

Positioning New Zealand forestry

The need to know your place

Gerard Horgan

The final words in an issue dedicated to economics of markets should focus on the question of 'where to now'? However, before rushing off anywhere, it is always a good idea to know where you are starting from, how we got there, and if possible identify problems that you may need to deal with as you move into the future.

The 1913 Royal Commission on Forestry, whose centenary we have just celebrated, is generally and rightly regarded as the foundation document for the current commercial forest sector. But as Roche (2013) stated in the May issue of this journal, it is more than just this. It is one of a sequence of reports addressing concerns about a perceived looming 'timber famine' and the need for a forest estate capable of ensuring domestic self-sufficiency. When it came to that estate, the Commission's focus was on the need for commercial viability, as witnessed by its use of a discounted cash flow analysis.

That analysis highlighted the need for low cost land and fast tree growth. In addition, by reinforcing perceptions about the growth rates of native species being too slow to be suitable for commercial management, it put the focus firmly on colonising exotic species, particularly radiata pine. The Commission said its discounted cash flow showed the 'utter absurdity of suggesting such a tree as totara for afforestation purposes.' The Commission also clearly stated commercial forestry's place in the scheme of things – handmaiden to agriculture. If existing forest land was suitable for farming it was to be given over to that use after a one-off harvest.

Timber famine

While the Commission helped pave the way, the first planting boom is more the result of Ellis's mid-1920s policy re-appraisal for the state, and strenuous efforts on the part of bond selling afforestation companies. These bond sellers built on the concerns about the perceived looming timber famine to appeal to investors hoping to make a relatively quick buck. Afforestation was also promoted as a patriotic duty and as a secure means of saving for retirement.

In the early 1970s and Britain's negotiations to join the European Economic Community, now the European Union, created a new world and opportunity for forestry. A new set of export markets, and possibly products, was required. Enter a new phase for forestry.

The quote below is from the guest editorial in the 1972 First Special Economics Issue of the *New Zealand Journal of Forestry Science*. It was penned by then Director General of the Forest Service, A P Thomson, and the five papers appearing in the issue were all devoted to

the viability of afforestation for the log export trade.

Although forests have figured so prominently in our economy in the past the economics of forestry have been poorly understood and seldom applied effectively. Earlier generations regarded forests more as weed growth to be cleared for pasture establishment; today the pendulum is swinging in the opposite direction and in some cases forests are being established where sheep and cattle once grazed. Under these circumstances the economics of forestry compared with other forms of land use must come under very close scrutiny.

The Forestry Development Conference of 1974/75 marks the real turning point in the purpose for New Zealand plantation forestry. That conference set a goal of expanding the planting rate so that by the end of the century 'forestry would contribute 20 to 25 percent of total export earnings.' Forestry exports in calendar year 2000 were \$3.59 billion or 12.8 per cent of export earnings. Currently forest products are the third biggest export grouping, and at around \$4.5 billion account for 10.3 per cent of New Zealand exports.

Challenges

Numerous planning and strategic analyses over the 40 years since the focus went on creating a major export industry have reinforced the potential for plantation forestry and thrown up an array of challenges. However, the exuberant certainty of forestry's place as a legitimate land use equal to or better than farming, so evident in early analysis, is less evident now. So far has the pendulum swung that at this year's conference Kit Richards suggested, 'it would be easy to conclude ... forestry has little future. It is caught between the pincer of dairy intensification and public opprobrium over the use of hill country.' Have all those hopes of a brilliant future as the leading export sector simply died?

They are still there, but tempered with the disappointment of not succeeding as much or as easily as initially envisaged. All action plans or analyses of the last 40 years, except the initial work arguing the potential profitability of the log trade, have focussed on producing and selling value-added processed products. But the reality, particularly as far as the last 15 years has been concerned, has been a dearth of new valued-added processing and an ever-growing log export sector.

Impressive numbers

Five years ago log exports were only 35 per cent of an 18.9 million cubic metres harvest and at \$739 million represented about 20 per cent of the value of all forest exports. Today log exports are 52 per cent of a 28

million cubic metre harvest and at \$1.8 billion they are 40 per cent of the value of all forestry exports.

