

# **A Strategy for Developing Market Opportunities for Australian Forest Products in India**

**A Report to the Forest Industries Branch  
Department of Agriculture, Fisheries and Forestry**

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**Cover photograph:** Eucalypts grown on farms and in small plantations provide a significant proportion of the wood supply in India, but it is not easy for industry to obtain approval to establish large-scale plantations

### **Disclaimer**

This report has been prepared by Stephen Midgley of Salwood Asia Pacific Pty Ltd in collaboration with Mr Piare Lal of Pragati Biotechnologies, Jalandhar, Punjab and Dr Padam Bhojvaid of The Energy and Resources Institute (TERI), New Delhi and Alan Brown acting as an independent consultant.

#### ***Qualifications***

**Salwood Asia Pacific Pty Ltd** ACN 108 926 656 is a registered business name with the Registrar General's Office of the Government of the Australian Capital Territory.

The person responsible for the preparation of this document is Mr Stephen Midgley who has substantial experience in international forestry development and the forest industry. Mr Midgley has formal forestry qualifications from the Australian National University and has worked in the forestry sector in Australia and overseas for CSIRO, other government agencies and private companies. His work has been recognised internationally and he is a member of the Institute of Foresters of Australia.

#### ***Declaration***

This report was prepared for the Department of Agriculture, Fisheries and Forestry (DAFF), Australian Government. DAFF's contact is Mr Peter Langdon, International Forest Policy Section, Forest Industries Branch.

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**Frontispiece:** India and its major ports

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# Abbreviations

AFS	Australian Forestry Standard
BCTMP	Bleached chemi-thermo mechanical pulp
BHKP	Bleached hardwood kraft pulp
BIS	Bureau of Indian Standards, Government of India
CHOGM	Commonwealth Heads of Government Meeting, Kampala, 23–25 November 2007
CSO	Central Statistical Organisation
DAFF	Department of Agriculture, Fisheries and Forestry, Australian Government
DFID	Department for International Development, United Kingdom
DGCIS	Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce and Industry, Government of India
FIPPI	Federation of Indian Plywood and Panel Industries
FWPA	Forest and Wood Products Australia Ltd
GDP	Gross domestic product
GoI	Government of India
ICFRE	Indian Council of Forestry Research and Education
IFA	Institute of Foresters of Australia
IIA	Indian Institute of Architects
IIASA	International Institute for Applied Systems Analysis
IPMA	Indian Paper Manufacturers Association
m	Metre
M	Million
mai	Mean annual increment (m <sup>3</sup> /ha)
MoEF	Ministry of Environment and Forests, Government of India
MTPA	Metric tonnes per annum
NBSK	Northern bleached softwood kraft
NCAER	The National Council for Applied Economic Research, Government of India
NCR	National Capital Region, India
NIPMA	Northern India Plywood Manufacturers Association
NWFP	Non-wood forest products
PPP	Purchasing power parity
SCD	Special customs duty
sed	Small-end diameter
t	Tonnes
TERI	The Energy and Resources Institute, New Delhi
ToF	Trees outside the forest
USDA	US Department of Agriculture
WTO	World Trade Organization
WWF	Worldwide Fund for Nature

## Numbers

Crone = Indian measure for 10 million

Lakh = Indian measure for 100 000

## Currency

At the time of this study (July – August 2007),

Indian Rupees 34.00 = A\$1.00

US\$1.00 = A\$0.86

# Summary

The Indian economy is reforming and is the second-fastest growing economy among the large economies of the world today. The World Bank has reported that India has been in the top 10% of all countries in growth performance since the 1980s and there are predictions that its economy will be the third largest in the world by 2032.

Despite an enormous and varied forest resource, India is timber deficient and is dependant upon imports of wood and wood fibre products valued at US\$2.75 billion annually to meet its needs. In terms of volume (roundwood equivalent), this deficit is expected to exceed 90 M m<sup>3</sup> by 2020. Although India also exports wood and wood fibre products, the trade deficit in these products is US\$2.2 billion. A recent study forecasts that India's log imports and recovered paper demand will double by 2016. Annual consumption of paper and paperboard is expected to increase from the current 7 kg per capita to 14 kg/person by 2015. Obtaining the raw materials domestically to meet this demand represent a substantial challenge. The capacity of India to expand its commercial plantation base is limited, mainly because of government policies.

The 'Indian footprint' (the environmental, social and economic impact that the growing Indian economy will have on the natural resources of other countries) has yet to be assessed. From the experience gained in meeting China's rapid increase in demand for wood, the regional trading community (including suppliers such as Myanmar, Malaysia, Indonesia, Papua New Guinea and other Pacific islands) can be better prepared for the impacts that India's increased demands will have on regional forests and on wood and wood fibre supplies.

Australia, on the other hand, is expecting its wood harvest to increase from 28 M m<sup>3</sup> in 2005–06 to 40 M m<sup>3</sup> by 2010, primarily as a result of maturing hardwood pulp plantations. Some 46% of the harvest will be hardwood pulpwood logs, 35% softwood sawlogs, 18% softwood pulpwood and only 1% hardwood sawlogs. It is unlikely that Australia will have the capacity to process this additional wood harvest domestically and it is likely that exports of logs, woodchips or other partially processed wood will

become a feature of the industry. It appears likely that Indian deficits will link with Australian surpluses in some way. Of India's current imports of wood and wood products (excluding wood fibre) of US\$900 M, Australia currently provides US\$7 M.

The Department of Agriculture, Fisheries and Forestry of the Australian Government recognised increasing Australian production could play a role in meeting projected Indian deficits, and commissioned a study to develop strategies whereby the Department might assist Australian industry to respond to India's burgeoning demand. Following interviews with industry, research institutes and Government officials and travel in both Australia and India between May and August 2007, a strategy with three major themes is suggested to foster effective engagement with the Indian forestry and wood products sectors. The themes are:

- Improved market intelligence, which recognises that reliable and readily available knowledge of India's wood demands are vital if Australia is to capitalise on opportunities offered through India's increasing demands for wood. Conversely, India needs to know what Australia has to offer
- Tariff and other barriers to successful trade. Government-to-government dialogue is vital if issues fundamental to trade such as tariffs, quarantine, national standards and terminology are to be addressed to mutual satisfaction
- Improved contacts and development of better relationships. Market success in India (as in the rest of Asia) is greatly helped by information and support gained through personal contacts, networks and relationships. During interviews for this study in both Australia and India, the need for improved networks and relationships at personal, industry and government-to-government levels was identified as a high priority.

# 1

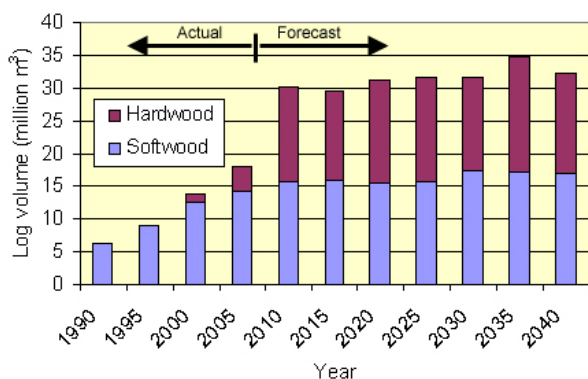
## Background to Australia's Exports in Forest Products

The Australian forest and forest products industry is a significant part of the Australian economy. Primary forest production was valued at A\$1.7 billion in 2005–06, with the forest products having an industry value turnover of A\$18 billion in 2003–04. In 2005–06, 11 300 people were employed in forestry and logging and a further 71 600 employed in the wood manufacturing industry (DAFF 2007).

One hundred and sixty-four million hectares, or 21% of Australia's land area, are classified as forest (land with trees over 2 m high and 20% crown cover). This is made up of about 162.7 M ha of native hardwood and about 1.8 M ha of plantations. Of these plantations, 55% are softwood species and 45% hardwood species. A focus on industry growth and long term sustainability has resulted in plantations providing about 57% of industrial roundwood requirements (Fig.1).

Australia's forest sector has attracted more than A\$6.5 billion in foreign and domestic investment since the early 1990s. This has included investments in plantations, various mills and engineered timber manufacturing plants. These investments have contributed to Australia's capacity to export wood and wood products.

In 2005–06 Australia's total log harvest was about 28 M m<sup>3</sup>, 18 M of which were derived from plantations. By 2010, increased harvests from plantations will result in a national increase of log removals to almost 40 M m<sup>3</sup>.



**Figure 1.** Australia's plantation wood supply 1990–2040 (Parsons et al. 2007)

This forecast supply of plantation wood consists of hardwood pulpwood (46%), softwood sawlogs (35%), softwood pulpwood (18%) and hardwood sawlogs (1%) (Parsons *et al.* 2007).

Whilst acknowledging these substantial increases in wood production, IndustryEdge (2007) identified emerging imbalances in the Australian forest industry; the first being a surplus of hardwood pulpwood and a regional shortage of softwood pulpwood, and the second a shortage of both softwood and hardwood sawlogs to varying degrees across the forest regions of Australia. Their report argues that collectively the hardwood and softwood sawlog resource available would not meet the predicted rise in demand for sawn timber.

IndustryEdge notes that the shortage is more pronounced for hardwood logs from native forests, with research suggesting that hardwood log availability from Australia's public forest estate will fall by 36% or 776 000 m<sup>3</sup> between 2001 and 2035 and by 25% or 115 000 m<sup>3</sup> from private forests. If policies change and more native forests are reserved, it is likely that these falls will be even greater.

For softwoods, the overall supply of sawlogs in Australia is anticipated to fall marginally between 2007 and 2015 (from 9.207 M m<sup>3</sup> to 9.149 M m<sup>3</sup>).

Resource availability has a fundamental influence on the types and magnitude of wood exports, and this is reflected in the fluctuations in Australian exports of forest products (Table 1).

Whilst domestic demand for both softwood sawlogs and softwood pulpwood is strong and adequate processing capacity exists, Australia is not currently equipped with the processing capacity to utilise the anticipated rapid increase in plantation-grown hardwood — notionally an additional 12 M m<sup>3</sup> annually from 2010. It is inevitable that exports of unprocessed and semi-processed logs will increase. The projected harvest volumes are such that exports of hardwood woodchips will increase despite the prospect of a new pulp mill in Tasmania and perhaps another in Penola. Australia's traditional woodchip export markets of Japan, Taiwan and South Korea are substantial but are not expected to expand, remaining flat or possibly declining (de Fegely 2006).

**Table 1.** Australia's exports of forest products 2002–2006 (ABARE 2006)

Material	Value of exports (A\$M)			
	2002–03	2003–04	2004–05	2005–06
Roundwood	107	114	73	82
Sawnwood	69	72	99	119
Railway sleepers	4	4	4	4
Miscellaneous forest products	53	49	65	60
Wood based panels	185	149	150	151
Paper and paperboard	626	630	622	593
Manufactured wood products	157	136	116	116
Wastepaper	50	53	97	140
Pulp	2	1	4	6
Woodchips	808	794	858	839
Total	2060	2002	2089	2110

De Fegely (2006) offered a number of factors which are likely to be the major market drivers for wood chips over the next 10 years:

- Japanese importers' procurement strategy
- Potential development of the Australian pulp and paper industry (pulp mills at Bell Bay, Penola, Western Australia)
- Foreign exchange, price and ocean freight
- The magnitude of the threat from competitors such as Chile and South Africa, and the development of domestic pulp mills in these countries
- Non-Japan market development such as China and India.

Two significant regional markets that are growing are those in China and India. It is estimated that China's new pulping projects will require some 15–20 M m<sup>3</sup> of wood annually and that this will result in increased demand for Australian wood chips in the short–medium term until Chinese domestic plantations are on stream (Flynn 2007; Fig. 2).

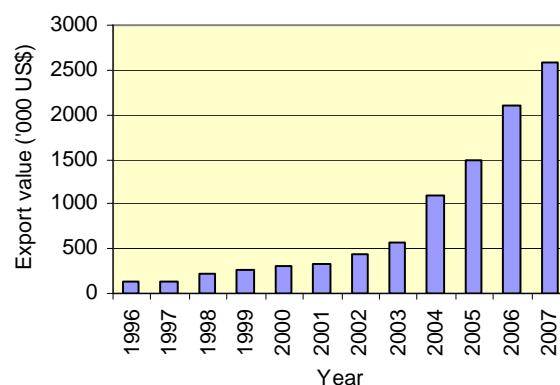
**Figure 2.** China's forecast trade in wood chips (Flynn 2007)

Formerly a net woodchip exporter, China now imports chips; demand is being driven by the large requirements of just two consumers — APP and APRIL accounted for 78% of Chinese woodchip imports in 2006.

Vietnam, with its rapidly expanding and burgeoning export trade in wooden furniture (Fig. 3), is likely to expand its imports of Australian wood and wood products. At a macro-level, Vietnam currently imports US\$900 M worth of wood and wood products (primarily logs but including panels) to service its US\$2.6

billion export market in wood furniture. It is worth noting that the total wood/wood products imports of Vietnam (excluding wood fibre) are about the same as those for India.

The economic reforms and the dynamic economy of India suggest that it has the potential to become a significant importer of logs, woodchips and other wood products from Australia. The prospect of a wood fibre surplus in close proximity to a chronic wood fibre deficit suggests potentially significant market linkages. In terms of Australia's total current export of forest products of A\$2.1 billion, the current trade with India at A\$8 M is small. However, there has been a steady increase in wood products export to India over the past decade (Table 2), responding to reforms in the Indian economy. The trade is dominated by pine logs which constitute 78% of the trade. The sustainability of log exports in the face of emerging sawlog shortages in Australia deserves examination, but it should be recognised that logs classified as reject or pulp logs in Australia find use as sawlogs in India. There appears to be an opportunity to expand the range and quantity of wood products being exported to India.

