own, my native land." The committee's arid approach to land, the lifeblood of a nation, is frightening.

Even more alarming are such recommendations as ". . . no restriction on transferability of forestry rights . . .". And worse: ". . . further restrictions, such as sustained yield management requirements, should be rejected as inimical to sound commercial forestry and maximisation of sales revenue." This is treachery to New Zealanders who, under this kind of formula, could receive back from the lessees of forests, thousands of hectares of stumps and be faced with huge costs of making that land productive again. The report states as a reason: ". . . conditions of tenure in British Columbia have severely inhibited commercial forestry practice there." Members of the committee should be compelled to inspect the tens of millions of hectares of forest in British Columbia – and in the rest of Canada and in the USA – mutilated by industry even when worked under restrictions. There is ample evidence to show that without restrictions no productive forest is left.

The committee's concept of selling forest is that of selling pins over a shop counter. Future New Zealanders could have their forests returned to them in a mess. Where is the mandate for this complicated manoeuvring? – for expunging more than a century of development? – for obliterating a major Department of State? – for selling a publicly-owned asset worth many hundreds of millions of dollars with no satisfactory safeguards?

We have slaughtered the best native timber forests that the world has seen. Are we about to slaughter the best exotic forest that the world has ever seen?

A.L. Poole

NZ Forestry in search of a new beginning

Forestry in New Zealand is undergoing fundamental changes which are only partly associated with the Government's sale of its commercial forestry assets and its commitment to the conservation of all State indigenous forests. Tax disincentives and the need to reduce both public and private debt have resulted in greatly reduced plantings and the purchase of offshore forestry assets by New Zealand companies. This retrenchment, which affects agriculture as well as forestry, may however be regarded as an opportunity for the forestry sector to diversify in several ways.

Perceived opportunities are:

- a greatly increased inflow of foreign capital and an associated opening of other countries' markets to New Zealand wood products;
- afforestation of better-quality land, leading to greater returns to the forest grower;
- the management of native forests to provide a variety of benefits to the community;
- increased plantings of multi-use forests by local government bodies and farmers.

Retrenchment in the Forestry Sector

The apparent loss of confidence in commercial forestry is best illustrated by the move offshore by NZ forestry companies in search of more profitable opportunities, and reduced planting of new forest – 23,000 ha in 1988 compared to 43,000 ha in 1984. One cause is the Government's 1985 taxation changes which removed tax deductibility for establishment costs of tree crops. These costs cannot be deducted until the trees are harvested, by which time the tax deduction will be of little value. The result is that forestry is the only industry in New Zealand taxed effectively on gross income rather than net income. There is an analogy with superannuation where the loss of tax relief on savings and the taxing of income from superannuation funds is seen as a strong disincentive to save for retirement. New Zealand is the only country where both forestry and superannuation are treated in this manner. Such long-term investments, which are difficult or impossible to cash up before maturity, should receive special consideration. As it is, the Government may well be the loser: the increased revenue gained from changes in forestry taxation may well fall far short of the capital foregone when the State forests are sold!

Another negative factor is the protracted sale of the State forests. When the Government originally set up the Forestry Corporation to operate its 0.58 million ha of plantation forests as a commercial enterprise it was in the Corporation's interest to talk down the value of its assets. Now the Corporation has some difficulty in arguing that those same assets are worth far more to the private sector. Similarly, Treasury's efforts to establish an independent valuation lack credibility: the report which it commissioned (BERL, 1988), offered a number of scenarios with values ranging as high as seven billion dollars. The report is without conviction and seeks justification for unrealistically high valuations on the basis of overly optimistic assumptions (Bilek, 1989). Of course the private forestry companies have no interest in extolling the value of the Corporation's assets as they would like to buy them as cheaply as possible. Indeed, the reduced new plantings by these companies could be a Machiavellian ploy to downplay forestry and so by implication to devalue the State forestry assets.

Time holds forestry in its thrall. The time horizon is so great that the forest

owner risks growing a crop for a market that may no longer exist when the crop is harvested: many of the oak forests of Britain and France were replanted in the Napoleonic years for the wooden ships of the 20th Century! New Zealand is indeed lucky that it can grow a forest crop in "only" 30 years, whereas countries in higher latitudes might expect to wait 60, 80 and even 150 years. But it is still a long time during which there is little or no cash flow. The purchase by NZ forestry companies of strategic forestry investments overseas shortcuts these long-time horizons. In general they have bought into existing operations in Australia, Brazil, Canada, Chile and the USA, where assets were undervalued, where wood costs less than in New Zealand, and where they need not wait 30 years for a return. The cash flow and profits are available now.

