

PROBLEMS IN AUSTRALIA'S MIXED FOREST ECONOMY

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Australia's mixed forest economy is beset with intractable problems. Over the last decade, public expenditure has overtaken revenue, the management of public forests has been severely criticised environmentally, private industries have been restructured, and the employment they provide has fallen. The emergent problems are those of state finances, unemployment, industrial concentration, regional decline, environment, and the legitimation and competence of the public service. In this paper, the origins of the forest economy are described, the nature of the problems are detailed, and some of the current, but slender, institutional responses are noted.

The origins and structure of the mixed forest economy

When they arrived in 1788, the invading British declared all of Australia's land to be the property of the Crown - that is public land. Parcels of it were then granted, sold or leased to individual settlers who developed them for agriculture or used them for grazing. Apart from state-run operations in the early prison settlements, all agricultural, pastoral and timber production was put in private hands. The state allocated the land and underpinned the economic and class systems as they emerged (Connell and Irving 1980).

Throughout the nineteenth century, the more accessible forests were cut, girdled and burnt for grass, grain or timber. Their rapid destruction raised fears of timber shortages until, between 1875 and 1920, the various States established forest services and reserved some of the remaining forests in the public domain for the perpetual production of timber.

The 1920's were decisive for Australian forestry for two sometimes contradictory reasons. On one hand, Britain tried to shelter her battered economy within the walls of Empire; as she could no longer extend the global frontiers of her exploitation, the Empire had to be made self-sufficient (Cochrane 1980). On the other hand, Australia started to industrialise; no longer was she content to import paper and much of the better grades of timber, and ways had to be found to turn the recalcitrant eucalypts to domestic account. Such import replacement strategies threatened some sales of British paper but were primarily aimed at displacing Baltic and United States' sales.

In London, the foresters of Empire, including Australian delegates, gathered to chart new policies. The best remaining

forests were to be found, 'demarcated' as state reserves, and managed for sustained production; old forests were to be rehabilitated, and new ones planted. The new policy was clearly reflected in 1921 when the Empire Forestry Association was founded by a uniquely British mix of professional foresters and aristocratic forest and Empire enthusiasts (Lord Novar, a former Governor-General of Australia, was the first President).

To secure the early extension in all countries of the British Empire of a constructive forest policy whereby the sylvan resources of the Empire may be scientifically conserved and prudently exploited for the mutual benefit of the British Commonwealth of Nations (Empire Forestry 1922)

Britain established her own Forestry Commission in 1919 to restore the estate woodlands and plant the wasted uplands and, in 1923, an Imperial Forestry Institute was set up in Oxford to provide forestry officers with higher training and to conduct or co-ordinate research.

In Australia, Commonwealth officials encouraged by the Empire Strategy calculated that 9.9 million hectares of hardwood forests would be needed to sustain timber production, and each State was called on to reserve and manage its proportion (Australia, 1920). The Commonwealth's Institute of Science and Industry (now CSIRO) set up a small Forest Products Laboratory, and gave it the tasks of finding how to dry Australian timbers artificially and how to make paper pulp from eucalypt wood. The research was remarkably successful; by 1924, printing and writing paper had been made experimentally, and by 1927, newsprint. A special reconditioning process was developed and, from the end of the 1920's, new timber kilns were set up around Australia.