Depending on your perspective these are impressive or horrifying numbers. They are ones the authors of the 1972 *Journal of Forestry Science* papers could well argue prove the wisdom of their assessment of log export potential, but they are not the sort of numbers many current sector members want to hear or see. Longer term from the 2020s and beyond they are consistent with the sector exporting around \$6.5 billion a year, assuming of course that the current mix and level of processing for domestic needs and export continues and does not simply fall over.

Adding value

Are we pushing in the wrong direction with the focus on finding value-added processing rather than log exports? WoodCo clearly does not think so. Its recent Strategic Action Plan indicates a potential \$6 billion extra in exports by 2022, over and above the likely log-based business-as-usual scenario. But realistically can the industry achieve this? What has changed, compared say to the situation applying in 1992, when the Forest Industries Council produced the NZ Forest Industries Strategy Study and a similar conclusion?

Getting the \$6 billion gain apparently requires processing, the maths with current exports shows it. The maths says 14.2 million cubic metres of log exports earn \$1.8 billion, or around \$125 a cubic metre exported. This compares with the approximately \$2.7 billion earned from exported processed products containing the wood equivalent of around 7.4 million cubic metres of roundwood. At present the average return per cubic metre of log input across all processed exports is something like \$355 a cubic metre, or about \$230 a cubic metre more than for the raw material.

The WoodScape Study had the aim of identifying processing options able to meet the condition of adding more value than cost and producing a result consistent with WoodCo's Action Plan. The good news is that it seems to have found some products and processes able to meet that requirement. But again, that was the case with the 1992 study, and more processing did not happen then.

Too much risk

There can be lots of reasons why new processing does not happen but I suspect the real answer in most cases is risk – too much of it. Until risk is adequately addressed and ways found to manage it appropriately, question marks will hang over investment in a lot of apparently viable processing. You can actually see this from the WoodScape analysis touching on the issue of exchange rate volatility.

In the study, the base analysis has the New Zealand dollar worth 82 US cents. With this there are 16 variants of the 63 modelled processes which show a return on capital of 11 per cent or better. These viable options represent 14 of the 39 technologies considered and a

50:50 split between well-understood and emerging technologies.

WoodScape's sensitivity analysis looks at what a 14.5 per cent increase in the exchange rate, from US 82 cents to US 94 cents does to viability, and the change is dramatic. Of the 16 options which I have described as viable, only six now achieve an 11 per cent or better return. The best, in terms of highest return on capital employed was only the 11th best option.

Time and volatility

The New Zealand dollar is volatile. Between the time when I was approached about writing this article and my penning the words, a period of four weeks, the dollar appreciated 7.6 per cent against the US dollar. By the time these words are being read who knows whether it will be up a further seven per cent or equally have fallen as much or more?

Processing plant takes time to construct. If plant viability can be compromised by the change between the projected exchange rate when the decision to invest was made and that applying when it finally begins producing, which WoodScape suggests could well be the case, will anyone risk investing? What is the likelihood that potential investors will simply and rationally decide that everything is just too risky and the sensible decision is to wait?

Until, or unless, the question of risk is addressed, log exports are likely to play a greater role than many hope. That is not necessarily all bad. Futures seldom turn out to be exactly as planned. The challenge is to make the most of the cards dealt and not decry the fact that those cards were not the ones we would have liked.

Value-adding does not have to come from making more and more processed products. Investment in processes which improve the quality of logs for markets that really want them, for example systems to dry or partially dry logs, remove the chemicals that allow sapstain organisms to grow, may potentially address some of current log biosecurity concerns. They would also be adding value, which could be highly lucrative.

Such systems may offer the ability to develop a chemicals stores industry and build out from this. Every tonne of freshly harvested log contains approximately 550 kilograms of water. A system capable of removing perhaps two-thirds of this water from the five million cubic metres of logs which each year currently cross the wharves at the Port of Tauranga offers access to around 1.9 million cubic metres of water annually.

The present interest in developing water storage systems may indicate a value to the water in the logs currently exported not generally recognised, and also bring forestry a partnership role with agriculture. The first step to what may be a less risky value-added future has to be asking what is needed to gain access to that water.

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