

Trends and prospects in the forest industries

Leonard Bayliss*

In 1989, total production in the forest industries was approximately 11.75 million roundwood m³, of which about half – 5.8 million m³ valued at \$1250 million – was exported. Production is forecast by the Ministry of Forestry to rise to 12.80 million m³ in the year ended March 1994 with export volume rising by 32% to 7.65 million m³, yielding an estimated value in 1988/89 dollars around \$1700 million. Only minor price changes, from present trends, are forecast.

By 2015, production is forecast to rise to around 25 million m³. If domestic consumption remains unchanged this would yield exports of around 19 million m³. If all the additional 13 million m³ were exported as logs, export value (again at current prices) would rise by approximately \$1300 million to \$2600 million, i.e. to about double the 1989 total. This would make an insignificant contribution to the achievement of faster rates of economic growth. Even if exported as sawn timber, the rise in export income would (assuming 50% residues) be around \$2600 million, making total forest products exports around \$4000 million (3% of current GDP).

Only if there is a very substantial increase in the proportion of added value will the large future rise in roundwood production lead to a major increase in economic growth. It appears from confidential interviews that the overwhelming opinion within the industry is that such a major increase is considered to be highly unlikely. A summary of the views expressed on this and other matters is set out below.

There is no industry strategic plan with its core objective being a substantial increase in added value – an increase based on well-researched overseas market requirements. There are broad brush scenarios rather hopefully forecasting a large increase in sawn timber exports. However, standard sizes of sawn timber trade as a commodity. Hence, this strategy is only one step above exporting logs – it is still a commodity export strategy which barely exploits the potential inherent in a large increase in roundwood output.

As yet, a co-ordinated industry plan/strategy embodying all the elements below has yet to be developed. This in spite of consistent efforts to this end by the Ministry of Forestry – and despite widespread agreement within the industry that such a plan/strategy is urgently required. The plan would cover the following:

- forest production and management;
- added value manufacturing;
- Labour relations;
- education/training;
- market, forest and manufacturing research;
- technology research and development;
- final product design;
- transport cost reduction;
- energy cost reduction.

In the absence of a well-thought-out plan/strategy a significant expansion in further forest “added value” is unlikely.

In part, this planning deficiency reflects Treasury’s “she’ll be right” policies and its strong aversion to any form of “industry intervention”. Moreover, the industry is primarily composed of many small units with no great interest in long-term issues – survival in the short run is the predominant objective. The two major private companies have been absorbed in other matters, i.e. international expansion, restructuring their New Zealand operations, etc. In any case neither is sufficiently large to formulate and impose a long-term strategy on its own. Others believe that the industry’s problems will all be sorted out by “the market”. Generally speaking, industry planning is notably absent in New Zealand, although the dairy, apple and pear and perhaps the tourist industries are major exceptions. The key forestry industry issues are:

- (a) Will a co-ordinated strategy emerge from the “market”?
- (b) If so will it work, given the low standard of management?
- (c) Will Government intervention/leadership be successful?

Given the low level of management currently available and the high degree of skilled co-ordination needed to substantially increase added value it may be better to remain a commodity producer. The danger is that a poorly designed and managed forestry strategy might cost more to put into effect than it would add

to added value. This merely serves to emphasise the importance of mobilising the highest level of management skills as part of a long-term strategy.

It was argued, with the benefit of hindsight, that if there had been a coherent development strategy, a much higher proportion of Douglas fir and other higher-grade species would have been planted. Not only is radiata pine a very low-grade timber with a poor international reputation, but over reliance on one species leads to high risks from insect or fungus attacks.

Almost without exception there was intense criticism of management standards, excluding silviculture. New Zealand was regarded as a leader in the technical aspects of plantation management. Management deficiencies had become much more obvious as the industry internationalised and became very aware of the wide gap between New Zealand and overseas operating efficiencies. Chilean managers visiting New Zealand were of higher standard than their local counterparts. This deficiency in management standards is a national problem and reflects generally low standards of education and training and the consequences of a highly protected economy – and price control on many forest products. The result of poor management is not only poor operating efficiencies – but also insufficient stress on transport and energy costs, market research, human relations, generating domestic technologies, etc.

The two majors, Fletcher Challenge and Carter Holt Harvey, besides dominating the industry are also major international operators. Both have expanded rapidly, assuming (correctly) that they have to be very large to survive. This, however, means that their investment decisions are based on international ROIs. Thus, profits from New Zealand operations will be invested overseas if the return is better than in New Zealand. Currently second-hand pulp/newsprint mills can be bought for half the price of a new mill in New Zealand. The announced intention of CHH to sell its Chile forest investments means that CHH will be primarily New Zealand focused within an internationalised framework. Tasman’s long-term (75-year) wood supply contract with the Crown enables it to obtain its wood supplies at well below current market prices. Both

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FCL and CHH have relatively high debt/equity ratios which are a short-term deterrent to investment.