**Figure 3.** Vietnam's increasing wood furniture exports 1996–2007

**Table 2.** Australia's wood exports to India, 1997–2006 (World Trade Atlas) (A\$ million)

HS	Description	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
44	Wood	1.294	0.711	1.135	0.979	3.704	3.426	5.045	7.013	4.603	8.023
4401	Fuel in log, chips, etc.	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.028	0.000	0.000
4402	Wood charcoal	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000
4403	Rough wood, not sapwood	0.838	0.139	0.423	0.250	3.105	2.623	4.077	5.646	2.577	6.283
4404	Hoopwood, pickets etc.	0.000	0.000	0.065	0.049	0.133	0.048	0.032	0.000	0.000	0.000
4407	Lumber >6 mm thick	0.093	0.018	0.025	0.000	0.000	0.027	0.000	0.037	0.063	0.079
4408	Veneer etc. <6 mm thick	0.000	0.000	0.022	0.008	0.000	0.000	0.000	0.000	0.006	0.009
4409	Wood tongued, grooved	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.007	0.026	0.000
4410	Particle + similar board	0.119	0.128	0.110	0.035	0.000	0.000	0.000	0.000	0.006	0.000
4411	Fibreboard of wood etc.	0.156	0.340	0.441	0.468	0.417	0.577	0.884	1.260	1.729	1.297
4412	Plywood etc.	0.001	0.019	0.009	0.028	0.000	0.000	0.000	0.000	0.000	0.000
4413	Densified wood	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.113
4414	Frames for paintings, photos etc.	0.007	0.000	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.000
4415	Packing cases, pallets etc.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4416	Casks, barrels, vats etc. and parts	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.003	0.038
4417	Tools, brooms etc.	0.001	0.000	0.002	0.003	0.001	0.000	0.000	0.000	0.000	0.000
4418	Builders joinery and carpentry	0.011	0.064	0.001	0.000	0.000	0.008	0.004	0.027	0.022	0.171
4419	Tableware and kitchenware	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.011	0.000
4420	Marquetry etc., jewelry cases etc.	0.013	0.000	0.000	0.001	0.026	0.000	0.000	0.003	0.001	0.000
4421	Other articles of wood	0.056	0.003	0.037	0.025	0.011	0.142	0.047	0.000	0.159	0.034

Source of data: Australian Bureau of Statistics. Full details of the product descriptions are available at: <http://www.foreign-trade.com/reference/hscodc.cfm?cat=8>

# 2

## India and its Emerging Needs for Forest Produce

The Republic of India is a constitutional democracy made up of 28 states and seven union and national territories. Its population, currently over 1.1 billion, is growing at 1.6% per annum and is expected to exceed that of China by 2030.

The Indian economy is the second-fastest growing economy among the large economies of the world today. The World Bank has reported that India has been in the top 10% of all countries in growth performance since the 1980s (World Bank 2006).

The Indian economy is broad, ranging from high technology to subsistence agriculture. Indian economic engagement with the rest of the world has increased significantly, particularly in the services sector. The Lowy Institute (Thirlwell 2004) considered it likely that the turnaround in the country's economic prospects will ultimately see India follow in the footsteps of China and assume a progressively more important role in the international economy. There is much debate about India's long-term economic growth path, with some predicting that its economy will be the third largest in the world (on an exchange rate conversion basis) — up from twelfth — by 2032. Hawkesworth (2006) predicted that India will emerge as the second-largest global economy behind China in 2050.

Despite recent progress, significant challenges remain, including addressing the fiscal deficit and government debt, and improving infrastructure. Another challenge is to ensure that the benefits of economic growth are spread more widely. Despite the emergence of tens of millions from poverty during the 1990s, average incomes and literacy levels remain low, and India is one of the largest recipients of World Bank lending. India's score in the United Nations Human Development Index has increased marginally over recent decades, but it is still very low at 126th in 2006.

India's US\$650 billion economy is expected to grow by 9.2% in 2006–07. Prospects for medium-term growth are solid, with the World Bank forecasting average annual GDP growth of 6.1% from 2004 to 2008. Its return on investment is among the highest in the world — 19% compared with China's 14% — and is being fuelled by a substantial middle class with increasing purchasing power. Along with this impressive economic performance, inflation has generally remained stable at about 4% since 1999

(DFAT 2006). India's income per capita remains significantly lower than that of other large economies, and the challenge of wealth distribution will continue.

Estimates by the US Government (CIA 2006) indicate that, on a PPP<sup>1</sup> basis, India had a GDP per capita equivalent of US\$3400, nearly half that of China (US\$6300). Its huge population of just over one billion, however, combined with very uneven wealth distribution, means that it has a substantial middle class, as well as large numbers of rich and super-rich. Just how large these segments are is a matter of much debate and figures vary considerably; one Australian source remarks that 'estimates of India's middle class range from 200 million to 300 million' (Thirlwell 2004). Wiles (2005) observed that India had a large and growing middle class, although it is much too diverse to be defined by simple numbers and not to be compared with the 'middle class' in the US. The National Council for Applied Economic Research (NCAER) estimates that about 100 million people now live in households with annual incomes between Rs200 000 and Rs1 M (about A\$7200 to \$27 700) compared to about 15 M in 1990–91. This will grow further in the years to come. In the course of this study, estimates encountered of India's middle-class population varied from 150 to 450 M — the figure is substantial but needs to be better defined.

Liberalising trade has been a focus of economic reform in the past decade, including the removal of most quantitative restrictions on imports and reductions in tariffs. The subsequent increase in engagement with the world economy has led to a strong and continuing growth in exports of goods and services. Significantly, the proportion of GDP represented by exports of goods and services rose from 13% in 2001 to 23% in 2006. There remains significant scope for further liberalising India's trade.

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<sup>1</sup> National economies may be compared using either purchasing power parity or exchange rate conversion. The former method ranks the Indian economy third globally, while the latter ranks it about twelfth.

In terms of purchasing power parity (PPP) GDP, India is the third-largest economy after the US, China and Japan. India's share in world GDP (PPP basis) has increased from 4.3% in 1991 to almost 6% in 2005



India is pursuing a combined multilateral, regional and bilateral approach to trade policy through its 'Look East' policy with Asia. A free trade agreement (FTA) with Sri Lanka has been operational since 2002 and India and Singapore signed a comprehensive economic cooperation agreement in June 2005. India has been actively pursuing an expansion of bilateral FTA negotiations, including the first phase of an India–Thailand FTA in 2004 and others with Mauritius, China, Iran, South Asia (the South Asia Free Trade Agreement — SAFTA), BIMSTEC, ASEAN, Mercosur, the Gulf Cooperation Council and the South African Customs Union (SACU). On 31 August, Australia and India agreed to a joint study on a bilateral FTA.

The World Bank's 'Doing Business 2008' report of September 2007 indicates that doing business with India is becoming easier. India was ranked at 120 among 178 economies on the lending agency's charts, up from a low of 132 last year. The rankings are based on ten indicators of business regulation that track the time and cost to meet government requirements in business start-up, operation, trade, taxation and closure. Despite this improvement, however, India can still be a difficult country for business. India's ranking is lower than that of the Maldives (60), Pakistan (76), Bangladesh (107), Sri Lanka (101), Nepal (111) and Bhutan (119), and ahead only of Afghanistan (159) in the South Asian region.

A more open and economically successful Indian economy will become a more important bilateral trading partner for Australia. Before the economic reforms and its entry to WTO in the mid-1990s, India was Australia's 24th largest trading partner. By 2003 it had risen to 15th place, and by 2006 had become Australia's ninth largest merchandise trading partner with two-way trade in goods over \$11.4 billion (Austrade 2007). India's relative importance is set to continue to rise, bringing new opportunities for Australian exporters.

## India's forestry sector

### Resources

India's forest cover is estimated to be about 64 M ha, or 20% of the country's area (against the 33% target of the national forest policy), but the per capita availability of forest land is one of the lowest in the world, 0.08 ha, against an average of 0.5 ha for developing countries and 0.64 ha for the world. In qualitative terms, the dense forest cover (as distinct from forest land) has been reduced to 11% (Lal 2000). Forest degradation due to fire is a matter of serious concern, as is loss and damage through transfer of forest lands to other land uses, encroachment on forest lands for agriculture and other purposes, grazing, and pests and diseases. In December 1996 the Supreme Court of India banned the indiscriminate clearing and

logging of forests, and strictly limited harvesting of timber to that within sustainable limits as prescribed in forest working plans approved by the central government.

Around 95% of the forest is classified as tropical with relatively low productivity, partly due to degradation over large areas. The estimated growing stock is 4782 M m<sup>3</sup>, equivalent to a low average of 62 m<sup>3</sup>/ha of recorded forest area (FSI 2005).

Unauthorized removal of firewood — far beyond sustainable levels — forest fires and shifting cultivation in many states are the main causes of degradation. The forest-derived fuelwood is augmented by supplies from trees outside the forest (ToF), which cover nearly 2% of the land area (FAO 2005).

Around 80% of rural people and 48% of urban people use fuelwood (ITTO 2004). India is the world's largest consumer of fuelwood. The country's consumption of fuelwood is about five times higher than can be sustainably removed from forests, but a large fraction of this fuelwood is grown and managed outside forests. Fuelwood meets about 40 % of the energy needs of the country. About 70% of the fuelwood is used by households and the rest by commercial and industrial units.

Non-wood forest products (NWFPs) such as latex, gums, resins, essential oils, flavours, fragrances and aroma chemicals, thatching materials and medicinal plants are important to rural economies. It is estimated that 60% of NWFP production is consumed locally. Sale of NWFPs accounts for nearly half of the total revenue from the forestry sector in India. NWFPs provide as much as half of the income of about 30% of rural people (ITTO 2004).

Efforts are under way to establish plantations and to restore degraded forests, which make up about half of the forest area. Forestry plantations include teak (2.5 M ha), rubberwood (0.6 M ha), eucalypts (4.8 M ha; Fig. 4) and poplar (0.06 M ha), while species in the natural forest range from pine and cedar in the north to teak, mango and rosewood in more southerly regions.

Plantations play a vital role in India's wood balance (Fig. 5), providing some 76% of roundwood. The impact of current GoI plantation initiatives on the future availability of timber to meet increased demand, however, is expected to be limited. Among the constraining factors are the small budget for reforestation and afforestation, the use of seed and planting stock of poor genetic quality, growing emphasis on the environmental and social services provided by forests at the expense of timber production, and competitive demand for land from the country's expanding population.

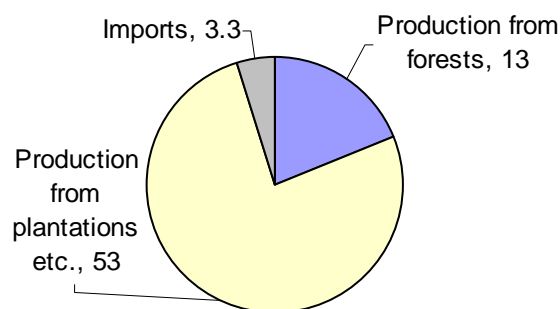


**Figure 4.** There are opportunities to raise production from eucalypt plantations by further planting and also by using more genetically-improved stock

Although per capita figures of consumption of wood and wood products might be low, the total size of the Indian market is substantial. ITTO (2004) estimated that the total industrial log consumption in India was about 50 M m<sup>3</sup> in 2004 and that it will grow to 90–130 M m<sup>3</sup> in 2020.

During 1999–2001, India's total annual consumption of sawnwood was 8.1 M m<sup>3</sup>, wood based panels 0.4 M m<sup>3</sup>, and paper and paperboard 4.4 M t.

Half of the raw material for India's panel products comes from northern India, and 90% of this is plantation-grown poplar and eucalypt from farms and agroforestry. Trees outside forests are playing a substantial and increasing role in the provision of fast-grown raw material for the panel, pulp and paper industries. In the plywood sector, the demand for core



**Figure 5.** Indian sources of roundwood, 2005 (M m<sup>3</sup>)  
USDA (2006)

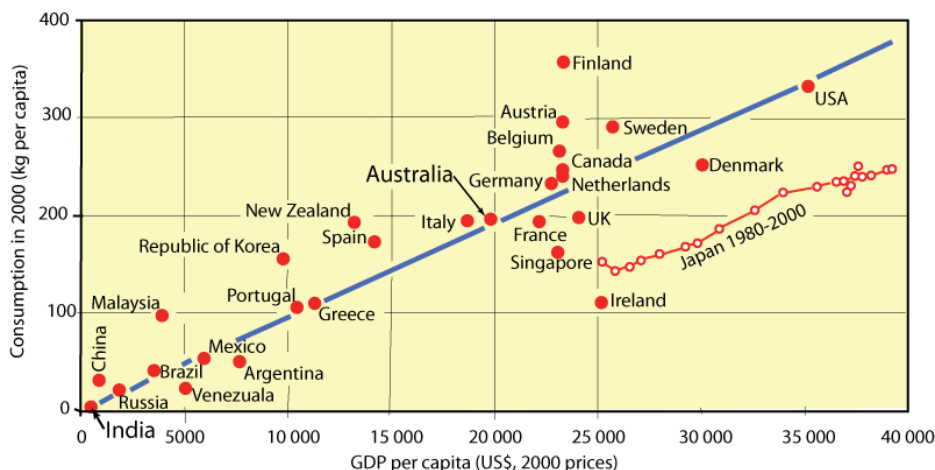
veneers is high, and the industry uses fast-grown eucalypt and poplar down to 10 cm sed.

Global experience has demonstrated that countries with high per capita GDP consume relatively more processed wood products. This is demonstrated in Figure 6 which presents levels of consumption of paper and paperboard against per capita GDP.

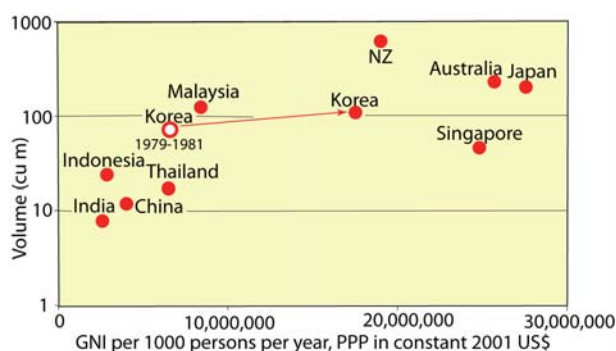
India's current per capita consumption of 7 kg/person/year is small when compared with Australia's 200 kg/person/year, but the indications are that this will grow in line with increasing GDP to 14 kg/person/year in 2015 (IPMA, pers. comm.).

Whilst per capita consumption for sawnwood and wood-based panels in India is small, market experience demonstrates that this also will increase along with GDP.

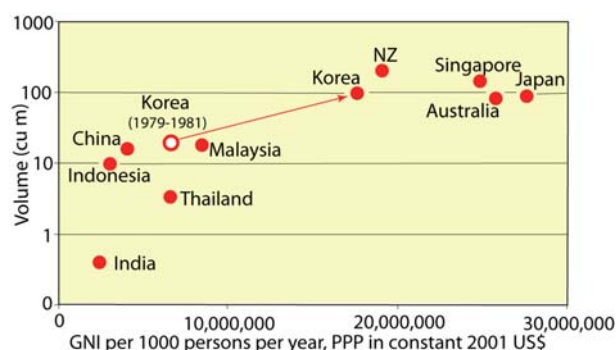
Figures 7 and 8 (ANU 2003) compare annual consumption of sawnwood and wood-based panels per person in India for with that in countries such as Korea and Australia. These show that per capita consumption of processed forest products in India is comparatively very low and that there is potential for great increases with increasing GDP.