As with other primary industries, the returns from growing trees are not as great as the returns from the industries that use the resource. A recent leaflet from the NZ Forest Owners' Association states that "for soundly managed radiata pine forests, the real rates of returns have been in the order of 6% to 8% p.a. above inflation. These compare to rates of 2-5% for pastoral farming and 8-12% for manufacturing and service industries." Clearly there are advantages to the forest industries in having guaranteed access to a forest resource rather than assuming outright ownership! This is one reason why Elders Resources – NZFP Ltd is selling some forests and seeking to enter into joint ventures.

Capital Investment and Market Opportunities

State assets are being sold because the country has too much debt. One has to consider the quantity of unproductive assets which a country or company can justifiably hold. It may not be the wisest option to tie up capital for a long time in a country which is not capital rich. This issue bedevilled the Forestry Corporation's attempt to value the State forests. Its first annual report (1987) noted that revenue exceeded expenditure by $54 million, but that this did not include any dividend to Government or debt servicing to cover the capital value of its forestry asset. A valuation of $1 billion would have yielded a notional return of 5.4.%, assuming all the capital was equity. If, say, one-third of the capital ($333 million) was to be funded by debt at an interest rate of 16% the entire cash surplus would be needed to service the debt, with no funds available for a dividend to the equity holder (Government) for its $667 million investment or to finance further development. The poor cash flow is a consequence of the extensive planting of the last 20 years which resulted in 37% of the forests being less than 10 years old and 79% being less than 20 years old when the Corporation was established (Ministry of Forestry 1988). The value of the forests is undoubtedly increasing all the time but no revenue can be generated until the trees are felled (just like a superannuation fund where wealth is being accumulated but you cannot get your hands on it). Once it became clear that the Government wanted to raise cash from the transfer of the State forests, the idea of a State trading enterprise was doomed. In the short term, the only way the Government can get any return on capital is by public sale, especially when the highest possible valuation put forward by BERL was $7 billion.

The sale of State forests is a great opportunity for both the new owners and New Zealand. The nation has made a stategic investment in forestry which will draw in considerable outside investment – and the multiplier effect is considerable. Whether the State gets the "full" price for its forests may not be critical. At worst we lose the deposit on our investment. Financial markets are not necessarily efficient and from time to time assets can be fairly valued, undervalued or grossly undervalued, just as markets can be grossly overvalued, e.g. prior to the 1987 stockmarket crash.

Offshore interests hold exciting opportunities for New Zealand to widen its export base. The increased wood supply cannot be absorbed domestically (within New Zealand and Australia). Overseas companies, whether alone or in joint ventures, will provide the only realistic opportunity for entry to markets in Europe, North America and key Pacific nations. This reduces the risk in NZ forestry. Even if NZ forestry is as profitable as some of its proponents state, there is a limit to the extent to which a nation should lock up its assets in long-term ventures. Sharing the risks and profits is often wise. The sale of the forests does not mean New Zealanders have lost their share in the profits. Harvesting, processing and transport of the processed wood will call for labour and entrepreneurial skills; and New Zealand's international tax laws are more effective than hitherto. Finally, it is worth emphasising the relative immaturity of the major part of the resource and the cost of holding that resource to maturity. The new buyers will be in for the long haul. The cost of developing the forest industries to process these forests will be prodigious, such that the purchase of the forests themselves is only a down payment.

A future for plantation forestry?

Although forestation is in the doldrums at present, a new planting boom could be only 5-10 years away. Quite apart from the need to reduce debt, this period of relative inactivity may be no bad thing. Forestry and agriculture suffer from a surfeit of land. One estimate (Newsome, 1987) is that there are 3.8 million hectares of scrub-infested grassland in New Zealand on land only extensively used or abandoned by agriculture. The past development of marginal land for agriculture and the unwillingness of the farmer – and the NZ Government – to countenance retrenchment was responsible for some unprofitable forestation as forestry was relegated to the poorest sites. So forced retrenchment in both agriculture

and forestry solves a number of problems. Only good land continues to be cultivated by farmers (with fewer inputs for greater returns) and so better land also becomes available for forestry as the margins contract. Moreover, in Western Countries as a whole, economic forces favour the further intensification of agriculture, while ever-growing surpluses mean that less land will be needed. For example, in Britain between 10% and 30% of present agricultural land may come out of production (Moore, 1987). Further forestation in the near future therefore makes little sense if better-located, more productive and relatively cheaper land is likely to become available 10 years hence. As the criteria for suitable forest land in New Zealand change it may be found that different species thrive on these better sites – species which were not fully investigated in early studies because they were more site demanding.