A substantially overvalued forex, an unattractive tax regime, high construction costs and uncertainty generated by asset sales and by the draft Resource Management legislation has proved a major deterrent to New Zealand investment and an even greater deterrent to a drive for added value. Thus, the two majors have been pushed into overseas expansion based primarily on commodity production and trade. Their stretched financial position, after purchasing forest assets, has also encouraged log sale/short-term profit maximisation. The changes in forest taxation announced in December 1991 should have some positive impact on forest planting – but will not overcome the key industry problem, i.e. low (virtually non-existent!) investment in added value exports.

The low commitment to quality, another widespread industry failing, reflects several influences. Most important were price control on timber, only removed in the early 1980s, and the undemanding standards of the New Zealand and Australian markets. There are only a small number of (fairly) modern sawmills and their profitability has suffered from the high forex, Australian downturn, a shortage of good quality logs, high log prices, protectionism (of sawmills) in Japan and Korea and the poor reputation of *Pinus radiata*. Deficiencies in (non-existent!) market research failed to alert the industry to the necessity for quality exports. On the other hand, an emerging market for radiata (free from stigma) was developing in Southern Europe and the Middle East. Also improving prospects in Thailand. With good marketing, efficient transportation and sustained application a worthwhile market for solid timber products could be developed in Japan and other Asian industrial economies, offsetting falling supplies of tropical hardwoods.

Log prices have been very high, reflecting overseas demand (mainly Japan) as well as restraints on overseas supply from conservation/environmental concerns – both US and tropical forests. The need to service recent asset sales should ensure continued high log exports, as should the relative profitability of logs relative to higher added-value timber products.

Substantial improvements in labour productivity have occurred. This reflected a number of influences – union co-operation, the removal of restrictive practices, better plant, better management, and less head office interference. Generally labour relations have greatly improved. Employment has fallen by at least 4500 since 1987.

EMPLOYMENT IN FORESTRY AND FIRST STAGE PROCESSING

(as at February)

	1987	1990
Forestry and logging	(7,5001)	5,881
Sawmills	6,587	5,199
Planing, preserving, seasoning	1,070	724
Chipmills	119	64
Plywood, veneer, fibreboard	1,012	1,152
Pulp, paper, paperboard	5,819	4,396
Logging haulage	675	823
Total	(22,782)	18,239

Source: Ministry of Forestry

The Forest Research Institute is under-resourced with too many skilled staff engaged in seeking private funds (20% is about the right ratio). Private funding wants a rapid pay back to the detriment of basic research. The brake on recruitment is causing a significant rise in the average age. Poor pay and uncertain prospects is likely to encourage skilled staff to move overseas. There are problems in funding capital equipment. Any worthwhile industry plan/strategy would substantially increase research resources.

Transport and energy costs are extremely important and a very high proportion of the wholesale price. Internal transport costs vary greatly but (roughly) account for 60% of total domestic log costs. Shipping costs comprise 30% of total log export costs with port handling costs being around 10%. Transport costs comprise 76% of total costs of the delivered price of export logs. As added value rises, this proportion would fall but would always be relatively high. Low/competitive transport costs are critical to the forest products industry. Transport efficiency has much improved in the last three or four years.

Reports indicate that New Zealand electricity charges are well above those in Canada and Chile. Natural gas prices are also said to be uncompetitive. On the other hand efforts to improve energy management has proved very successful. The high marginal cost of increasing electricity supplies in New Zealand – and newsprint and pulp mills are very energy intensive – may put a major brake on expanding the output of these products. Nevertheless, much of the large increase in roundwood supplies which is becoming available from 2000 onwards, is only suitable for pulping. Around 2009 energy costs will rise sharply as Maui gas supplies are exhausted – unless major new oil/gas discoveries eventuate.

Other points are:

- High-quality export grading is essential.
- Much scope to expand sawn timber output by working extra shifts.
- Second crop planted in 1960s is still

small and initially poorly managed silviculturally.

- Too little emphasis on remanufacturing.
- Need to greatly improve rail transport to Tauranga and reduce dependence on trucking.
- Good quality MDF is produced from radiata pine.
- Good export prospects for MDF.

Conclusion

There is an imperative need to develop a co-ordinated industry plan/strategy to expand exports of value added solid timber products. The lead in getting movement and industry participation and co-operation must come from the Government through the Ministry of Forestry.

Soft timber gets tough treatment

Soft European timber treated with a new polymer paint could replace the tropical hardwoods used for the exterior woodwork of most of Europe's houses. Public concern over the destruction of the rainforest is forcing the building industry to look for alternatives to the durable hardwoods.