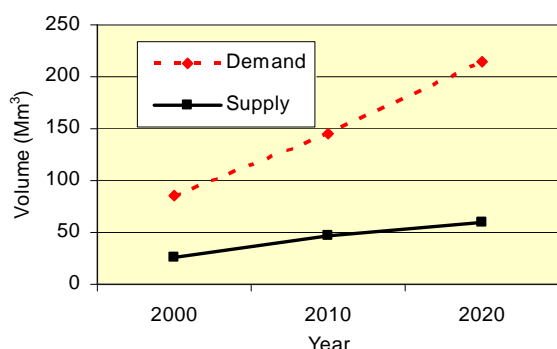
**Figure 6.** Per capita paper and paperboard consumption vs per capita GDP (2000) (Jaako Poyry Consulting)



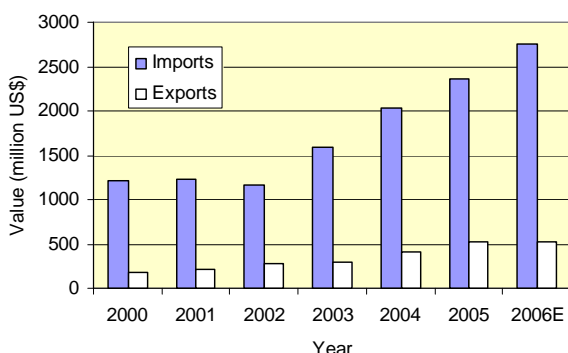
**Figure 7.** Annual consumption of sawnwood, cubic metres per 1000 persons, 1999–2001 (ANU 2003)



**Figure 8.** Annual consumption of wood-based panels, cubic metres per 1000 persons, 1999–2001 (ANU 2003)



**Figure 9.** India's expanding wood deficit: supply and demand for industrial roundwood (Khanduri and Mandal 2005)



**Figure 10.** India's imports and exports of wood and wood products including wood fibre (Flynn et al. 2007)

## Balancing supply and demand

Despite an enormous and varied forest resource, India is timber-deficient. Over-exploitation and the lack of effective forest management led to the virtual logging bans in natural forests in 1996. The tight supply position is indicated by the extent to which resources of poor quality are utilised (Figs 11, 12) or small or low-quality logs imported (Figs 13–15). Significant quantities of both hardwood and softwood are now imported to meet demand.

Khanduri and Mandal (2005) identified the large and growing shortfall in India's domestic wood supplies (Fig. 9) and the necessity to maintain imports to meet national demand. They estimate that the wood supply deficit will exceed 90 M m<sup>3</sup> by 2020 — a substantial increase from the roundwood deficit of 21 M m<sup>3</sup> in 1999 identified by Singh *et al.* (2003).

It is estimated that India imports only around 5% of its total annual consumption of logs. The vast majority of domestically produced logs are derived from plantations (Table 3 and Fig.5).

India's deficit will have to be met through imports. Armed with existing knowledge, it seems probable that in 10–15 years India will have booming consumption and imports of forest products similar to those of China today.

There is no question that the Indian market will be unable to satisfy an increasingly significant part of its raw material requirement from domestic resources. As Indian native forest, bamboo and agricultural residues reach the limits of available supply, Indian pulp and paper manufacturers and wood processors will increasingly need access to new plantation timber and expanded imports.

## India's imports of wood and wood products

India is a net importer of forest products and wood fibre, and these imports are increasing rapidly; in 2006 imports were valued at US\$2.75 billion with exports valued at US\$0.55 billion, a deficit in forest products trade of US\$2.2 billion (Flynn et al. 2007: Fig. 10) comparable with Australia's deficit of US\$1.8 billion. In 1995, Indian imports were valued at US\$0.5 billion and in 2001, US\$1.0 billion (ANU 2003).

**Table 3.** Indian log production, imports and apparent consumption 2003 (Wiles 2005)

Source	Volume (m <sup>3</sup> )
Production:	
— from natural forests	14 000 000
— from plantations and homesteads	43 000 000
Imports	3 000 000
Total apparent consumption	60 000 000





**Figure 11.** The scarcity of raw material is reflected in the use of very small logs and stumps for sawn produce



**Figure 12.** Small domestically-grown poplar logs



**Figure 13.** Small teak logs from Ghana (foreground) and squared logs from Ecuador (background) with Mr R.T. Somaiya



**Figure 14** Rough, over-mature radiata pine logs from Australia



**Figure 15.** Square stock recovered from the pine logs shown in Figure 14

**Table 4.** Summary of imports of logs and wood products 2002–03 to 2005–06 (Source: Directorate General of Commercial Intelligence and Statistics, GoI) (US\$ millions)

Item		Indian financial year				
HS Code	Description	1996–97	2002–03	2003–04	2004–05	2005–06
4403	Wood logs	246.70	348.56	667.70	820.24	897.99
4407	Sawn timber	4.84	7.40	12.32	13.24	22.54
4408	Veneer	6.43	3.48	3.60	4.90	12.01
4410	Particleboard	3.61	7.53	13.25	16.76	28.75
4411	MDF/HDF hardboard	0.68	10.60	13.07	17.50	30.19
4412	Plywood	4.17	3.67	4.20	5.08	8.92
9403	Wooden furniture	0.47	7.01	25.04	37.88	33.38

India's imports of wood and wood products (excluding recovered and other wood fibre) have grown by 12% annually over the last decade (USDA 2006, Table 4 and Fig. 16), indicating strong domestic reliance on imports to meet the material needs for solid wood products.

Some 86% of the value of India's imports of wood are in log form (Table 2), a situation which is influenced by differential tariffs.

A new study released by RISI (Flynn et al. 2007) forecasts India's log imports and recovered paper demand will double by 2016. The study, *India's Forest Products Industry*, projects that India is poised to make a major impact in the global recovered paper market with a 7.9% annual growth in demand for recovered paper through 2016.

This growth will make India the second-largest recovered paper market in the world, after China. The study also forecasts Indian imports of logs, primarily hardwood from South-East Asia and Africa and softwood from New Zealand and Australia, to double between 2006 and 2016.

Just as Chinese growth has had enormous impact on the global forest products industry, India's strong economic growth and huge population offer a superficial indication that India might become the next China. The RISI study concludes that the development of India's paper and wood industries will take a different path than that of China.

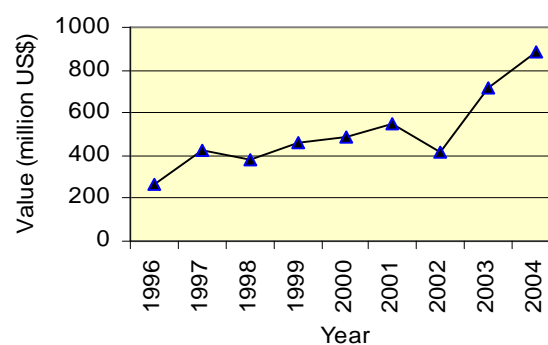
Whilst India's consumption of both wood and paper products can expect strong, continued growth over the next ten years, there are significant supply and infrastructure issues and it is unlikely that India will reach China's level of demand in any particular product category. It is unlikely that production of agro-based fibres will expand significantly to meet the increased demand for fibre — the practical difficulty in recycling chemicals for systems using wheat straw, bagasse etc. require mills to have an output capacity of

over 50 000 tpa. At this size, it is difficult to establish a sufficiently large supply catchment. IPMA (pers. comm.) estimates that total wood fibre imports for 2006–07 were:

- **Pulp:** Imported in sheet form (softwood + hardwood) 500 000 t, made up of: 100 000 t of softwood NBSK, 100 000 t of BCTMP and 300 000 t of hardwood pulp BHKP (mixed hardwoods 200 000 t and eucalypt/acacia 100 000 t)
- **Recycled fibre:** Total usage is 4.2 M metric t: 1.2 M t from domestic sources; 3.0 M t imported
- **Newsprint:** 680 000 t.

At this stage the pulp industry, despite high delivered costs of domestic fibre (US\$70/m<sup>3</sup>), does not import raw material, but consideration is being given to the import of 40 000 bdt of *E. globulus* logs from Ethiopia via the Red Sea port of Djibouti.

The World Bank (2006) forecasts that, while domestic wood supplies are likely to increase as management plans continue to be approved and new plantations come on stream, they will not meet rising domestic demand. The projected timber supply deficit for 2006 was 39 M m<sup>3</sup>. This shortfall was met partially through imports of logs from overseas suppliers.



**Figure 16.** India's total imports of wood and products excluding wood fibre, Indian fiscal years 1996–97 to 2004–05 (USDA 2006)

Log imports are supported through a favourable tariff regime of 9.25% on logs, compared with 19.25% on sawn wood (these tariffs were raised by 3% to these levels in the 2007 budget).

On a volume basis, about 95% of all wood imports to India are industrial roundwood, mainly tropical hardwoods. For products like pulp and paper, alternative supply options, such as bamboo, or importing pulp and paper directly, exist. But for timber the current level of log imports does not come close to meeting the supply gap (Fig. 17). While available data preclude a detailed analysis of the national timber market, it appears that much of the log supply deficit is being met through illegal harvesting within India's forests, putting additional pressure on remaining high-quality dense forests.

Log imports grew from less than 1 M m<sup>3</sup> in 1997 to 3.3 M m<sup>3</sup> in 2005–06. The International Tropical Timber Organization forecasts that by 2010 India will be importing over 6 M m<sup>3</sup> of whole logs per annum (Fig. 18).

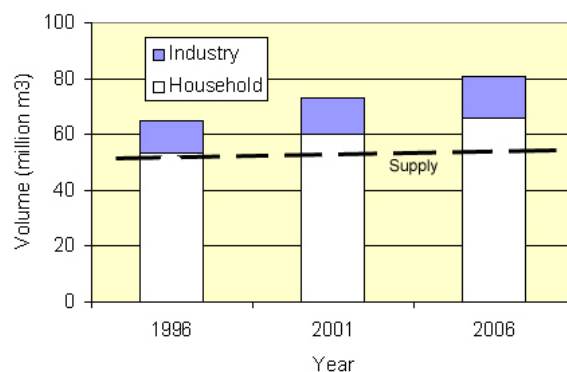
Due to the import tariff structure (see Annex 2), most wood imports into India are logs (Fig. 19). The preference for importing logs also stems from the availability of cheap labor and the large number of small sawmills (Fig. 12) that are able to extract a high percentage of usable timber at very low cost. Although logs are imported from around 100 countries, six countries account for the bulk of imports. In order these countries (in c. 2004) were Malaysia, Myanmar, Indonesia, Nigeria, New Zealand and Ivory Coast (Fig. 20). — but other sources suggest that most Nigerian production is used domestically, illustrating the challenge of obtaining reliable data.

## Imports from Australia and New Zealand

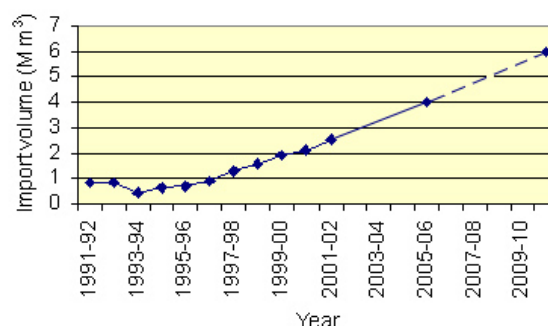
India is an attractive export destination for Australia and New Zealand, given its geographic proximity, economic growth, lack of language barriers and familiarity with eucalypt and pine species.

Indian imports of wood and wood products from Australia and New Zealand are dominated by logs of *Pinus radiata*. Seventy-eight percent of Australia's A\$8 M wood exports to India in 2006 were pine logs (Table 2). These were imported through the port of Kandla and then distributed throughout northern India, mainly by road. Some radiata logs from New Zealand are imported through the southern port of Tuticorin, where radiata sawn timber is used for packaging material (for packing and transport of glass products).

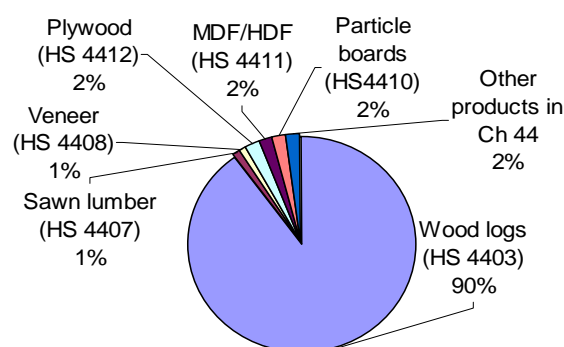
The total Kandla pine market (Australia plus NZ) in 2006 was 450 000 m<sup>3</sup> and it is expected that the 2007 market will expand to about 550 000 m<sup>3</sup>. Questions are being asked about the ability of market demand to sustain these high levels of imports.



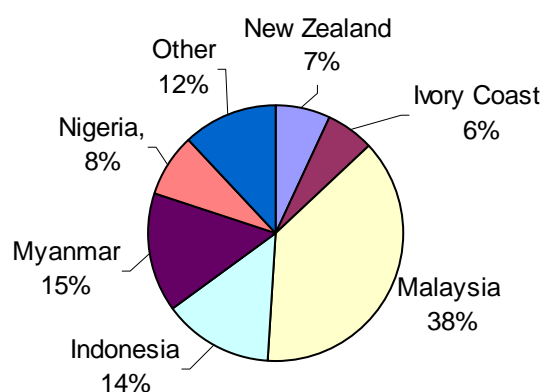
**Figure 17.** Estimated timber demand (in columns) and supply, India (World Bank 2006)



**Figure 18.** India's industrial roundwood imports (ITTO 2004)



**Figure 19.** India's imports of wood and wood products by type (2004-05); total imports were US\$894 M (USDA 2006)



**Figure 20.** India's suppliers of imported roundwood (ITTO 2004)



The strength and quality (fewer knots) of sawnwood from Australian radiata is viewed as superior to that from NZ radiata (consistent with strength tests elsewhere). Log volumes are calculated using the Japanese Agricultural System (JAS) which is based upon small-end diameter (sed). NZ logs (generally) have a greater taper than Australian logs, and this means that recoveries of lumber from NZ logs are higher — reportedly 7–10% higher.

Three Australian and NZ companies are shipping to Kandla: Pentarch Forest Products, ZINDIA and Pacific Forest Products (on an irregular basis). In June 2007, CIF prices for radiata pine (KI grade) were US\$161/m<sup>3</sup> Kandla. In July the price had dropped to US\$151/m<sup>3</sup> due to the aggressive market presence of ZINDIA, a NZ company seeking to find a niche in the Indian market. The approximate delivered cost (after taxes, unloading etc.) of radiata logs at Kandla processing plants is about US\$245/ m<sup>3</sup>.

The nature of the radiata trade has changed since it began in 1997–98. At that time, few clients had the capacity to raise and operate a letter of credit; this combined with the lengthy and complex administration and documentation processes made the transaction costs for a wood trade very high.

This has now changed, and most buyers prefer to negotiate their own imports.

Generally, log ships involved in the Australia/NZ–India trade are Handy-sized vessels with capacity of about 25 000 m<sup>3</sup> JAS. Recently there have been berthing delays of up to 15 days for timber vessels at Kandla. The port has an average discharge rate of 3000 m<sup>3</sup>/day. For a single-customer vessel this can reach 4000 m<sup>3</sup>/day, but for vessels which might have log cargoes for 20 customers the discharge rate is substantially slower.

