level, 0.8 million m³ of which were hardwood. Parquet is commonly used as flooring in houses (condominiums, single-family houses, etc) and institutional buildings (hotel lobbies, gyms, meeting halls, etc).

Three types of parquet are consumed in Germany: multi-layer, solid and mosaic[1]. *Figure 1* shows that German parquet consumption shifted to multi-layer parquet in the 1990s, a trend that is expected to continue. The share of multi-layer parquet in total parquet consumption increased from 48% in 1991 to 73% in 2001, mostly at the expense of mosaic parquet.

German parquet imports

Germany imports most of its parquet: in 2001 it imported 16.3 million m², which was 73% of total parquet consumption. Import volumes grew 127% between 1991 and 2001, mostly in multi-layer parquet, which jumped from 60% of total imports in 1991 to 76% in 2001.

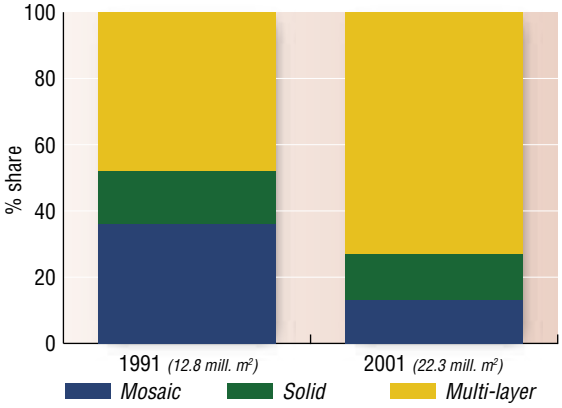
Figure 2 shows that Eastern Europe (34%, notably Poland) and Scandinavian countries (24%, notably Sweden) are the main suppliers of imported parquet, particularly multi-layer; imports from these countries increased strongly between 1991 and 2001. Figure 2 also shows that although parquet imports from tropical countries increased from 1.2 million m² in 1991 to 1.75 million m² in 2001, they decreased in relative terms (from 17% to 11%). Multi-layer parquet made 95% of total parquet imports from tropical countries in 2001, up from 38% in 1991, with solid parquet making up most of the balance. Average unit values for total imported parquet in 2001 were €18.1/m² for multi-layer, €11.5/m² for solid and €8.6/m² for mosaic parquet.

Figure 3 shows that in 2001 three countries accounted for 97% of Germany's tropical parquet imports in 2001, all of them Asian; the remaining 3% of tropical imports were distributed between 17 other countries. About 0.27 million m² of parquet were also manufactured in Germany from tropical timber; Germany therefore consumed a total of about 2 million m² of tropical parquet in 2001. This means that, assuming no exports from Germany, tropical parquet held a 12% share of total parquet consumption in Germany in that year.

[1] *Multi-layer parquet consists of parquet panels composed of two or more layers of wood (or wood-based material) with a top layer of hardwood (the wear layer).*

Multi-layer gets thicker

Figure 1: German parquet consumption, by parquet type



Good woods

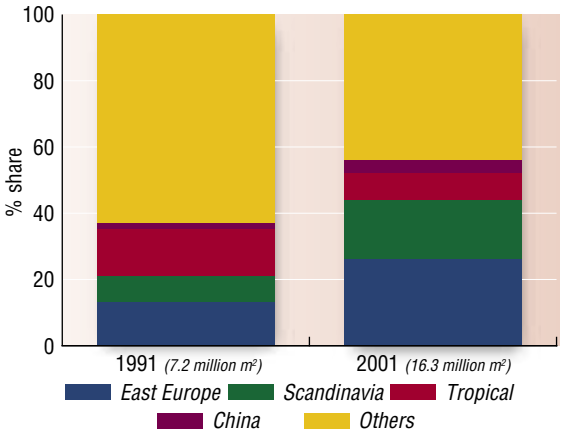
Table 1: Some lesser-known tropical timber species of Bolivia with similar (or higher) density to European oak