In Europe, 80 per cent of all doors, window frames, and other exterior woodwork are made of tropical hardwoods. Soft European woods such as spruce and pine are susceptible to weathering and rot, lasting one-tenth as long as the denser hardwoods.

The Dutch company DSM Resins were seeking to adapt paints based on organic solvents to use water instead when they came up with the wood treatment. Its research involved suspending alkyd resin, a classic paint polymer, in water. The resin does not dissolve in water, but vigorous mechanical treatment of the mixture creates shearing forces that break down the resin droplets into particles only 400 nanometres across. The tiny particles of resin remain suspended as an emulsion, which can be used like normal paint. DSM scientists discovered that the water-based suspension could penetrate wood, forming a protective layer against moisture and rot.

The molecules of alkyd resin change as they dry, forming chemical cross-links

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RECENT EVENTS

Forest industries initiatives

Paul Quinn*

In December 1990 the New Zealand Forest Industries Council, as a first step in accepting the challenge of developing a strategic plan for the New Zealand forest industry, convened a day-long conference with the theme "Industry Initiatives for the Future". The main objectives of the conference were:

- to identify and action several immediate working party initiatives which focus on improving the competitive advantage of the forest industry;
- to progress the development of a long-term vision and strategic direction for the industry.

The conference was stimulated by the urgency which both the Prime Minister and the Minister of Forestry placed on developing such a plan of action following the Leaders Summit convened by the Prime Minister earlier in December.

A wide cross-section of industry personnel were invited, not on the basis of representing a particular sectional interest but as individuals who could provide an independent view. In all 26 people attended.

By the end of the day's discussions five

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Tough treatment

(continued)

with other alkyd molecules. This causes large, tough polymers to grow within the wood. When the alkyd is applied to dry wood with its knots removed and its holes and cracks filled, the wood becomes as durable as tropical hardwood. The problem with alkyds is that they can take a whole day to dry.

DSM combined the alkyds with acrylic polymer, the material used to make standard water-based paints. The acrylic does not form chemical bonds during drying, so it is not as strong as the alkyd but it does dry quickly. A mixture of the two chemicals dries fast enough at the surface to allow the wood to be handled within an hour of treatment, while the alkyd goes on drying within the wood.

DSM chemists are now trying to add reactive sites to acrylic polymers that will allow them to cross-link with the alkyd, creating a tough complex of the two within the wood.

Debora MacKenzie writing in the New Scientist

principle initiatives emerged as projects Council could immediately pursue. These were:

- FRI - Centre of Excellence
- Industry Co-operation - A Shared Vision
- Education and Training
- Funding
- Radiata Pine Promotion.

Working groups have been established to pursue each of these initiatives

Labour spokesperson on Forestry

The Labour Party spokesperson on Forestry, Paul Swain, MP, has announced that he is going to embark on the preparation of a plan which will develop a forestry strategy that will take New Zealand into the 21st Century.



Paul Swain

In late April 1990 he began work on his plan, which may take two years to complete, by consulting a range of people with forestry interests in the Rotorua area. Over the next few months he intends to talk to key people in the sector at Gisborne, Nelson and in Southland. He says you can phone him at Parliament (04) 719379, or home (04) 676842 and he would welcome any ideas you might have.

See if you can sway Swain!

H. Levack

and already positive feedback has resulted. Within the FRI - Centre of Excellence initiative a number of smaller sub-groups have been formed to develop specific ideas, including the promotion of forestry tourism activities around Rotorua, developing closer linkages between FRI, educationalists and corporates, and of course the overall objective of FRI as the world centre of excellence for radiata pine research.

Council has already accepted the recommendation of the Shared Vision working group to commission an appropriate group to undertake the co-ordination of an industry strategic plan.

Progress is continuing on the other initiatives, two of which are in conjunction with other work being undertaken by sector association.

In supporting these working group initiatives, Council does not of itself necessarily seek their management control. Rather it has encouraged a whole process of networking so that as many industry people as possible can contribute. This is an exciting project and one the Council believes must be given the highest priority. The Minister of Forestry, Hon. J. Falloon, is strongly supportive of the project, as is the NZ Trade Development Board.

Robin Cutler to split British Forestry Commission powers

Don Mead

The Forestry Commission, Britain's largest land-owner, is to be drastically reformed by the Government. The Commission was bitterly criticised by a House of Commons select committee last year for "conflict of interest" between its twin roles as regulatory body and nationalised industry for forestry.

Since its foundation in 1919, the Commission has been responsible for the planting of millions of acres of alien conifer trees on the most ecologically sensitive parts of Britain and, latterly, for promoting and funding planting by the private sector.