Market prices for pine logs in Kandla are very sensitive to small variations in market supply — if supply exceeds balanced demand by only 10%, a flurry of unsustainable discounting takes place. The pine log market in Kandla is extremely volatile at present, with short-term surpluses depressing prices.

There is a cyclical demand for wood in India — from April–July, demand dips in response to the monsoon and lower building/construction activity. April–May are extremely hot and sawmills work at less than capacity. In September–January the prices are at their best. This annual cycle has been broken by the recent wood surpluses.

## Use of wood in housing and the role of teak

India has a strong traditional preference for hardwood species, particularly teak. This preference for tropical hardwoods is related to the superior termite resistance

of hardwoods and the country's hot and humid climate, which precludes the use of untreated softwoods. Softwoods are perceived to be inferior, suitable only for low-grade and short-life applications. *Pinus radiata*, although recognised as a fine utility timber in many other parts of the world, is considered as a cheap and disposable timber and used generally for low-value purposes — concrete formwork, packing cases, pallets, etc.

Fast-grown plantation woods are regarded as 'weaker' in strength and not 'high class'. These perceptions are, however, changing, as Indian consumers have been encountering the irregular quality and supply of tropical hardwoods and, at the same time, becoming more aware of the different aesthetic appeal provided by alternative hardwoods and softwoods.

Eucalypts have been extensively planted in India and have a poor reputation as a sawn wood — the wood is considered as cheap and disposable. Eucalypt wood is very strong and is used for heavy-duty packing cases, dunnage and door frames in cheaper houses. Given the reputation of eucalypt timber in India, it is doubtful if the market would pay competitive prices for KD rough sawn lumber ex Australia. If eucalypt lumber from Australia is to gain a foothold in the Indian market, effective PR and an effective marketing program will be required.

For housing construction, there is a strong Indian traditional preference for stone and brick and it is unlikely that this will change quickly. Timber-framed housing has failed to become popular for a number of cultural reasons — Indians build a house as a long-lasting family asset (across several generations) and timber-framed housing is not seen as long-lasting. In a sector that is very price sensitive and in which price thresholds are low, it is likely that the delivered cost of construction-grade Australian/US/Canadian timbers will be very high. Among other observations offered by the Indian Institute of Architects (Dalvi, pers. comm.) as to why wood is unlikely to be used more widely in construction were:

- wood has high maintenance costs
- wood of acceptable quality is generally unavailable
- wood is considered susceptible to fire and rot — and consequently loss of strength over time
- wood is expensive compared to alternatives of reinforced concrete construction (RCC) and steel. RCC is losing ground to steel because construction is faster and steel is of consistent strength (RCC might for example be made from poor concrete)
- marble, terrazzo, tiles are preferred for flooring — wood is expensive to buy and to maintain

In summary, little wood is used in modern houses — RCC and/or steel which have known properties are preferred as beams etc. There is increasing use of aluminium window frames. Wood is used for special (and expensive) features and for furniture.

Indians do like wood as a feature in their housing, however, and in the current housing boom across the country's mega-cities it is known that the money spent on new houses will be matched by that spent on fittings and decoration, much of which is wood. There are regional preferences in the use of wood in housing. For example, consumers accept *P. radiata* timber more readily in the north. In the south, the best available wood should be used for the main door of the house — presenting opportunities for solid doors of Tasmanian oak (for example).

Teak is the benchmark for most wood products in India, and it is against teak that most wood and wood products parameters are measured — price, strength, beauty. The findings from the 2001 study on Canadian opportunities in India (Canadian Forest Service 2001) concluded:

...There is very little experience with treated timber as most buyers are unwilling to pay the resulting price premium, arguing that their preferred species (teak) does not require any preservative treatment and will last much longer than competing species ... Composites are compared unfavourably to teak and deemed to be less durable and far less reliable.

Ratan (1999) acknowledged the pre-eminence of teak in the Indian market and estimated that it accounted for 50% of domestic wood consumption. Wiles (2005) also observed that teak was the industry benchmark.

India is the world's largest teak market, with an estimated 2.5 M m<sup>3</sup> imported annually (c/f global teak trade of 3.0 M m<sup>3</sup>) — from sources as diverse as plantations in Ecuador and West Africa and native forests in Myanmar. Teak of large sizes from native forests in Myanmar attracts the highest market prices; prices for plantation teak depends upon size and colour, with dealers favouring teak from the Ivory Coast because of good grain, colour and large size. Indicative teak prices in Kandla (round logs, CIF, Kandla) were (mid-2007):

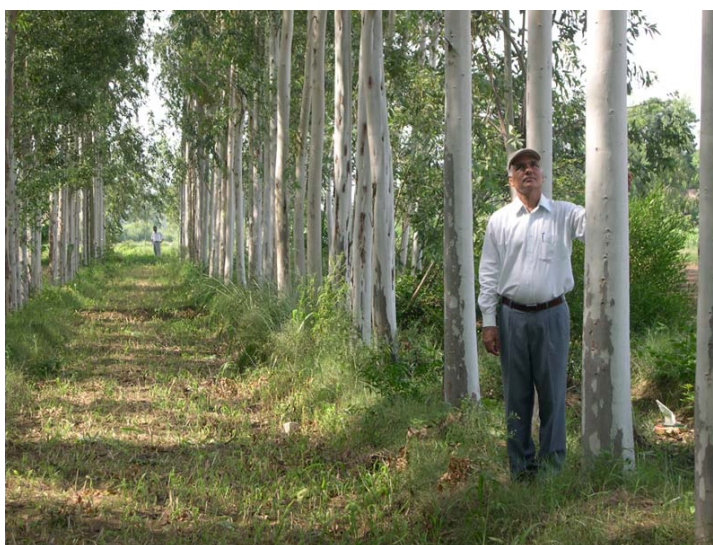
- Ghana US\$400–600/m<sup>3</sup>  
(including squares)
- Ivory Coast US\$600–700/m<sup>3</sup>  
(only round logs — mostly large)
- Togo US\$350–400/m<sup>3</sup>  
(small squares)
- Ecuador US\$300–350/m<sup>3</sup>  
(small roundwood)

Ganguli and Eastin (2007) found that consumers were using less teak, mainly because of high prices and the low quality of imported, fast-grown plantation teak. In addition, middle-class consumers were tending towards greater use of western-style furniture and kitchen cabinets.

## The paradox of commercial Indian plantations

India has considerable resources of both forest and non-forest plantations. Coconut (*Cocos nucifera*) 1.8 M ha, rubber (*Hevea brasiliensis*) 0.6 M ha, cashew (*Anacardium occidentale*) 0.2 M ha and tea (*Camellia sinensis*) 0.5 M ha, offer modest supplies of wood, supplementing plantations of teak, casuarina and 4.8 M ha of eucalypt plantations — by far the largest eucalypt resource in terms of area in the world (Brazil, the world's largest producer of eucalypt wood, has 3.6 M ha, and China, another large grower, has 1.7 M ha of mainly young eucalypts). With the exception of eucalypts commercially grown by industries, or on farms with links to industries, the productivity of the eucalypt plantations is a great disappointment.

Theoretically, India should have a booming forest plantations sector. Logs from plantations command high prices (Fig. 21). It has large areas of deforested, under-utilised land, species of proven performance, suitable climate and sites, technical skills, adequate finance, and strong commitment and support from large plywood and pulp industries. Despite the acknowledged importance of the paper industry to India's expanding economy, expansion of the raw material base to meet India's needs for wood fibre is seriously limited. The IPMA anticipates that the industry's need for wood will grow from ~5.2 M t annually to ~13.2 M t in 2020. It has requested the GoI to allocate some 1.5 M ha of India's 32 M ha of



**Figure 21.** Fast-grown eucalypt logs from trees seven years old can fetch A\$125/m<sup>3</sup> for veneer or A\$71/m<sup>3</sup> for pulp at the mill door (DSCN2441)

degraded and under-utilised forest land to commercial, sustainably managed plantations, but there appears to be little political will to accommodate this request.

The reasons for this paradox relate mainly to the issue of land. Government policies have a huge influence on the pulp industry and its capacity to expand to meet the increasing needs of the Indian people. The main challenge facing the industry is government policy NOT to allocate wastelands to industrial plantation establishment, and unless land is allocated industry will have to seek its raw material elsewhere.

Lal (2000) suggested significant changes to the National Forest Policy to address this paradox —

observing that, although the country is faced with critical shortages of raw material to meet the needs of modern India, more than 32 M ha of degraded forest lands and 100 M ha of non-forest wastelands are unavailable for plantation establishment. This is a topic that will become more pressing as resource supplies become tighter.

It appears that it would be advantageous to India if the national requirements for industrial wood and the options for supply could be clarified; this would seem to require a constructive dialogue between industry and all levels of government. There may be an opportunity to share with Indian policy partners the Australian experience in developing the 2020 Vision.

# 3

## Infrastructure and Regulations for Trade in the Forest Industries Sector

### Infrastructure

#### Ports

With a coastline of over 6000 km, India has 12 ‘major’ international ports (Table 5) and 139 minor ports.

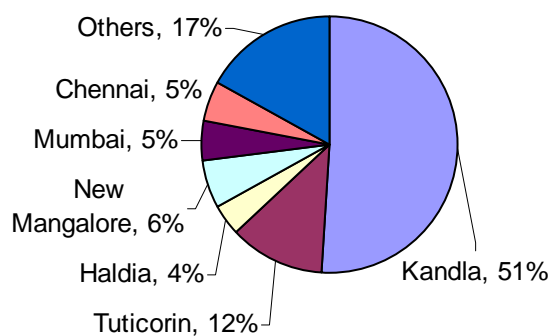
**Table 5. India’s major ports**

Calcutta/Haldia	Chennai (Madras)
Cochin	Ennore
Jawaharlal Nehru	Kandla
Mormugao	Mumbai (Bombay)
New Mangalore	Paradip
Tuticorin	Vishakhapatnam (‘Vizag’)

Congestion at Indian ports — due to capacity constraints — is hampering the swift movement of goods, inflicting a cost premium and disadvantaging the economy (GoI 2007). The National Maritime Development Program, formulated by the Department of Shipping, encourages an investment of over US\$13.3 billion to increase the capacity of ports to bring them up to globally competitive levels. The reforms already carried out in the port sector have borne fruit. GoI (2007) reports that port efficiency has improved, demonstrated by the fall in average turnaround time from 5.1 days in 1999–2000 to 3.5 days in 2005–06.

Most of India’s wood imports are logs and are imported as break-bulk shipments, with some (mainly higher-value logs) arriving in containers. The major ports involved with log imports are shown in Figure 22. Kandla services the largest volume of log imports (estimated at 2.5 M m<sup>3</sup> in 2006) and supplies all of northern India, providing more than half of the wood imported by India. Somaiya (pers. comm.) confirmed this and estimated that most log and timber imports are handled through Kandla and other ports in the following proportion:

Kandla	53%
Bombay	10%
Mangalore	16%
Tuticorin	10%
Vizag	6%
Calcutta	5%



**Figure 22.** Imports of logs through India’s ports (ITTO 2004)

Container handling facilities are available at most major ports and in several cities. Most of the major ports report on their capacity and performance and this is available through:

[http://www.indiandata.com/ports\\_in\\_india.html](http://www.indiandata.com/ports_in_india.html)

Each of the log importing ports has its own qualities and challenges. Calcutta is reported to have poor infrastructure but is close to established plywood mills; the facilities at Vizag are shared with the Navy, Chennai and Pondicherry are both small and possibilities for expansion are limited, Tuticorin is the second-largest port after Kandla, Thiruvananthapuram (Cochin) and Mangalore are fairly large and the infrastructure is being upgraded, Goa is small and Mumbai is mainly a port for finished products and imports in containers.

Port congestion and port discharge rates influence landed log costs and the attractiveness of various ports for trade in wood products. For example, Tuticorin can discharge *Pinus radiata* logs at a rate of 500–600 m<sup>3</sup> per day, whereas Kandla can discharge at a maximum of 4000 m<sup>3</sup> per day for a single customer, although discharge rates are lower with multi-client shipments.

Of the Indian ports being used by current Australian exporters of logs, Kandla in the north-western state of Gujarat is the ‘major’ port. There are 10–12 operational ‘minor’ ports in Gujarat, and these are generally operated as a joint venture between the state government and private interests. They include Mundra, which handles logs in containers (especially from Africa) and Navalakhi, which handles coal via mid-stream discharge. There are proposals to establish,



over the next 10 years, another 10 ports — half of which will be product-dedicated ports and half common user ports. Some of these ports will favour wood imports as business takes advantage of the newly proclaimed *Import Timber Conversion Zone* adjacent to Kandla port.

Whilst Indian ports can handle imports of logs, sawn lumber and other wood products, no port has the capacity to handle and import wood chips (Walker 2006) although this may change with developments at Kakinada.

The ongoing development of Kakinada Port in Andhra Pradesh as a modern deep-water port offers opportunities to potential Australian exporters. Kakinada is a city experiencing rapid growth, thanks to its recently granted status as a Special Economic Zone. Kakinada's deep-water port is managed by Cocanada Port Company Pvt Ltd, which is undertaking substantial expansion and modernisation including the construction of a separate berth dedicated for general cargo; deepening the draught from the present 12 m to 13.2 m for receiving large vessels; extending the present berth by 180–200 m on the north side for berthing tug boats of oil and gas companies; reclaiming and developing a back-up area for establishing a supply support base, specialty chemical complexes, mineral trading zone, bitumen storage systems, coal yards etc.; construction of large warehouses for various port users; and ship-to-ship transfer of crude oil to smaller tankers. The port authorities believe that they have room to accommodate facilities for wood chip imports. This port could potentially service three pulp mills:

- The Andhra Pradesh Paper Mills at Rajamundri — 100 000 tpa (60 km from port)
- The ITC mill at Bhandrachalam — 200 000 tpa (200 km from port)
- The BILT mill at Kamalapuram — 100 00 tpa (280 km from port)

Transport of wood and logs from the ports to other large centres is via rail and truck. This shipment across the subcontinent is benefiting from the infrastructure development in the 'Golden Quadrilateral' — the highways and railways which connect Kolkata, Chennai, Mumbai and New Delhi (see frontispiece). A small amount is being shifted in barges and small coastal vessels. The road and rail infrastructure is targeted for major reforms.

## Roads

The Indian road network is the largest in the world, extending for 3.32 M km and consisting of 65 569 km of national highways, 128 000 km of state highways, 470 000 km of major district roads and about 2 650 000 km of other district and rural roads.

Important for the transport of logs and sawn timber from ports to markets are the national highways which account for only about 2% of the total length of roads but carry about 40% of the total traffic. Recognising the importance of the national highways and the rapid increase in traffic, the government has commenced the National Highways Development Project (NHDP), the first phase of which is the Golden Quadrilateral.