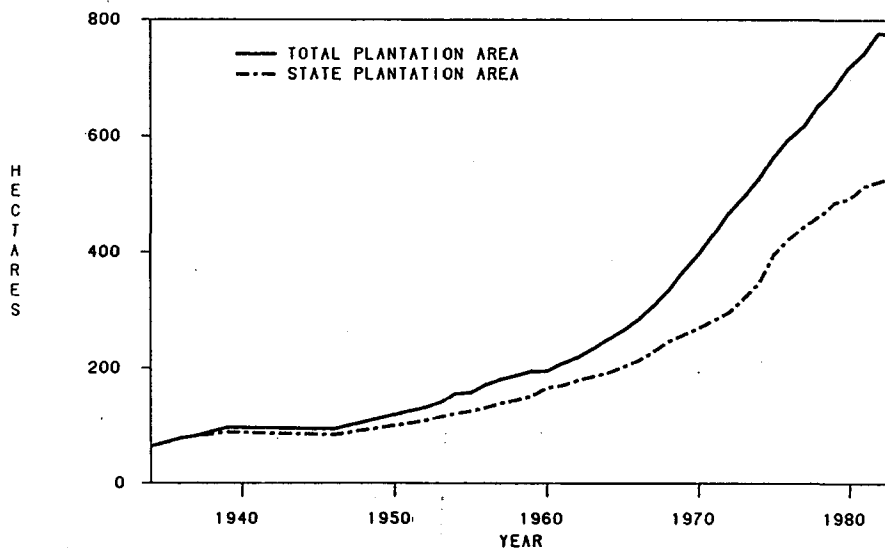
The depression of the 1930's and the 1939-45 war generally restricted the forest services to collecting revenues from the sale of logs, protecting the forests, carrying out a little regeneration work and planting whenever funds for relief work were available. During this period, the old-growth mature forests continued to be logged and affairs managed so that revenues from sales roughly matched the costs of running the forest services.

Groups of mainly Australian companies jostled and haggled throughout the 1920's and 1930's until they had divided the paper markets, secured large concessions in the public forests, and mobilised enough money to build pulp and paper mills. The Anglo-Australian mining capital concentrated around 'Collins House' formed Associated Pulp and Paper Mills Ltd (APPM) which built a mill to make fine paper at Burnie in northern Tasmania in 1938. The old Australian paper firms amalgamated to form what is now Australian Paper Manufacturers Ltd (APM) which built a mill to make wrapping paper in Victoria in 1939. The biggest newspaper proprietors finally put their money into Australian Newsprint Mills Pty.Ltd. (ANM) which opened a newsprint mill at Boyer in central Tasmania in 1941.

During the 1950's and 1960's, the Australian economy grew at 4-5% a year, 2.5 million refugees and immigrants arrived, the population grew 2-5 times faster than in other industrialised

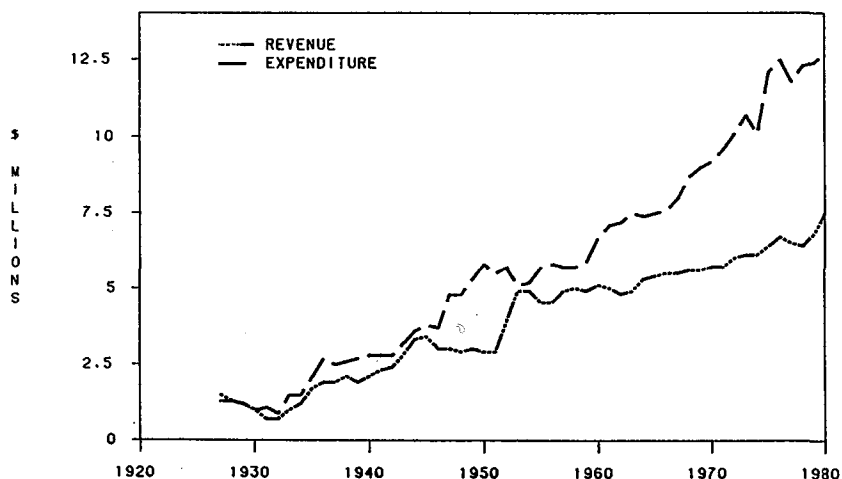
western countries, and in 24 years (1947-1971) the housing stock was doubled. The demand for timber was so intense that the hardwood forests were logged and logged again to levels beyond their capacity to sustain. In addition, the pulp and paper industry expanded rapidly. Its demand was met by clear-felling broad areas of forests in Victoria and Tasmania.