INTERNATIONAL TRADE NAME	Botanical name of described species	Density (g/cm³) 12% M.C.	Shrinkage (β) in %			Hardness[a]
			Radial (βr)	Tangential (βt)	Volumetric (βv)	Janka-Hardness (N/mm²)
European oak	***Quercus robur (Q. petrea)***	**0.43–0.96**	**4.0–4.6**	**7.8–10.0**	**12.6–15.6**	**45**
Cumarú	*Dipteryx odorata*	0.96	5.5	8.2	13.6	160
Aroeira, Urunday	*Astronium urundeuva*	1.22	3.7	7.5	12.5	141
Curupay	*Anadenanthera colubrina* *Anadenanthera macrocarpa*	1.02	4.2	8.4	12.7	195
Baitoa/Santo Domingo, Boxwood, White Goncalo Alves	*Phyllostylon rhamnoides*	0.95	3.4	8.2	12.1	134
Peroba rosa, Gabetillo, Araracanga, Red peroba, Rosa peroba	*Aspidosperma polyneuron*	0.89	5.5	8.7	13.9	128
Partridge, Coffee-wood	*Caesalpinia pluviosa*	1.05	2.3	6.0	9.8	163
Santa Maria, Jacareuba, American sapelli	*Calophyllum brasiliense*	0.66	5.1	8.3	13.2	73
Jatobá, Courbaril, Brazilian cherry	*Hymenaea courbaril*	0.95	4.2	7.4	11.2	133
Ipé, Lapacho	*Tabebuia impetiginosa*	0.98	3.3	5.6	10.0	140
Tarara, Canary wood	*Centrolobium microchaete*	0.60–0.75	4.0	6.2	10.2	107
Nargusta, Tanimbuca	*Terminalia amazonica*	0.80	5.3	9.1	13.8	89
Albarco, Jequitiba	*Cariniana estrellensis*	0.68	4.4	7.2	11.5	72

[a] *The Janka-Hardness (JH) was measured tangentially. For comparability purposes, units were converted from kg/cm² to N/mm².*

Tropical imports shrink

Figure 2: Suppliers of parquet to Germany



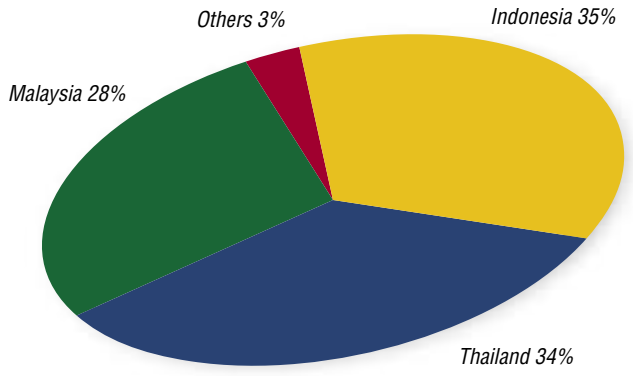
Consumption of tropical wood

The declining share of tropical wood in the German parquet market can be attributed to two main factors: a deteriorating environmental image as a result of anti-tropical wood campaigns and, until recently, a fashion trend towards light-coloured wood (such as beech). This latter factor at least is changing: middle and darker colours such as those exhibited by many tropical timbers are becoming popular again. Many European manufacturers are staining light-coloured woods to adapt to this trend, but tropical timbers, with often superior technical properties, could also capture market share, particularly if produced in sustainably managed forests.

The most common tropical species in the German parquet market are merbau (*Intsia spp*), doussié (*Afzelia spp*), kambala/iroko (*Chlorophora excelsa*) and wengé (*Millettia laurentii*), while a few Latin American species such as ipé (*Tabebuia impetiginosa*) and jatoba (*Hymenaea coubaril*) have also found favour lately. This suggests potential for the introduction of other Latin American timber species whose technical characteristics (density, hardness, workability, etc) are comparable to those currently used.