Among the ambitious plans for subsequent phased improvements to the national highways are:

- upgrading 10 000 km to four-lane highways (NHDP Phase III)
- an accelerated road development program for the north-eastern region
- upgrading 20 000 km of two-lane highways with paved shoulders under NHDP Phase V
- development of 1000 km of expressways under NHDP Phase VI
- development of ring roads, bypasses, grade separators, service roads, etc. under NHDP Phase VII.

Freight in India, and that used for long-distance transport of logs and lumber, is generally limited to trucks of 24 t capacity. Trucks of this capacity are widely used throughout India, except for short hauls close to ports (Walker 2006). The work-horse of the bulk log and timber haulage sector, however, is the 10-tonne lorry.

There are no standard freight rates in India and the rates vary widely, influenced by destination, season, terrain, commodities, road conditions, possibilities of backloads, taxes and social issues such as the bargaining powers of truck unions and clients. For most bulk commodities carried over national highways, typical freight rates are in the range A\$0.03–0.06/tonne km (Rs1–2/tonne km), with wide fluctuations between specific destinations as influenced by the other factors mentioned above. Freight rates for pulpwood are largely dependant upon distance, and in northern India are roughly:

- 35–50 km @ Rs280–300/tonne (local lorries) (A\$0.17–0.23/tonne km)
- 100–155 km @Rs200–250/tonne within Madhya Pradesh (A\$0.05–0.06/tonne km)
- 200–250 km @Rs400–450/tonne within Madhya Pradesh (A\$0.05–0.06/tonne km)
- 350–400 km @ Rs350–400/tonne from UP to Madhya Pradesh (A\$0.03/tonne km)
- 500–550 km @Rs750–900/tonne from UP to Madhya Pradesh (A\$0.04–0.05/tonne km)

These rates compare favourably with those in Australia (A\$0.08 – 0.14/tonne km) or Thailand (A\$0.07–0.10/tonne km).

## Railways

The Indian Railways, the world's second-largest rail network under a single management, has two main segments — freight and passenger; the freight segment accounts for 65% of revenue. Within this freight segment, bulk traffic accounts for nearly 95%, of which about half is coal. Railways should offer the wood and wood products industries attractive freight alternatives, but wood traders deal in relatively small volumes of freight and find that road transport mostly meets their needs of volume and timeliness.

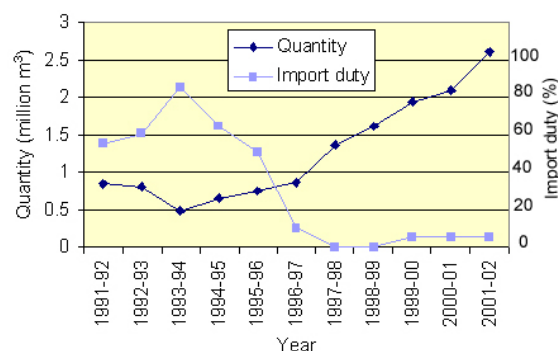
The high-density railway network, connecting the four metropolitan cities of Chennai, Delhi, Kolkata and Mumbai, including its diagonals, is congested at most locations. The Mumbai–Delhi and Mumbai–Howrah routes already have very high utilisation of capacity. The Ministry of Railways has recently sanctioned the construction of two Dedicated Freight Corridors on the Eastern Route (Ludhiana–Son Nagar, 1280 km) and on the Western Route (JNPT–Tughlakabad Dadri, 1483 km) at an approximate cost of A\$11 billion. Studies on four other corridors, viz. East–West, North–South, East–South and South–South are proposed for 2007–08.

Indian Railways is undertaking a major reform program to enhance the business orientation of the organisation. Policy initiatives include simplification of procedures to improve customer interface, provision of freight forwarders and private freight terminals, introduction of competition in certain sectors (containers for example) and offering concessions for loss-making branch lines.

## Tariffs and other government imposts on wood and wood products

In recognition of the significance of the continued supply of imported logs to its wood-processing industry and following court-ordered restrictions on domestic logging in 1994–95, the Government of India began liberalising wood product imports in 1995. Since then, import duties on wood and wood products have been gradually decreased. For example, until 1995, logs were the only wood product freely importable to India with a duty of 15%. Imports of other wood products were permitted only against advanced licences or special import licences. Since 1996, import licensing requirements (quantitative restrictions) have been progressively removed on roundwood, sawn lumber and several value-added products. By April 2000, there were no quantitative restrictions on any import tariff line in the entire forestry sector, with the sole exception of newsprint (Wiles 2005).

The effect of reductions in tariffs on log imports upon the quantity of imports is graphically demonstrated in Figure 23.



**Figure 23.** Log import quantity vs levels of import duty 1991–92 to 2001–02 (ITTO 2004)

The Government's ongoing program of economic reform has included changes to the overall tax regime, to the regulatory framework governing investment and to tariffs and other trade barriers. The 2006–07 budget contained further changes in these areas, including the following that may affect Australian companies:

- the education cess, a surcharge levied on all taxes and import duties (with some specified exemptions), has been raised from 2% to 3%
- the central sales tax has been reduced from 4% to 3%
- whilst the rate of service tax has remained steady at 12%, several new services have been added to the tax's scope. These include outsourced mining services and commercial leases.

India's economic reforms since 1996 have made trade in wood and wood products more attractive. Following signing up to WTO in the mid-1990s, import duties were lowered, quantitative restrictions were removed, and almost all wood products were placed in the freely-importable category. Recognising the importance of imported roundwood to supply its timber processing industry at that time, India lowered import duties on all logs and 'squared logs' (cants) to just 5%. At the same time, import duty rates for all other timber products range from 30% for sawn timber to in excess of 60% for sliced veneers and other value-added products. Consequently over 90% of India's forest product imports are in log form as the country protects its timber processing industry through the application of high import duties on all forest products other than logs, cants and pulpwood. These rates are revised from time to time (tariffs on wood products were increased by 3% in the 2007 budget); a useful summary of the current tariff rates relating to wood and wood products was provided by the US Department of Agriculture GAIN Report (2006) (Annex 2).

Whilst protecting the local sawmilling industry, the high tariff duties on imports of sawn or processed lumber, and India's industrial policy and tariff measures, have had two perverse consequences:



- the market demand for logs is so strong that it has been reported that significant log shipments with ambiguous origins have found their way into Indian supply chains
- low tariffs on logs and high tariffs on sawn timber have not encouraged investment in efficient processing of wood, and very few modern processing facilities have been established (similar, for example, to those in Malaysia, Vietnam and China).

Whilst still high, India's import tariffs have come down significantly, making importing lumber, veneer and other wood products an increasingly viable option. Wiles (2005) suggested that well-documented, previously prohibitive import tariffs are now at a level where the market's preference for importing logs can begin to be challenged. However, Wiles also suggested that the duties on lumber and veneer will never be dropped completely, and may even rest at around 15% for the long term.

Traders do not regard tariffs as a significant barrier to trade in forest products — these are simply costs passed on to consumers, and traders generally try to work their way around them. Although illegal, Wiles (2005) reported that under-invoicing, and trans-shipments through countries with which India has free trade agreements (Bangladesh, Bhutan, Nepal and Sri Lanka) are common practice. One example of the latter is the importing of Ukrainian-manufactured hardwood flooring duty-free through Bhutan by simply altering the country of origin on the bills of lading.

### **Excise**

From interviews with wood industry executives, it appears that if a business has a turnover of less than A\$294 000 (<IRs1.5 crore) then no excise is levied on products made and sold. For turnovers between A\$294 000 and \$1.3 M (IRs1.5–4.5 crore), the excise is 8%. This has the perverse consequence of encouraging investors to create many small inefficient factories rather than a single high-quality mill.

Since March 2007 excise in India has declined from 16% to 8% (paid after manufacture) for plywood, hardboard, MDF and particleboard. In addition, there is a VAT of 4% to 12.5%; the details vary significantly from state to state and product to product. For transactions classified as a 'service', there is a 12.36% 'Service Tax'.

### **Octroi**

For some cities in Maharashtra, Punjab and Gujarat, products are subject to an entry tax for called 'octroi'. The details for these taxes have been difficult to locate and they vary from city to city, but they are of sufficient magnitude that industries locate themselves away from some major centres to avoid payment.

## **Trade in illegal logs**

During the course of this study a number of the discussions indicated that an undefined quantity of logs from illegal sources is making its way into the Indian supply system. In interviews with senior officials in India, it was stressed that India's strict import procedures for logs would make it unlikely that illegal logs would enter the country. However, informants from within the industry mentioned a number of issues which suggest that illegal logs are being imported. Among the comments offered were:

- under-invoicing is a common practice — customs officials do not have the capacity to measure each shipment and few have the skills to distinguish between a 10 000 t shipment and a 15 000 t shipment, a view supported by Wiles (2005)
- quarantine and customs inspections are not carried out on each shipment at the port
- it was reported that large traders in Dubai (for shipments from Africa) and Singapore (for shipments from SE Asia) have been able to provide modified documentation to facilitate trade in native forest logs — a view shared by log traders in Malaysia and Indonesia who were quite confident that illegal logs are being sent to India.

There may be a case for initiating some mirror studies — comparing the Malaysian and Myanmar government records of registered exports of logs to India with the Indian government records of imports from those countries. A similar study in 2003 between Malaysia and China revealed large anomalies in the log trade. The project being conducted by the International Institute for Applied Systems Analysis (IIASA), 'The Indian Forest Sector Project', may be able to accommodate such studies. The WWF has also expressed a concern about the ecological footprint of India's log demands and may be equipped to conduct mirror studies.

## **Quarantine**

India is a signatory to the WTO Agreement on the Application of Sanitary and Phytosanitary Measures and the International Plant Protection Convention (IPPC). Until 2003, the import of wood was regulated by the *Plants, Fruits and Seeds Order 1989 (Regulation of Imports into India)* and wood was treated as plant material. In late 2003, the import rules were updated through the *Plant Quarantine Order 2003 (Regulation of Import into India)*. This order has many stringent clauses and was amended several times in 2004 (Rao and Ramadevi 2006).

Whilst the existing import and quarantine regulations are well understood by international suppliers and Indian importers, there exist omissions, one of which relates to import of eucalypt logs from Australia.

Whilst the existing schedules allow for import of eucalypt logs from South Africa and South America, Australia has not completed the process of securing access for eucalypt logs from this country.

## Building codes

India's Bureau of Indian Standards (BIS) has a code of specifications for structural timber, structural plywood, wood fence and posts, and the construction of timber ceilings in buildings. These standards and the codes of practice are intended to serve as a guide for construction work. However, these are not mandatory codes and the builder or the architect may or may not choose to follow these specifications. All public-sector construction follows these specifications and most of the commercial buildings also try to abide by them. There would be benefit for Australian wood products to be included in the *Specifications for Structural Timber in Building*, published by BIS. New Zealand has funded independent studies at the Indian Council of Forestry Research and Education (ICFRE) to have NZ *Pinus radiata* products assessed for inclusion in these specifications.

## Sources of data for the Indian forest and forest products sector

Nilsson (2004), in a preliminary assessment of the Indian forest sector, reinforced the view that reliable data are difficult to find in India and concluded that there was a lack of transparent data and a lot of contradictory information. Unrecorded harvests and production, unrecorded imports, corporate secrecy and the magnitude, fragmentation and diversity of India's forestry and forest products sector present challenges to data collection. ITTO (2004) noted serious inconsistencies between databases and found that incompleteness is caused because state forest departments are unable to adhere to prescribed formats and timeframes, and lack efficient statistical systems to compile and disseminate data. No single association or institution compiles data in respect of production and import of industrial roundwood, sawnwood and other timber products. If India is to prepare strategically for its future imports of wood and wood products, clear and accurate information is vital.

Among the sources of information located for this report were:

### Government organisations

#### Division of Statistics, Indian Council of Forestry Research and Education (ICFRE).

(<http://www.icfre.gov.in>). This group gathers data on production and trade of forest products from the state forest departments, Federal Ministry of Commerce, National Planning Commission, Ministry of Environment and Forests (MoEF), Forest Survey of India (FSI), the Central Statistical Organisation

(Annual Survey of Industries — ASI) and trade associations, such as IPMA and FIPPI.

**Central Statistical Organisation (CSO): Annual Survey of Industries (ASI).** The Central Statistical Organisation maintains price data for wood products in the form of a Wholesale Price Index (WPI). However, this WPI includes only two types of wood products: plywood planks and timber planks. The ASI includes a consolidated category for all wood and wood products that offers an indication of general price movement that is unavailable from other sources of forest-sector statistics.

**Federal Ministry of Commerce: Directorate General of Commercial Intelligence and Statistics (DGCIS).** The Ministry of Commerce and Industries maintains the Export–Import Data Bank and its main source of information on wood imports and exports is the data compiled by the Directorate General of Commercial Intelligence and Statistics (DGCIS). The primary source of these data is the daily trade reports and customs clearance records of import and export of forest products collated by the Department of Customs and Central Excise.

The DCGIS publishes export and import data in its *Monthly Statistics of Foreign Trade* following the World Customs Organization's Harmonised System of classification of commodities. Data in electronic form on CDs are available for sale.

### Industry organisations

**Federation of Indian Plywood and Panel Industries (FIPPI):** Collects data on decorative veneers, particleboard, hardboard and medium-density fibreboard from the member manufacturing units. Given the tendency for tax minimisation in many cases, this may lead to under-reporting — actual production and consumption may be at a higher level, but there seems no option under the existing circumstances. FIPPI provides a directory of 53 members and associates and it has some affiliated members. Import and production information available from FIPPI is extracted from DGCIS and presented in a format suitable for the FIPPI membership.

Contact:

Mr. B.K. Bannerjee,  
Secretary  
Federation of Indian Plywood and Panel Industries  
404, Vikrant Tower,  
4, Rajendra Place, New Delhi, 110008

Communication within the plywoods and panels sector is not always good and other regional plywood organisations include:

- Northern India Plywood Manufacturers Association (NIPMA), representing 1100 members across the northern states.

Contact:

Mr Naresh Tewari  
Director, Venus Plywoods Pvt Ltd  
Chairman  
Northern India Plywood Association  
Vill. Raowali, PO Nurpur, Pathankot Road  
Jalandhar 144 004, Punjab  
India

- The South India Plywood Manufacturers Association
- The Gujarat Plywood and Veneers Manufacturers Association.

**Indian Paper Manufacturers Association (IPMA):**

The membership of IPMA includes all wood-based paper mills and some paper mills based on recycled and agri-fibres. IPMA's roles are to promote the interests of its members through constructive dialogue with the central and state governments on policy, environment, excise duty and taxation issues as they relate to the pulp and paper industry in India. Funds are contributed by the membership for running day-to-day activities and special programs.