FIGURE 1 THOUSANDS AREA OF CONIFEROUS PLANTATIONS AUSTRALIA 1934-1983



Forests in private hands were still being cleared for agriculture and these yielded wood for sawmills and pulp mills in the process. In the public forests, the various State forest services built roads into the remaining uncut forests, improved their ability to regenerate the areas cut over, and rapidly expanded the softwood plantations. Pines, particularly *Pinus radiata*, had been planted in South Australia and tried on a small scale in other States for many years. However, fears of a timber shortage, and a national development policy of import replacement, led to faster planting by both the State forestry departments and large private companies (Fig. 1). The states could no longer fund their forestry departments from revenues alone and had to raise increasing amounts of loan capital to meet their expenditure on roads and plantations (Fig. 2).

FIGURE 2 AUSTRALIAN FOREST SERVICES: REAL VALUES (\$1980)



To this structure of sawmills and pulpmills drawing their wood largely from public forests was added a woodchip export industry. The Japanese in their search for resources found Australian companies keen to sell them hardwoods. Exports started in 1970 and grew rapidly, particularly from Tasmania where the total quantity of wood cut doubled within three years. Broad areas of forests within reach of the chip mills were clear-felled, but although this enabled some scarce sawlogs to be retrieved and enabled the patchy mess of selectively logged-over stands to be regenerated to faster-growing uniform crops, the scenes of apparent devastation fomented a public outcry.

Thus by the mid-1970's, the Australian forest economy had the following characteristics:

- i) The States owned 80% of the commercial hardwood forests and 70% of the plantations; the balances were in private hands.
- ii) The States' forest services were running their operations at increasing annual deficits.
- iii) The deficits were being made up by loans including some for pine plantations from the Commonwealth government.
- iv) The industry was all, except in South Australia, privately owned.
- v) The industry consisted of four main structures of production:
 - a competitive sawmilling sector of some 1200 hardwood mills and a 100 or so much larger and more efficient pine mills,
 - a small plywood and board sector with various types of mills,
 - a pulp and paper sector dominated by three major companies each monopolising a particular segment of the market, and
 - a woodchip export sector of five large mills.
- vi) Foreign ownership has limited to two mills making tissue products and a few sawmills, unlike the situation in British Columbia where foreign control is much more significant (Hayter 1981).
- vii) The assets and yields from the hardwood forests were depleting but those from the pine plantations were rising.

- viii) The general public and governments were becoming increasingly concerned over the way the forests were being managed.

The problems of the decade

The stark realities of factory closures and mass unemployment that marked the end of the long economic boom, resulted not only from the emergency of problems concealed in the old economy, but also structural change. Some analysts described the situation in terms of a crisis of capitalism occurring in state finances, polity, or in the connection between the two (eg. O'Connor 1973, Bowles and Gintis 1978 and the review by Jessop 1982). Australian analysts also described the situation in crisis terms (Theophanous 1980, Crough et al. 1980, Sheehan 1980, Walsh 1979). These analyses, although directed at the overall economy or state, raised fruitful propositions for considering particular sectors. They directed attention to the operation of the state and this was of particular importance in the forest sector where the state had such a dominant position.

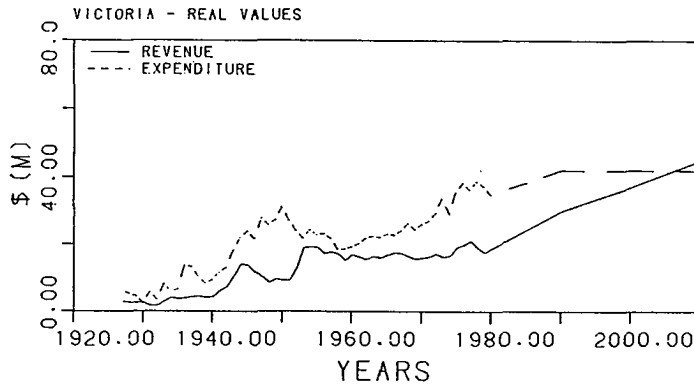
The problem of state finances

How did the forest economy fare? The problem of public expenditures rising faster than revenues (Fig.2) arose from a combination of several factors. On the revenue side, although the rates per cubic metre at which wood was sold generally kept pace with inflation, the rates themselves were low. Indeed the rates at which woodchips were sold were so low that they did not cover the full costs of extra regeneration work (Tasmania, Forestry Commission 1978). On the expenditure side, there were several increases. Larger areas needed regeneration, and as environmental criticism mounted, the administrative costs of numerous inquiries rose, information and publicity sections were created within the forest services, many forest practices were modified, and new recreation facilities were built in the forests. Presumably some costs to the forest services, though not to the public overall, were reduced through the transfer of forests to new National Parks.