Although we cannot emulate the very short-time horizons of some tropical plantations it may be possible to grow some short-rotation crops in this country for pulp, chipwood or even small sawlogs using species other than pine grown on sites at present used for agriculture. The returns might not be as good as in a traditionally thinned and pruned radiata pine forest, but there would be a positive return and the money from the sale of timber would be back in circulation much quicker. If such schemes were used to capitalise the unemployment benefit the ultimate benefits to the community might in fact be substantial.

Multiple-use forestry: where do we practise it?

While traditional pine forestry is due for a period of consolidation, there are expanding opportunities in New Zealand for multiple-use forestry. How timely then that this September the 13th Commonwealth Forestry Conference with its theme "Forestry – a multiple-use enterprise" is to be held in Rotorua adjacent to Whakarewarewa forest. With its nature trails and visitor centre this is one of only two State plantation forests in New Zealand to practise genuine multiple-use forestry. It is true that the predominant use here is timber production and that the 'multiple-use' has a narrow focus – the provision of recreational facilities within a production forest. It is nevertheless an exception to the general edict that State plantation forests should have one use only: the generation of revenue.

If multiple-use forestry is taken to mean the management of forests and woodlands for multiple benefits which need not necessarily include timber production then the real opportunities lie in three very different areas:

- State indigenous forests
- Local government forests and urban woodlands
- Agroforestry plantings on private farms.

Indigenous Forests

The 24 million ha of State indigenous forests are now administered by the Department of Conservation under the Conservation Act 1986. As a result, conservation is undoubtedly the predominant use there. However, many areas have a long history of recreational use and the provision of goods other than wood: meat, skins, sphagnum moss, honey, etc. The native forests are also important in relation to the tourist industry, the sixth largest sector of the New Zealand economy. New Zealand's major tourist attraction has always been its spectacular natural scenic beauty – a fact confirmed by a 1986 survey conducted by the New Zealand Travel Association. Increasing numbers of tourists are coming here to experience our way of life and our wilderness; they want to climb, tramp, ski, cycle, raft or canoe rivers, go horse trekking, fishing etc.

The uniqueness of these experiences and the natural beauty of the country depend to a large extent on our native forests. Tourism therefore provides an economic justification for the protection of our forests and, if sensitively managed, can earn income for New Zealand time and time again. However, this is only one reason for conserving the forests and uncontrolled tourist development will endanger natural areas. In fact tourism and the logging industry are similar in that both seek to exploit some of New Zealand's most scenic values. The Department of Conservation must seek to conserve these values in a way that also allows optimal tourist development. Other opportunities exist to increase the multiple benefits obtained from native forests on Crown Land. For example, the skilful management of wild game animals as a renewable resource has never even been considered, as it is forbidden by statute. The challenge is to manage the forests for recreation, protection of soil and water and the provision of various goods without compromising their conservation and amenity values.

Local Government Plantings

As a result of reforms currently under way in New Zealand, local government seems certain to become much more involved in the management of natural resources in future. The details are not yet clear but local bodies are going to manage larger land areas and be much less dependent on Government for finance and policy decisions relating to regional land use. Opportunities therefore exist to acquire and develop existing forests which have soil protection and/or recreational roles as well as productive uses – forests such as part of Whakarewarewa near Rotorua, Woodhill near Auckland, Mangatu near Gisborne, and McLeans Island near Christchurch. In spite of Government claims that multiple-use forestry is an unattainable ideal, local government should seize the opportunity to show that it is not only possible but in some cases the only logical use of the land.

There are even greater developments awaiting the truly imaginative urban forester. Increasingly, large numbers of economically disadvantaged people live in a drab monotonous environment and need somewhere to turn to for relief from the pressures of life. Many such people do not have the means to travel far for recreation. Many do not want to participate in the usual kinds of forest recreation: hunting, tramping, pony trekking, etc. Urban woodlands, however, might serve to ameliorate the urban environment both climatically and aesthetically and still serve as a centre for mass recreation: rock concerts, roller skating rinks, wild game parks. The range of possibilities is limited only by the imagination of the land manager. Hopefully, the fundamental changes to local government structure and finance will enable such managers to create the multiple-use civic forests that will best serve the needs and interests of the urban population.

Farm Forests

Farm foresters are the unsung heroes of social and environmental forestry, whether by planting fence lines to mitigate the effects of wind erosion, small woodlots to stabilise and utilise steep gullies, experimenting with edible or fodder tree crops or simply planting to beautify and improve the environment. The NZ Farm Forestry Association actively supports research and extension work in various forms of agroforestry, and 10% of the nation's exotic forest estate is owned by over 3000 small landowners, most of them farmers.