Contact:

Mr R. Naryanmoorthy  
Secretary General, IPMA  
PHD House  
4/2 Siri Institutional Area  
New Delhi -110016

**Indian Institute of Architects (IIA).** The Indian Institute of Architects is India's national body of architects. The institute has over 15 000 members.

Contact:

Indian Institute of Architects  
5<sup>th</sup> Floor, Prospect Chambers Annexe  
Dr D.N. Road, Fort  
Mumbai 400 001 India  
Website: [www.ii-india.org](http://www.ii-india.org)

Contact: Prof. Gurunath Dalvi, President

# 4

## Feedback from the Indian Forestry Sector and Considerations for the Australian Forestry Sector

As part of this study, a visit was made to India which included sector interviews in Mumbai, New Delhi, Punjab, Kolkata, Hyderabad and Kandla. Annex 1(a) lists the people and organisations who offered information and support. Several key points and common themes arose from these interviews, including:

**India has a culture which appreciates the use of wood.** Wood is featured in public and private buildings and as furniture, and is appreciated for its aesthetic qualities.

**Imports of wood will continue to grow.** Demands for wood are strong and domestic sources are limited in both quantity and quality. Imports will continue to grow.

**India is a price-conscious market — cheaper is better!** India's wood and log imports are largely controlled by many traders who operate on small and competitive margins. India's sawlog markets are prepared to accept inexpensive logs classed as pulp logs or rejects in Australia and New Zealand, and to use their comparative advantage of cheap labour to produce from them sawn wood and veneers.

**The Indian wood market is seasonal.** There is a cyclical demand for wood in India; in April–July demand dips in response to the monsoon and lower building/construction activity. The months of April–May are extremely hot and sawmills work below capacity. During September–January the prices are at their best. This annual cycle has recently been upset by the delivery of excess softwood to the Kandla market.

**Processed wood products.** Despite unfavourable tariffs, demand for processed wood products is increasing and this demand is being met through imports. Indian business expressed an interest in products such as MDF and other panels from Australia, but Australian suppliers will have to compete with supplies from China and SE Asia. Uniformity and maintenance of quality is regarded as a problem with Chinese products.

**Regional species preferences.** Teak is the benchmark against which all other timbers are assessed in India. Because of attractive cost and availability, *Pinus radiata* is used more widely in northern India, where it has become a common utility timber as supplies of local pine — like chir pine, *Pinus roxburghii* — have

dwindled since a ban on felling of green trees at altitudes above 1000 m was imposed a few decades ago. *Grevillea robusta* (known locally as silver oak, an exotic from Australia) is widely used as a cheap utility timber in the south, where there are opinions that the resource is being over-utilised and there is little replanting. Questions arise as to what will replace this species as a utility timber — perhaps offering an expanding market for *P. radiata* in the south. Both eucalypts and *P. radiata* are considered cheap, disposable woods in the Indian market, and they occupy a niche at the lower end of the market. Some effective PR work must be done to address these perceptions if Australian wood is to find a wider niche in India.

### **Preservative treatment and seasoning of timber.**

Inadequate attention has been paid in India to all-important opportunities to increase durability and longevity of timber and panel products through seasoning and preservative treatment. Consumers are not aware of the benefits of treated timber and hence they are unwilling to pay higher prices for it. There is urgent need and great potential to develop timber treatment and seasoning facilities in India.

**Interest in investing off-shore.** Frustrated by an inability to broaden their resource base in India, a number of Indian companies are investing offshore. Among these are Ballarpur Industries Ltd and the Aditya Birla Group:

- In March 2007 Ballarpur Industries Ltd (BILT), India's leading paper manufacturer, acquired 97.78% of Sabah Forest Industries Sdn Bhd (SFI), the largest integrated pulp and paper mill in Malaysia, for an estimated US\$261 M. The mill has a paper capacity of 144 000 MTPA and pulp capacity of 120 000 t per year. SFI holds a concession for about 289 000 ha and this is valid for 99 years from 1 January 1996. BILT plans to invest US\$100 M to increase the paper capacity to 200 000 t per annum and pulp capacity to 250 000 t.
- In 2006 Birla Laos Pulp and Paper Plantation Company Limited was established as the Aditya Birla Group's latest international project. It is located in Lao PDR and plans a total investment of US\$350 M to include pulpwood plantations and a pulp plant for the



Group's viscose staple fibre (VSF) business. Grasim Industries Limited (India), Thai Rayon Public Co. Ltd (Thailand) and PT Indo Bharat Rayon (Indonesia) have invested in this company as equity holders. The project proposes to establish 50 000 ha of *E. camaldulensis* hybrids on a 7-year rotation in Savannakhet Province on land leased from the Government of Laos.

**Changing building and construction practices.** The housing market is substantial and growing. No standard sizes are used in Indian house construction. There are guidelines but each house is unique, although this is changing where standard fittings offer savings. Emerging changes in building practices will see use of standard doors and window fittings, offering opportunities to outside manufacturers of these products.

**Pessimism regarding India's capacity to increase domestic wood production.** Whilst senior bureaucrats were positive about the likelihood of India increasing domestic wood production, this optimism was not shared by importers, traders and others in the wood industries. Industry was not optimistic that Government intervention would promote investment in plantations appreciably.

**Trees from farm forestry are vital for the plywood and pulp industries.** The plywood industry is dependant upon farm-grown eucalypts and poplars for core veneers, and a major industry has been established around this resource in the northern states of Haryana and Punjab. That part of the Indian pulp industry which uses wood fibre is substantially reliant upon farm-grown resources. Delivered log prices for farm-grown eucalypt logs to both industries are high:

- For veneer: Eucalypt logs 20–30 cm diameter (with bark) — A\$111 per green t.
- For pulp: Eucalypt logs 10–20 cm diameter (with bark) — A\$75 per green t.

**There is little sharing of information and cooperation in the Indian market.** The Indian wood markets are generally small, highly fragmented and competitive. Information is not shared easily and relationships in business are extremely important.

**Shipping costs.** India's wood imports, like those to most countries, are strongly influenced by oil prices and shipping costs. Oil prices will remain high and shipping costs are volatile and increasing; Handymax shipping costs have increased from US\$13 000 per day in 2006 to US\$30 000 per day in 2007 (McComb, pers. comm.). It is likely that Australia will have an advantage over other wood-supplying countries because of its relative proximity. The current cost of shipping break bulk log cargo from Australia to India is about US\$70–80/m<sup>3</sup> from the east coast and US\$60/m<sup>3</sup> from the west coast, significantly cheaper

than the costs from New Zealand (recently increased to about US\$100/m<sup>3</sup>) or Canada or Russia.

It appears that, in terms of long-term wood supply, 'geography will win' — those countries and suppliers which can economise on shipping costs will enjoy an advantage. Despite having significant wood resources, major forest resource owners in both Siberia and North America are disadvantaged by distance. Potential supplies from Africa are limited by increasing domestic African demand or competing markets in Europe. As log supplies from traditional suppliers such as SE Asia and West Africa become tight (as predicted from current market trends) and shipping costs remain high, it is expected that demand for Australian wood (particularly plantation-grown wood) will remain firm.

**Future sources of imported logs and timber.** There has been surprisingly little strategic thought given to the longer-term sustainability of Indian log imports. The import market considers that logs will always be available in international trade and it requires only locating sources and negotiating prices.

The countries of ASEAN remain the dominant suppliers of logs to India. Supply of mixed hardwood logs from the native forests of Indonesia, Malaysia and Myanmar has become tight over the past 12 months and this is likely to remain so as the countries of SE Asia tighten controls on illegal logging. Despite Indian confidence of ongoing availability of tropical logs from Myanmar and Malaysia, international forecasts indicate that supplies from these sources will begin to tighten over the next five years. There is increasing competition for logs from West Africa (from the markets of China and Europe). All logs in South Africa are committed and there is no anticipated available exports. Logs from Russia will become more expensive as increased Russian tariffs begin to take effect. The supply of logs from Canada is complicated by distance and by British Columbia's reluctance to sell logs. A recent report by the International Wood Markets Group Inc. (Woodmarkets 2007) forecast high log prices and a looming global log shortage. Despite the current over-supply of pine logs in the Indian market, the long-term prospects for *Pinus radiata* logs from Australia and New Zealand appear to be bright as long as supply can be sustained. The New Zealand Ministry of Agriculture and Forestry predicts an increased demand for logs by India<sup>2</sup>.

**Knowledge of Australian wood products.** Australia was not regarded by most Indian wood importers as a major supplier. Frequent questions were received regarding the nature and quality of Australian log and wood supplies, and contacts for commercial interaction.

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<sup>2</sup><http://www.stuff.co.nz/print/4182633a23399.html>, August 2007

**Knowledge of Australia's forestry sector.** The impacts of the 2020 Vision and the consequences for plantation forestry were of considerable interest to Indian plantation growers, as was progress made towards the Australian Forestry Standard (AFS). Japanese, Korean and Malaysian investment in the Australian forestry sector was regarded positively when discussing potential Indian investment in Australia.

From the discussions and interviews in India, it was concluded that there is a genuine interest in India regarding Australia as a reliable supplier of wood products but little was known about Australia in this regard. The rapid Australian progress in hardwood plantation establishment and certification was of considerable interest to Indian counterparts.

## **Expressions of interest and specific questions**

Specific requests for information during the Indian visit included:

- investment in Australia. Possibilities for an Indian investment similar to the Malaysian Ta Ann investment in Tasmania
- supply of wood chips to the east coast of India. Costs and availability
- supply of red-coloured, hardwood logs for veneers
- supply of MDF delivered to Mumbai.



# 5

## Australian Perceptions

Whilst India has considerable attractions as a business target, it has its own characteristics which can be challenging. In the process of Australian interviews for this report, much experience was shared and many useful hints offered. Australian wood exporting companies have identified a number of challenges:

- The bureaucracy is daunting. It can influence business decisions at all levels and cannot be avoided. It is useful to have contacts within the bureaucracy.
- India is not one market: it embraces many cultures across distinct geographic and political regions. It is more like many small markets across the 28 administrative states and 7 union territories.
- Infrastructure: port facilities are challenging but improving (vessel turnarounds are slow but improving for break bulk cargoes); roads from ports and between national cities are poor and crowded (but improving).
- The middle class: India's middle class is expanding and is very sophisticated, increasingly demanding higher quality in wood products.

Feedback on corporate experience in establishing business links in India mirrored the useful summary offered in a report to the Asia New Zealand Foundation (2006):

- Find a reliable business partner, such as a master agent or distributor, to help you gain knowledge of the Indian business environment and to draw on connections with relevant decision-makers and influencers.
- Build credibility and reputation quickly — leverage from reputations developed with customers and leverage off the strong New Zealand brand.
- Visit frequently — regular face-to-face contact with Indian contacts can motivate them and ensure they are committed to you.
- Have an in-market presence — this can be via agents or distributors, not necessarily an office.
- Commit long-term — this may include training local staff to meet your skill

expectations — don't expect great growth rates initially, it will take time.

- Learn about India.
- Think ahead — getting into India now would be a wise strategic move — and brush up on your cricket knowledge!

The above observations concurred with those of Wiles (2005) who found that — apart from the tariff issue, which still presents something of a barrier to trade (despite reforms) — there are other issues of which any prospective US forest products exporters should be aware:

- a strong preference for hardwood species
- a hot and humid climate accompanied by aggressive termites and wood borers that could preclude the use of untreated softwoods
- a lack of awareness about American wood species and available forest products
- a very price-conscious market, particularly with respect to commodity products.

The Indian participants in this study confirmed these conclusions. Australian exporters of logs and wood products need great patience and commitment to be successful in this potentially very profitable market. Most international companies who are successful in India report that the development of a good business relationship with a local partner is fundamental to their success. Companies must also be prepared to invest time and resources to build a contact base and establish local awareness of their products.

### What can Australia sell to India?

Australia's wood exports to India are relatively small; of a total of US\$900 M Indian log and wood imports, Australia's share is only US\$7 M. These imports are mostly pine logs, which make up 78% of all Australian exports. Given current tariff structures and market presence, it is likely that this emphasis on log imports will continue.

The pine sawlog resource in Australia is becoming very tight (IndustryEdge 2007) and it is unlikely that large quantities of quality pine sawlogs will be available for the Indian market. However, Indian labour is cheap and sawmilling such that sawn timber can be profitably recovered from logs which do not meet Australian standards as sawlogs. Thus large logs

(or smaller pulp logs) which might not be classified as sawlogs in Australia may be useful as sawlogs (or veneer logs) in India (Figs 14, 15). A reappraisal of the potential Australian resource could reveal some market opportunities.

It is unlikely that there will be large volumes of eucalypt sawlogs from native forests available for the Indian market and it is unlikely that Indian buyers could compete with the Chinese demand for this material. The challenges of maintaining quality of plantation-grown eucalypt sawlogs (stresses, end splits, barrel checking, etc.) make it highly unlikely that these would be exported. India's own supply of small plantation-grown eucalypt logs and their cheap reputation in the market place make it unlikely that small Australian-grown eucalypt logs would be attractive to buyers.

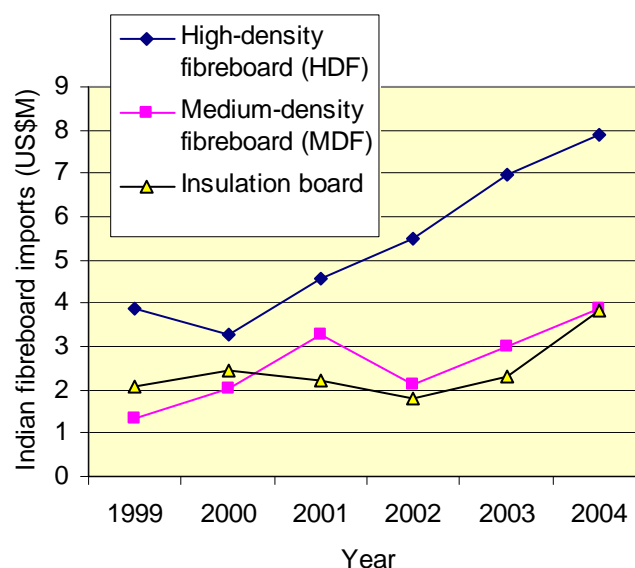
Kiln-dried, rough sawn timber from plantation eucalypts, exported in containers, offers some attraction. Sawn appropriately into small piece sizes and kiln dried, such material could avoid some of the inherent stress and distortion problems — exacerbated by delays between felling and sawing — associated with sawing small-diameter plantation-grown eucalypts. Supply would be plentiful and relatively inexpensive. These products might work if they are cheap and would become attractive if tariffs on sawn wood (currently ~18%) were reduced to that imposed on logs (~9%). They would, however, compete in the Indian market with similar material from Indian-grown eucalypts.

Veneers could offer possibilities for the India trade. Decorative face veneers and high-strength core veneers could complement the core veneers from fast-grown Indian eucalypts and poplars. One Indian company expressed an interest in an investment in Tasmania, similar to that of the Malaysian Ta Ann group.