Asia dominates tropical supply

Figure 3: Tropical parquet imports (% of 1.75 million m²), 2001



Between July and November 2002, I conducted a study of the market potential in the German parquet industry of lesser-known tropical timber species (LKS) produced in sustainable managed forests in Bolivia. The study, funded by an ITTO fellowship, consisted of interviewing the main parquet manufacturers in Germany on issues related to the suitability of such species for parquet production in their enterprises. Technical documents with information on twelve selected Bolivian tropical timber species were compiled and given to the manufacturers; all twelve have similar or higher density than European oak (*Quercus robur* and *Q. petrea*), the most common hardwood timber used for parquetry in Germany (*Table 1* shows some other wood characteristics for these species, and for European oak (in bold)). *Table 2* shows the estimated availability of the species in terms of their potential production in Bolivia under sustainable forest management.

I surveyed seventeen parquet manufacturers representing more than 85% of the total German parquet production. *Table 3* shows the species most frequently identified by respondents as having potential in the German parquet sector.

Would-be's

Table 2: Potential production of 12 selected wood species in Bolivia *(raw wood)*

REGION	AREA *(million hectares)*	Estimated volume of 12 selected species DBH>MCD[a]		Estimated potential production under sustainable forest management	
		m³/hectare	Total *(million m³)*	m³/hectare[b]	million *m³/year*
Amazon	8.8	7.9	48.8	0.40	2.44
Bajo Paraguá	3.8	5.7	15.2	0.29	0.76
Chiquitanía	6.3	11.8	51.9	0.59	2.60
Choré	1.6	5.2	5.9	0.26	0.29
Guarayos	4.2	6.0	17.6	0.30	0.88
Pre-Andean Amazon	4.1	7.6	21.9	0.38	1.09
TOTAL	**28.8**	–	**161.4**	–	**8.07[b]**

[a] *DBH = diameter at breast height ; MCD = minimum cutting diameter;* [b] *Managed area per year equivalent to 1/20th of total area.*
[b] *The total production from the total area currently under forest management plans in Bolivia is 0.55 million m³/year.*

When asked to identify the most important factors that would favour the introduction of Bolivian parquet species, about half the manufacturers surveyed mentioned technical properties (eg density, hardness, workability, etc) as most important *(see Figure 4)*. Around 60% reckoned that the most important factor limiting the introduction of Bolivian parquet species was lack of demand *(see Figure 5)*. This suggests the need for the more aggressive promotion of tropical timber species in the German parquet market. The environmental image of tropical timber was identified as a secondary reason, although two-thirds of those surveyed agreed that they would use as a marketing tool the fact that the Bolivian supply would most likely be certified as from sustainably managed forests.

The survey included other questions soliciting views on factors affecting demand, fashion trends, the positioning of

tropical timber, supply requirements and other issues. The results are being analysed and will form part of the author's doctoral thesis.

Final remarks

Ideally, the timber produced and marketed from managed natural tropical forests should reflect the forest structure and species diversity of those forests. Most available tropical timber species have not yet been introduced to the international market—but must be if sustainable forest management is to be financially viable in such forests. Identifying niches for timbers derived from sustainably managed forests could be a first step in the clever marketing needed to increase the acceptance of these unknown but often very useful and attractive timbers. The German parquet market may be one of these.

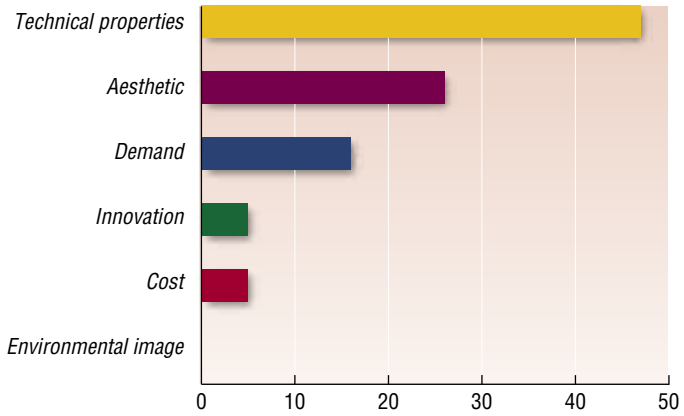
Most favoured

Table 3: Most-selected Latin American species by German parquet manufacturers

TRADE NAME	LATIN NAME	Selection frequency *(% of 17 manufacturers)*
Patridge	*Caesalpina pluviosa*	65
Ipé	*Tabebuia impetiginosa*	41
Jatoba	*Hymenea courbaril*	41
Santa María	*Calophyllum brasiliense*	24
Curupay	*Anadenanthera colubrina*	18
Boxwood	*Phyllostylon rhamnoides*	18