The opportunities for expansion are great, however. Taxation disincentives do not apply to small-scale forestry ventures and agroforestry research has shown the financial benefits to be gained by growing trees on pasture in association with grazing. However, the area of farmland actually planted in agroforestry schemes is still minimal and even shelterbelt plantings are inadequate. A report for the Canterbury United Council (1982) suggested that the area planted in shelterbelts on the Canterbury plains should be tripled in order to optimise on-farm benefits including reduced wind erosion, higher lambing percentages and increased crop yields.

Protection from wind is important in New Zealand's windy climate, but the

protection of soil from rain-induced erosion is even more important. The use of trees to stabilise river banks and erodible slopes is common on farmland but much remains to be done by both individual farmers and local councils. Sophisticated management techniques are available to optimise the multiple benefits often possible with such stands. These benefits include control of soil erosion, enhancement of water quality, improved amenity and landscape, timber for a variety of end uses, edible crops, and stock fodder.

Forestry in New Zealand is therefore in a state of fundamental change which offers exciting opportunities for the future. Traditional pine forestry has its challenges in the processing and marketing of what it has already got. The greater challenge of the early 1990s is to broaden our concept of forestry – which even our Minister of Forests admits is narrow by international standards (The Press 29/6/89) – to integrate it more effectively with other land uses and to see it as an appropriate tool in community development.

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INDIGENOUS PRODUCTION FORESTRY

In my concern over the future of silver beech management in Western Southland, I have come to realise that indigenous production forestry in general is in urgent need of legislation to protect it from uncontrolled exploitation and to ensure its sustainability in the future.

When the Forest Service was in existence it operated under the Forests Act of 1949. Within this legislative framework it had responsibility for a sizeable proportion of the total indigenous forest estate in New Zealand, and developed a sound (and widely accepted) indigenous forest policy to control the management of this resource. The policy provided guidelines for production, protection and recreation management. Although not excluding the possibility of conversion of indigenous forest to another land use, the emphasis of the policy lies strongly towards the philosophy of sustained yield management of indigenous forest as a renewable resource in its own right. This policy, then, was the quasi-legal basis for ensuring that State forest was managed according to sound management principles. Of course, this policy applied to State forests only, the Forest Service having no authority over the management of indigenous forest under other ownership.

Upon the government restructuring of the Forest Service, a large part of the indigenous State forest estate was allocated to the Department of Conservation. That organisation operates under the Conservation Act 1987 which does not permit the harvesting of wood for commercial gain. The remainder of the indigenous State forest estate was allocated to the Forestry Corporation whose legislation framework imposes no controls on the management of indigenous forest. Nevertheless, the Forestry Corporation and the Department of Conservation have developed (or are in the process of developing) covenants over the indigenous forest allocated to the Corporation. These covenants include certain basic requirements such as the regeneration of logged forest by indigenous timber species, and yield control. These covenants will be transferable to any future owner of the land.

The only controls over the exploitation of indigenous forest in private ownership are exercised by the legislation provided by Soil Conservation and Rivers Control Act and the Town and Country Planning Act, neither of which provides for regeneration or yield control. The Forestry Corporation is also required to act within these laws, of course. With the decrease in logging activity in ex Forest Service indigenous State forest, undue pressure is being applied to the exploitation of private indigenous forest, with only the minimum of control. In the example of silver beech in Western Southland, we see some control over the Forestry Corporation's 12,000 hectares of beech forest by way of the covenants, but virtually no control over the exploitation of some 12,000 hectares of Maori land in the Te Wae Wae Maori lands, or over any of the private freehold lands containing silver beech. Thus we have the anomaly of one part of the industry (the Forestry Corporation, whose assets are about to be privatised) under covenant, but the rest of the industry free to do what it likes with its indigenous resources. I assume that the same thing has happened in other parts of the country.

If we want to get the best utilisation and maximum sustainable yield from our indigenous resources, they must be pooled, regardless of ownership, to provide the wood-using industry with sustainable supplies. Sustainability will provide stability which, in turn, will mean higher stumpages with all the advantages in terms of better utilisation of a limited resource which flows from that.

I believe that this whole area needs to be reviewed to ensure that New Zealand has a viable and sustainable industry based on the managed utilisation of sustainable indigenous forest resources. One way to do this is to recognise discrete areas of indigenous forest for management as sustained yield units, with their own management plan, and covering all of the utilisable resource in the area. The key could be the provision of adequate legislation. I understand that a number of European/Scandinavian countries have legislation controlling the utilisation of forests and ensuring their sustainability.

The logical agency to oversee the drafting of this legislation and its implementation is the Ministry of Forestry. I understand that an initiative on a national policy for native forests has now been taken by the Minister of Forests. It is important that the Institute of Forestry gets fully involved to ensure that its voice is heard in this fundamental matter of forest management.

D.W. Guild