Whilst tariffs are high, India's imports of panel products are increasing. Figure 24, for example, demonstrates the increasing imports of fibreboard. Although these imports are not substantial in terms of international trade, they indicate a trend — in spite of high tariffs of ~36%. China provides the bulk of the panels imports, but Indian buyers expressed concern about quality and were looking for competitive alternative suppliers of MDF in Australia and New Zealand.

Most of the Australian companies that market woodchips internationally have investigated the Indian market. Their conclusions include:

- Indian port facilities (unloading and storage) are unsuitable for Australian imports
- roads/rail between the port and the mill are poor
- the distances from the ports to the mills are large.



**Figure 24.** Indian fibreboard imports 1999–2004 (US\$M)

Walker (2006) concluded that 'poor road infrastructure and unreliable rail freight make transport of high-volume, low-value products such as woodchips very inefficient'. However, should the proposed developments at the eastern port of Kakinada proceed, these conclusions may have to be revisited.

## Feedback from company interviews

A series of interviews with knowledgeable people within the Australian forestry and forest product industries (Annex 1(b)) identified three broad areas where there is a reasonable expectation of information and support from DAFF:

- improved market intelligence
- tariff and other barriers to successful trade
- improved contacts and development of better relationships.

Specifically, among the issues for companies involved or considering the India trade, were:

### **Lack of contacts/relationships**

Companies felt that Australia lacked contacts and relationships at a number of levels.

At the government level, they felt that they needed a voice to seek clarity on issues of tariffs and quarantine, and to help obtain reliable information and statistics. The consequences of emerging GoI policies relating to infrastructure development, creation of special economic zones and domestic development of commercial plantations all have the capacity to influence commercial decisions by Australian exporters.

At an industry level, a large part of the direct commercial contact is with traders, who are responding to immediate market pressures. A need was felt for more meaningful, higher-level contacts directly with industries and industry associations. Such contacts would facilitate improved market intelligence to provide accurate and up-to-date information on matters such as domestic and import prices and future projections.

### ***Lack of market intelligence***

The immense size and diversity of the Indian wood market, the fragmentation of the industry, and the many sources of sometimes conflicting data make gathering of market intelligence difficult. Reliable and readily available knowledge of India's wood demands are vital if Australia is to capitalise on opportunities offered through India's increasing demands for wood. A recurring theme in this and other studies assessing India's wood use patterns has been the challenge of obtaining reliable data. Unrecorded harvests and production, unrecorded imports, corporate secrecy and the magnitude and diversity of India's forestry and forest products sector make assessments difficult. In addition, it is vital that the Indian markets know what Australia has to offer — for example, there has been little branding of Australian wood products in India.

Among the specific needs for market intelligence were:

- ports — capacity and plans for future facilities and capacity. Port handling costs and issues related to reducing costs of ocean freight.
- special economic zones — opportunities presented through GoI and state reforms, such as the Gujarat 'Imported Timber Conversion Zone'

- prices — for domestic supplies and imports
- emerging wood industries — for example, in furniture — and the potential for re-export to markets in the region or Middle East
- tariffs — are these to change?
- quarantine — unclear quarantine requirements
- housing starts and construction trends — popular fashions in housing — favoured materials.

Companies also raised the need for technical support for export initiatives, and quoted the successful technical support offered by Forestry Tasmania for export of veneer logs to China. The technical support issue includes the need to have Australian wood products included in Indian building codes.

### ***Government-to-government issues***

Australian companies recognised their own responsibilities in establishing contacts and maintaining networks, and the need to develop their own market intelligence. They did see areas where there was a need for more active government-to-government discussion regarding several issues:

- lobbying regarding tariffs on KD rough sawn hardwood, veneers and other processed and semi-processed products
- clarity on quarantine
- improvement of infrastructure to accommodate wood products trade
- building Australia's overall image as a reliable supplier of quality products.

# 6

## The Strategy

There is a reasonable expectation by Australian industry that DAFF will effectively foster engagement with India's wood importers by providing knowledge and support. The Indian field study confirmed the importance of the main issues identified in the Australian interviews:

- market intelligence
- tariff and other barriers to successful trade
- contacts and the development of better relationships

as being central to any strategy that DAFF may develop for engagement with the Indian forestry and wood products sector. These three broad issues offer strategic themes for consideration and implementation.

### Strategic Theme 1. Improved market intelligence

Reliable and readily available knowledge of India's wood demands is vital if Australia is to capitalise on opportunities offered through India's increasing demand for wood. Despite the importance of imports to India's wood balance, there is a serious lack of information surrounding the nature and quantity of imports. A recurring theme in studies assessing India's wood use patterns has been the challenge in obtaining reliable data. Unrecorded harvests and production, unrecorded imports, corporate secrecy and the magnitude and diversity of India's forestry and forest products sector make assessments challenging. Clear and accurate information will greatly assist sensible responses to India's expanding requirement for imports. Conversely, the Indian markets need to know what is available from Australia.

Indian imports of wood and wood fibre products are substantial, valued at over US\$2.7 billion (Flynn et al. 2007) of which >US\$900 M consists of logs, sawn wood and other wood products. India is a large and diverse market divided in loyalties and relationships across 28 states and 7 union territories formed on the basis of major spoken language. There are strong cultural and regional preferences in the use of timber and wood products. Official figures are useful but often do not provide the full picture, and it is common to find anomalies in available data. It is challenging to reconcile or harmonise data from the sources available. Within this environment, it is difficult to find basic reliable (and timely) data to assist decision-making. A mechanism to provide data and information would be

invaluable for Australian industries considering the Indian market. Information needs include:

- **Wood demand and supply figures including import data:** Examples include: data from ICFRE on plantation areas and plantation production; syntheses of data from the Directorate General of Commercial Intelligence and Statistics
- **Wood consumption trends:** Regional wood preferences (dark woods/light woods, softwood/hardwood, solid wood/panel products)
- **Housing starts:** Location and type of new housing. Preferences in building materials for construction and decoration. Use (or not) of engineered wood products. Links with the National Buildings Organisation and the Indian Institute of Architects
- **Import infrastructure (including port developments):** India's transport infrastructure of highways, railways, airports and ports is undergoing modest improvements in response to economic reform. Several ports are undergoing extensive expansions and will be better able to accommodate imports from Australia, either as break bulk or container cargoes. The small Andhra Pradesh port of Kakinada, for example, is being developed to accept imported wood chips. The port of Kandla will soon become the entry point for Gujarat's Imported Timber Conversion Zone and this offers opportunities for Australian industry engagement in wood processing and re-exports.
- **Changes in Government of India policies and regulations:** Tariffs, quarantine, dealing in foreign currency, incentives for industry investment, establishment of special economic zones.

#### Availability of new reports and literature

In addition to reports prepared by the Government of India (National Buildings Organisation, the Statistics Division, ICFRE, the Directorate General of Commercial Intelligence and Statistics, Department of Commerce) useful data have been assembled in a number of recent studies. The opportunities presented by the Indian forestry sector have been recognised by international bodies such as ITTO and WWF and industry groups from USA, Canada and New Zealand,



and the UK DFID. All have commissioned recent studies to assess prospects or have initiated studies to better understand India's wood markets. A number of these are in the public domain, and these resources should be available to Australian industries with an interest in India. Examples include:

- Canada
  - Study on wood consumption trends including the use of wood in the construction industry (referred to in Ganguli and Eastin 2007)
  - Canadian Forest Service (2001). *Canada Wood Export Program (CWEP)*. Natural Resources Canada. [http://www2.nrcan.gc.ca/cfs-scf/Canada\\_wood/english/View.asp?x=15&mid=23](http://www2.nrcan.gc.ca/cfs-scf/Canada_wood/english/View.asp?x=15&mid=23)
- USA
  - Ganguli, I. and Eastin, I. (2007). *Overview of the Indian Market for US Wood Products*. Cintrafor Working Paper 105.
  - Wiles, R. (2005). *India: Potential Market for US softwoods? Study Phase 1*. Prepared for the American Forest and Paper Association by Broadleaf Consulting. 17 pp.
  - USDA Foreign Agricultural Service (2006). *India Product Brief: Wood and Wood Products Market in India*. GAIN Report No. IN6048. 15 pp.
- New Zealand
  - Recently completed studies on the wood properties of *Pinus radiata* and its suitability for the Indian building codes.
- United Kingdom
  - DFID support for the study (current) *The Indian Forest Sector Project*: International Institute for Applied Systems Analysis (IIASA) <http://www.iiasa.ac.at>.
- WWF India
  - Study on *Timber Trade and India's Forest Footprint*. India's dependence on imports to meet its demand for timber will increase the nation's forest footprint, particularly in South-East Asia. In order to minimise the forest footprint, India needs to encourage sustainable consumption of timber by promoting forest certification. A study on *Timber Trade and India's Forest Footprint* will be published shortly. [http://www.wwfindia.org/about\\_wwf/what\\_we\\_do/forests/ttrade/index.cfm](http://www.wwfindia.org/about_wwf/what_we_do/forests/ttrade/index.cfm)

- ITTO
  - M.K. Muthoo *Review of the Indian timber market, 2004*. Pre-project report PPD 49/02 (M) PPR 68/04 (M). 106 pp.

### **Encouragement of further studies in India's wood supply and wood product demands**

Several international agencies to whom Australia offers substantial support have identified the South Asian markets (particularly India) as important influences on regional and global wood supplies. It would be logical for Australia to seek to direct its support towards projects of national interest. Examples include:

*Center for International Forest Research (CIFOR)*. With support from donors and other stakeholders, CIFOR has completed a valuable series of studies on the Chinese wood market that identify market needs, and likely regional and global impacts. These document the likely impacts on the sustainable management of regional forests and illegal logging. The prospect of a parallel series of studies on the Indian (and broader South Asian) markets fits within the CIFOR mandate.

*International Tropical Timber Organization (ITTO)*. ITTO has already sponsored a major study on the Indian wood markets and has an ongoing interest in the Indian market.

*Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC)*. RECOFTC (a regional multi-donor-funded centre) has a significant concern for issues that will influence illegal logging and/or enhance opportunities for products from community-managed forests. The Indian markets have the potential to influence broader forestry initiatives in the region.

*The Secretariat of the Pacific Community (SPC)*. The SPC has an interest in the emerging impacts of increased Indian wood demand on the native forests of the South Pacific. This would foster new markets for logs from the Solomons, Vanuatu, Fiji and PNG and offer possibilities for addressing illegal logging.

*The Commonwealth Secretariat*. Given that the countries of South Asia are largely members of the Commonwealth, and that several of the potential suppliers of wood are also Commonwealth countries, there would appear to be a role for the Secretariat.

*Non-Government Organisations (NGOs)*. NGOs such as WWF, IUCN and Forest Trends all have interests in defining the 'Indian footprint', the environmental, social and economic impact that the growing Indian economy will have on the natural resources of other countries. Through offering support for Indian-focussed studies, the regional community can be better prepared for the impacts that India will have on regional forests and on wood and wood fibre supplies.

### **Linking Australian interests with those of other countries**

Industries and governments in a number of other Commonwealth countries have identified South Asia as a major market opportunity for their wood and wood products. The issues to be addressed in a strategy for increased Australian access to the Indian market are not uniquely Australian; other wood-supplying countries could logically complement Australian efforts — for example Canada, USA, New Zealand and perhaps Malaysia. New Zealand and Australia are considered by international markets as part of the same wood basket as India; Malaysia is a source of mixed tropical hardwoods and has a concern for illegal logs being shipped to India, and Canada offers some considerable potential for collaboration because that country:

- faces a major challenge to reduce its dependence upon the US market and is actively fostering market opportunities in Asia
- has a greatly expanded wood harvest due to wood beetle infestations in the BC forests
- has a major forest industry package funded by their federal government which includes substantial support for the development of new markets.

### **Providing information for India**

Feedback from interviews with a range of industry executives, government officials and forest scientists was generally positive about the Australian forestry sector, but most interviews revealed a lack of ready information about the forestry and forest industries in Australia. Although an enormous amount of high-quality information is available on the Web, this is scattered though the portals of several organisations and companies. Most people seeking information on Australia have access to internet facilities and it was suggested that a forestry industry link to the Austrade (New Delhi) website would be of benefit. The success of an industry seminar to the Gandhidham Chamber of Commerce and the Kandla Timber Association during the Indian visit demonstrated that face-to-face interactions are welcomed by Indian stakeholders.

### **Strategy for DAFF**

#### **Six-monthly newsletter**

DAFF might commission Austrade (New Delhi) to produce a twice-yearly newsletter offering background data on the forestry and forest products sectors and addressing the issues above, including new sources of information (including purchase and dissemination of the RISI report *India's Forest Products Industry*, Flynn et al. 2007). Information is available from a wide range of sources from inside and outside India, some of which are not readily available to Australian industries.

This exercise would logically be conducted in collaboration with an expert and independent Indian institution such as The Environment and Resources Institute (TERI) in New Delhi. Informal discussions with Austrade suggest that such an arrangement is feasible.

### **Linking Australia's interests with those of international agencies and NGOs**

DAFF should initiate a dialogue with Government agencies that offer support to regional bodies such as CIFOR, ITTO, RECOFTC, Commonwealth Secretariat, SPC and NGOs, and ask that some part of Australia's support be directed towards better understanding the Indian wood supply and wood products sectors.

### **Linking Australian interests with those of other countries**

The establishment of a dialogue and sharing of information with like-minded (but possibly competing) countries such as the USA, Canada, New Zealand and perhaps Malaysia, all of whom have undertaken studies to better understand the Indian wood products sector, makes good sense. Given the predicted tight supply of softwood logs and lumber in Australia, it is likely that Australian exports to India will be products from hardwood plantations. These will not compete with the predominantly softwood-based exports from the USA, Canada and New Zealand.

Both the forthcoming Commonwealth Heads of Government Meeting (CHOGM) and the Asia-Pacific Forestry Commission meeting offer opportunities to initiate these discussions.

### **Providing information to India**

DAFF might prepare a generic overview of the Australian forestry and forest industries sectors which could be used as the basis for face-to-face presentations by those involved in the Indian market — particularly at Gandhidham (Kandla), where most Australian wood exports arrive. The development of the Imported Timber Conversion Zone near Kandla offers possibilities for import, processing and re-export into the attractive markets of Pakistan and the Middle East. As part of a broader engagement with Austrade's New Delhi office, DAFF might assist in establishing a forestry/timber-oriented link to the Austrade (New Delhi) website.

## **Strategic Theme 2. Removal of barriers**

### **Tariffs**

This report has identified some of the perverse outcomes of India's high tariffs on processed wood

products. We have the situation where tariffs imposed to protect jobs and industry in India perversely encourage import of logs of questionable origins. If cheaper imported sawn lumber was more readily available, it can be argued that there will be less pressure to import logs — making it less likely that illegal logs will enter the Indian supply chain. Such an approach would be consistent with current Australian Government initiatives to reduce illegal logging and trade in illegal timber. Tariffs have been highlighted as an issue by reports prepared for the US, Canadian and NZ governments.