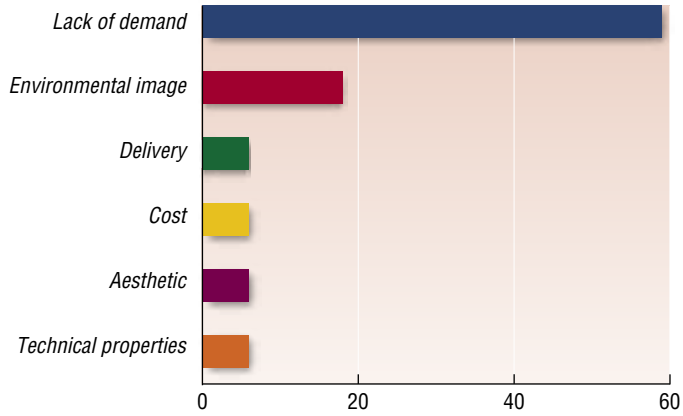
Going for it

Figure 4: Factors favouring the introduction of Bolivian parquet species, in the opinion of German parquet manufacturers (% of respondents)



Going against it

Figure 5: Factors limiting the introduction of Bolivian parquet species, in the opinion of German parquet manufacturers (% of respondents)



ITTO Fellowships offered

ITTO offers fellowships through the Freezailah Fellowship Fund to promote human resource development and to strengthen professional expertise in member countries in tropical forestry and related disciplines. The goal is to promote the sustainable management of tropical forests, the efficient use and processing of tropical timber, and better economic information about the international trade in tropical timber.

Eligible activities include:

- participation in short-term training courses, training internships, study tours, lecture/demonstration tours and international/regional conferences;
- technical document preparation, publication and dissemination, such as manuals and mongraphs; and
- post-graduate studies.

Priority areas: eligible activities aim to develop human resources and professional expertise in one or more of the following areas:

- improving the transparency of the tropical timber market;
- improving the marketing and distribution of tropical timber species from sustainably managed sources;
- improving market access for tropical timber exports from sustainably managed sources;
- securing the tropical timber resource base;
- improving the tropical timber resource base, including through the application of criteria and indicators for sustainable forest management;
- enhancing technical, financial and human capacities to manage the tropical timber resource base;
- promoting increased and further processing of tropical timber from sustainably managed sources;
- improving the marketing and standardisation of tropical timber exports; and
- improving the efficiency of tropical timber processing.

In any of the above, the following are relevant:

- enhancing public relations, awareness and education;
- improving statistics;
- research and development; and
- sharing information, knowledge and technology.

Selection criteria: Fellowship applications will be assessed against the following selection criteria (in no priority order):

- consistency of the proposed activity with the Program's objective and priority areas;
- qualifications of the applicant to undertake the proposed fellowship activity;
- the potential of the skills and knowledge acquired or advanced under the fellowship activity to lead to wider applications and benefits nationally and internationally; and
- reasonableness of costs in relation to the proposed fellowship activity.

The maximum amount for a fellowship grant is US$10 000. Only nationals of ITTO member countries are eligible to apply. The next deadline for applications is **7 May 2004** for activities that will begin no sooner than 1 September 2004. Applications will be appraised in July 2004.

Further details and application forms (in English, French or Spanish) are available from Dr Chisato Aoki, Fellowship Program, ITTO; Fax 81–45–223 1111; fellowship@itto.or.jp (see page 2 for ITTO's postal address).