An analysis of timber (mostly hardwood) production in Tasmania showed that even if the values of all the land and original forests were ignored, public investment in the forests was likely to yield a return of only about 1% at best (Dargavel 1983). An analysis of growing Alpine Ash in Victoria showed that returns of 2-6% could be achieved, but only if the stands were grown on far shorter rotations than were planned (Douglas 1972). Pre-investment forecasts of returns from the faster-growing pine plantations have often been claimed in the more promising 5-7% range. However, these forecasts (calculated at the per hectare rather than project level) assumed that all products could be sold when ready. As a combined result of over-enthusiastic planting and a slump in the previously forecast demands for pulpwood, several regions in Australia now have gluts of unsold pine pulpwood. Not only are the early returns not being received, but the lack of thinning is inhibiting the full development of future sawlog trees and hence future returns.

The minimum duration of the economic burden of forestry on the public purse can be displayed by forecasting future revenues on the optimistic assumptions that expenditure can be held constant, real prices can be maintained, and all the wood available can be sold. Such a display for Victoria (Fig.3) shows that public forestry will not start to pay its way until the next century. It is undoubtedly exacerbating the general fiscal problems of the state.

FIGURE 3

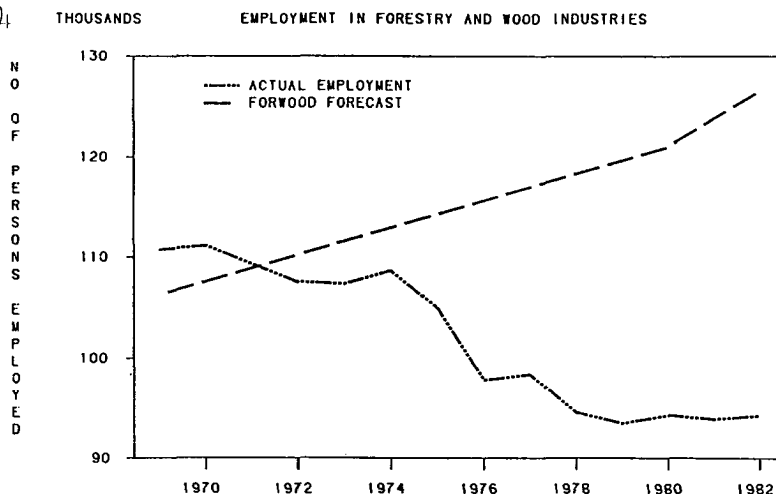


The problem of unemployment

Both the forest services and the privately-owned industries pleaded for more public funding of state forestry and claimed that it would lead to economic and social benefits, particularly in rural regions (Australian Forestry Council 1975). It was claimed that the benefits would spread widely through income and employment multiplier effects, appropriately calculated from input/output studies (Ferguson 1972, Reilly 1974). Rising production was to lead to increased employment and regional prosperity.