### **Quarantine**

Quarantine is a serious issue for international trade in logs, sawn timber, wood chips and other wood products. India has well-defined quarantine schedules. Unfortunately these do not include eucalypt logs from Australia, probably because the import of eucalypt logs from Australia has not been proposed previously. Schedules exist for imports of eucalypt logs from South Africa and South America. Given the potential to supply logs from hardwood plantations or native forests, this oversight should be addressed as early as possible and the GoI approached to modify its quarantine schedules. It is understood that the Indian Government requires an official Australian Government proposal (from Biosecurity Australia) which includes a risk assessment of pests and diseases that might accompany Australian eucalypt logs. The United States Department of Agriculture completed a detailed review of the risk of introducing pests and diseases in importing eucalypt timber from Australia in 2003. This study (<http://www.treesearch.fs.fed.us/pubs/6357>) might offer some guidance in preparing a submission to the GoI.

### **National standards**

India's Bureau of Indian Standards (BIS) has a code of specifications for uses of structural timber, structural plywood, wood fences and posts, and the construction of timber ceilings in buildings. These standards and the codes of practice are intended to serve as a guide for construction work. However, these are not mandatory and the builder or architect may or may not choose to follow these specifications. All public-sector construction follows these specifications and most of the commercial buildings also try to abide by them. There would be benefit for Australian wood products to be included in the *Specifications for Structural Timber in Building*, published by BIS. It is understood that New Zealand has funded independent studies at the Indian Council of Forestry Research and Education (ICFRE) to have *Pinus radiata* products included in these specifications. Expanded Australian engagement with India's import of wood products will require

formal acceptance of Australian-made products in India's building standards.

### **Terminology and market perceptions**

Australia's main species (eucalypts and pines) do not enjoy a strong reputation in India, where they are regarded as cheap and of low quality. In addition the term 'softwood' is frequently used as a pejorative and interpreted as 'soft wood' by traders and consumers. Obviously consumers would not use 'soft wood' for building or for furniture! The term 'softwood' is also frequently used to describe the wood from fast-growing plantations. Thus, in the 2006 report of the National Forest Commission, wood from plantation eucalypts (and presumably other fast-growing species such as poplar and acacia) is termed 'softwood'. This indiscriminate use of a term which means something quite specific internationally and is translated generally in India has the potential to influence current and future sales of Australian-grown wood.

### **Units for trade and measurement in the Indian timber industries**

Legally India deals in cubic metres (since the metric system was introduced in 1962) but the industry has been reluctant to change, and still uses cubic feet and the Hoppus system inside the industry. Units are converted, using standard factors, for dealings beyond the national industry. Australian dealers should have a working knowledge of both systems.

### **Strategy for DAFF**

The most important strategy for DAFF will be the close engagement of the Agriculture Counsellor at the Australian High Commission in New Delhi in the process of making contacts with the Indian bureaucracy. The recently announced joint study on a bilateral FTA affords a particular opportunity to explore options for the forest industries of both countries.

### **Tariffs**

Encourage a program of lobbying the GoI to reduce (perhaps remove) tariffs on sawntimber and finished wood products. This would logically be done collaboratively with the USA and Canada. Possible fora for initiating discussions with the GoI might be the forthcoming CHOGM and the Asia-Pacific Forestry Commission meeting. Consideration should be given to including tariff reductions on logs and timber products in Australian Government submissions to the GoI.

### **Quarantine**

The commercial imperative to begin the process to modify India's quarantine regulations to accommodate eucalypt logs is currently small. However, potentially, this could become large if Australia considers export of unprocessed plantation eucalypt logs from Western Australia. It is suggested that the matter be raised with the GoI, and a dialogue initiated to indicate that this is an important issue requiring future attention.

## Terminology

Australian industry, through NAFI and A3P, should be made aware of Indian understanding of the term 'softwood' and modify marketing plans accordingly.

## Indian National Standards

DAFF to seek access to the outcome of the tests for New Zealand *Pinus radiata* and ensure that forest products produced in Australia are consistent with Indian standards. This might be done through engagement with Forest and Wood Products Australia.

## Units for measurement and trade

DAFF might consider development of some simple conversion tables to assist in rapid conversion from Hoppus to metric measurement — it would be useful to have access to the old Forestry and Timber Bureau 'metrivers' when dealing with the Indian market.

## Strategic Theme 3. Improved networks and relationships at personal, industry and government-to-government levels

Market success in Asia is greatly helped by information and support gained through personal contacts, networks and relationships. During interviews in both Australia and India, the need for improved networks and relationships at personal, industry and government-to-government levels was identified as a high priority. There is not always an easy flow of information between the bureaucracy and industry in India, especially in the forestry sector. Good relationships at a government level may not be translated to good relationships at an industry level.

DAFF might review the strategies used by governments and industries from other countries as it seeks to foster relationships:

- **Canada.** Canadian companies have been targeting the Indian market for softwoods for some years and this has developed links between government, trade and industry groups on both sides. For example, in 2002, two Canadian wood industry organisations jointly funded the Canada Wood Showroom in Mumbai, which for about eighteen months acted as a permanent showcase of Canadian softwood and hardwood products. The facility allowed Indian wood importers, architects and interior designers to familiarise themselves with the species and products offered by the Canadian forest products export industry.
- **New Zealand.** In 2004, a Ministerial Trade Mission to India was supported. India is an important emerging market for New Zealand forest products, worth just over NZ\$50 M at the end of 2006. Seventy-six percent of all

New Zealand forest products exports to India are raw logs. New Zealand seeks to expand this and supply India with a range of other products including sawn timber, mouldings and builders joinery. They have found India's high tariffs on value-added products to be a disincentive for this area of the market. In late 2006, New Zealand Pine Exporting Companies (NZPEC) conducted an in-depth visit and study tour of India to examine market opportunities in the world's second most populous nation.

- **USA.** The USA collates and publishes the USDA Gain Report which synthesises a great deal of data and which is used within India as a credible source of information. The USA also encourages trade missions, and one was completed to Mumbai, Delhi, and Bangalore/Mysore between 19 and 29 September 2007. The Hardwood States Export Group from the Appalachian area undertook the trade mission to help the region's wood product sector position itself in the quickly emerging Indian marketplace (<http://www.arc.gov/index.do?nodeId=2875>). The mission offered educational seminars and workshops to better acquaint Appalachian business leaders with the Indian marketplace and promote the quality, technical specifications and reputation of the region's hardwood forest products to prospective Indian buyers.

Within the Australian Government, there are opportunities for encouraging existing programs to focus on the development of links with India. Existing areas of expenditure which might be focussed in this way towards market opportunities in South Asia include:

- **AusAID/ACIAR**, via their support to CIFOR and regional bodies such as SPC, UNDP and RECOFTC. These regional bodies, all of which have an interest in the expanding Indian wood markets, could be encouraged to undertake relevant studies.
- **DAFF**, via support to ITTO for a project to follow up the Indian report already completed (ITTO 2004): a thorough initial study of the Indian markets. There is opportunity to update this.
- **Department of Education, Science and Training (DEST).** DEST supports a program of international scientific exchange; there is an Indian–Australian MOU for Science and Technology which is largely inactive. A focus of this program could be scientific and technical issues underpinning quarantine and wood quality in South Asia relevant to enhanced market knowledge (for example



substitutes for methyl bromide). The strategy will be consistent with the goal of DEST to extend international influence through enhancing international relationships (especially with India) and to increase Australia's international competitiveness.

- **CSIRO.** The CSIRO Division of Forestry and Forest Products has a well-established network of research relationships connected with the wide use of Australian eucalypts, acacias, grevilleas and casuarinas in India. These networks can be fostered and used to generate links with India's plantation sector.

At a government level, several national Australian initiatives are of interest to India and could be used to enhance direct links and dialogue between DAFF and MoEF. Among these are:

- **Australian Forest Standard.** The Indian officials responsible for the development of the Indian Forest Standard indicated that they would appreciate an opportunity to share Australia's experience in the development of the Australian Forestry Standard.
- **2020 Vision.** The need for India to increase its resource of planted trees is urgent and widely accepted. This need will become more pressing as supplies from this resource become tighter. There is an opportunity to share with Indian policy partners the Australian experience in developing and supporting the 2020 Vision. This may foster some modifications to National Forest Policy which will address the paradox surrounding Indian forest plantations.
- **New government-to-government agreements.** In the development of closer government-to-government relationships, DAFF should reflect upon the success enjoyed by the Australia China Agricultural Cooperation Agreement (ACACA). The ACACA program has been able to foster longstanding relationships with industry and government in Australia and China. A similar Indian arrangement will have a more overt and stronger emphasis upon industrial and commercial outcomes, and the inclusion of organisations such as quarantine and CSIRO which offer support to these commercial outcomes.

Opportunities exist to raise these and other matters with the Indian delegation at the forthcoming CHOGM and might be pursued also via FAO's Asia-Pacific Forestry Commission.

- **Industry-level dialogue.** At an industry level, there are opportunities to foster closer

relations. National Associations such as A3P (<http://www.a3p.asn.au>) should logically maintain a good dialogue with the Indian Development Council for the Pulp and Paper Industry<sup>3</sup> which represents both industry and government.

Other Australian industry associations should maintain a working dialogue with their Indian counterparts in organisations such as the Indian Paper Manufacturers Association (IPMA), the Federation of Indian Plywood and Panel Industries (FIPPI), the Northern India Plywood Manufacturers Association (NIPMA) and the Timber Importers Association of India.

- **Dialogue between associations of professionals: Royal Australian Institute of Architects (RAIA).** Given the importance of wood products to the housing and construction industries, there is merit in promoting links between the Indian Institute of Architects (IIA) and the Royal Australian Institute of Architects (RAIA). Communication and information exchange between the IIA and the RAIA on use of manufactured wood products in housing construction might be enhanced through a series of seminars in India and written papers to the IIA journal.
- **Dialogue between associations of professionals: The Institute of Foresters of Australia.** India does not have a professional body for its community of professionally trained foresters. The establishment of a professional forestry equivalent of the Institute of Foresters of Australia (IFA) in India would provide a basis for strong links between the professions in the two countries, and would offer Australian foresters and industry an unprecedented opportunity to develop personal and professional links with India.

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<sup>3</sup> This Development Council has 25 members including the chairman and member secretary. The council is the highest body constituted by the Government of India to look in to the affairs of the pulp, paper and allied industries. It is deemed to perform functions of a kind specified in the Second Schedule as may be assigned to it by the central government. The council monitors the health of the sector at a macro level and helps the government to formulate policy and related rules for the benefit of the pulp and paper industry. The council gets a budgetary provision against cess funds collected by the Government of India. These cess grants are dedicated to research and development activities for the pulp, paper and allied industries. Grants are disbursed on a case basis by the cess committee. Common problems and aspiration of the industry are discussed in the council and measures are adopted to address these.

<http://www.dcpulppaper.org/members-of-development-council.html>.

## Strategy for DAFF

### Development of a ‘whole of government’ approach to engage with the Indian forestry and wood industries sectors

Through offering a ‘South Asia market’ focus to existing areas of government initiative, DAFF can facilitate networks and relationships without significant new expenditure by identifying opportunities within the government system and promoting these through inter-departmental committees. DAFF might also encourage joint India–Australia research on the growing and utilisation of Australian tree species such as eucalypts which are important to both countries. A first step would be to invest DAFF’s own commitment to ITTO into a follow-up of their thorough 2004 Indian study.

### Enhancing relationships

DAFF can foster relationship-building in a number of ways:

- **Establishment of a government-to-government agreement.** The initiation of a government-supported program in India broadly similar to DAFF’s existing ACACA arrangement with China.
- **Australian Forest Standard.** DAFF can offer experience, support and encouragement to Indian officials who are responsible for the development of the Indian Forest Standard.
- **Links between industry organisations.** DAFF can support and encourage links between industry organisations of the two countries. Consideration might be given to a

series of study tours or trade delegations to India which would include leaders from Australia’s industry organisations. A dialogue should be immediately initiated between Australian industry and groups such as the Development Council for the Pulp and Paper Industry, the Indian Paper Manufacturers Association (IPMA), the Federation of Indian Plywood and Panel Industries (FIPPI), the Northern India Plywood Manufacturers Association (NIPMA), Confederation of Indian Industry, Federation of Indian Chambers of Commerce and Industry, and the Timber Importers Association of India.

- **Links between professional bodies**

- *Indian Institute of Architects (IIA) and the Royal Australian Institute of Architects (RAIA).* DAFF can consider means to foster communication and information exchange between the IIA and the RAIA. This might be done through a series of seminars in India which would focus on use of manufactured wood products in housing construction and reducing the carbon-footprint of the construction industry.
- *The Institute of Foresters of Australia.* DAFF can offer support to the Institute of Foresters of Australia (IFA) and encourage them to mentor the establishment of similar professional body in India.

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## Annex 2. India's Import Tariffs on Wood and Products Chapter 44

(Extracted and modified from USDA 2006)

S. No.	ITC HS Code	Description	Basic duty (BD)	Countervailing duty (CVD)	Special countervailing duty (SCVD)	Total duty inclusive of education cess (TD)
1	44.01	Logs, chips	5.0	0.0	4.0	9.4
2	44.02	Wood charcoal	5.0	0.0	0.0	5.1
3	44.03	Wood in the rough, squares	5.0	0.0	4.0	9.4
4	44.04	Hoop wood, split poles	12.5	0.0	4.0	17.3
5	44.05	Wood wool	12.5	0.0	4.0	17.3
6	44.06	Railway sleepers	12.5	16.3	4.0	36.8
7	44.07	Sawn wood, >6 mm thickness	12.5	0.0	4.0	17.3
8	44.08/4	Veneer sheets	12.5	16.3	4.0	36.8
9	44.09	Wood flooring, mouldings	12.5	16.3	4.0	36.8
10	44.10	Particleboard, OSB	12.5	16.3	4.0	36.8
11	44.11	Fibreboards (MDF)	12.5	16.3	4.0	36.8
12	44.12	Plywood, laminated wood	12.5	16.3	4.0	36.8
13	44.13	Densified wood in blocks etc	12.5	16.3	4.0	36.8
14	44.14	Wooden frames for paintings etc.	12.5	8.2	4.0	27.1
15	44.15	Packaging materials of wood	12.5	8.2	4.0	27.1
16	44.16	Casks, barrels etc.	12.5	8.2	4.0	27.1
17	44.17	Tools, handles etc	12.5	8.2	4.0	27.1
18	44.18/5	Builders joinery, carpentry	12.5	8.2	4.0	27.1
19	44.19	Tableware and kitchenware	12.5	8.2	4.0	27.1
20	44.20	Wood marquetry, inlaid wood	12.5	8.2	4.0	27.1
21	44.21	Articles of wood, nes.	12.5	8.2	4.0	27.1



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