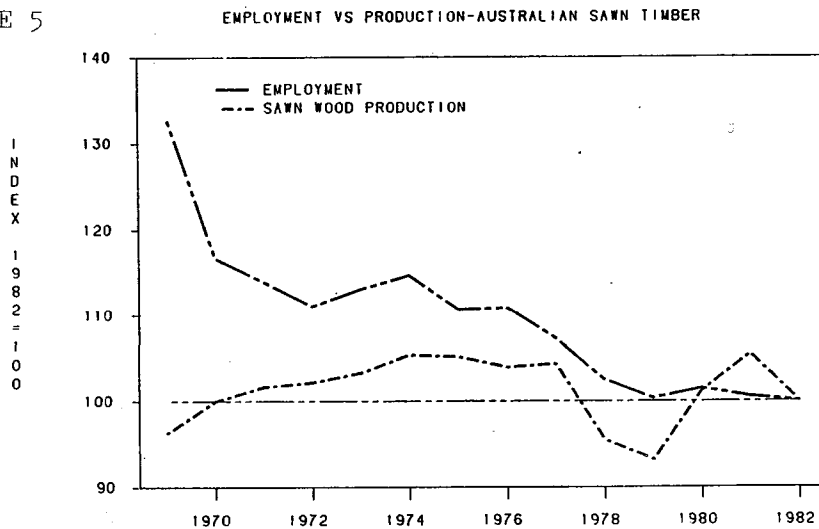
These claims, that seemed so plausible during the boom, were confounded by results. Far from rising, employment fell, for capital was invested not only in expansion but in labour-reducing technologies (Fig.4, Dargavel 1982). During the boom, the employment-generating effects of expansion had exceeded and masked the employment-reducing effects of investment in new technologies. But after 1974, the relative position of the effects reversed and, although the production of most commodities did increase slightly, employment fell.

FIGURE 4



Employment in establishing and tending the forests fell in spite of the need for increased regeneration work and the prescription of higher environmental standards. The decline in employment in logging that occurred in spite of extra work for the woodchip export industry was part of a long-term trend in mechanisation and the elimination of literally back-breaking tasks (Fig.5). The decline of employment in sawmilling was related to increasing concentration of ownership, centralisation of production, closure of many small hardwood mills, and a rapid increase in the proportion of timber cut in the large, new and highly automated pine mills (Fig.6). Employment fell in the pulp and paper industry, in spite of rising production, through the closure of small mills and old paper machines, and through increasing automation (Fig.7). Female employment fell in both ply and paper mills as the finishing rooms were automated, but rose in sawmilling, mostly in administration.

FIGURE 5

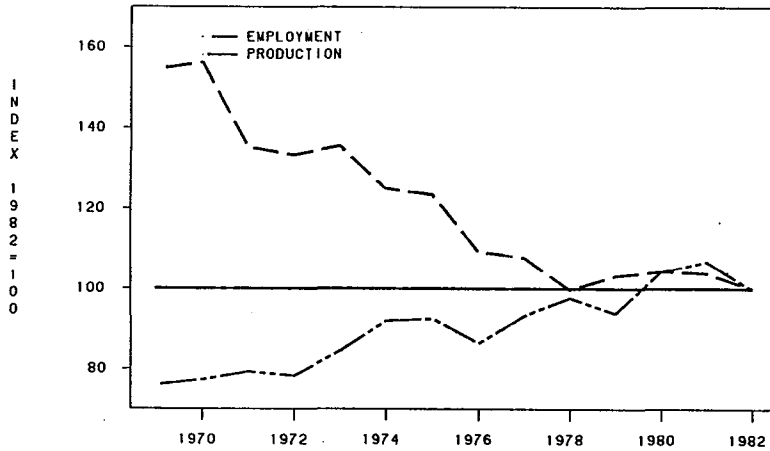


The problem of regional decline

Far from promoting regional prosperity, the public forestry and private industries sector contributed to the decline of those rural regions where employment fell or where the costs of public forestry had to be borne. By contrast, a few regions such as Eden or Albury where new woodchip and paper mills were built, did experience resource booms complete with multiplier effects operating in their classic formulation. In the declining regions, there were several mechanisms at work. The most severe was mill closures which extinguished tiny hamlets, reduced small towns like Geeveston (Tasmania), or significantly affected timber centres like Mansfield (Victoria). Declines, fluctuations in production, and the closure of automation of sections of the continuing mills all ground away at regional economies. Whereas the distribution of the social benefits of industrial expansion had been seen as an automatic and benign process during the boom, the distribution of the social costs of contraction was not. After 1974, the companies were seen to work much harder at containing their costs - the source of social benefits - wherever possible. The multipliers worked, but in reverse.

FIGURE 6

EMPLOYMENT VS PRODUCTION : AUSTRALIAN LOGGING INDUSTRY

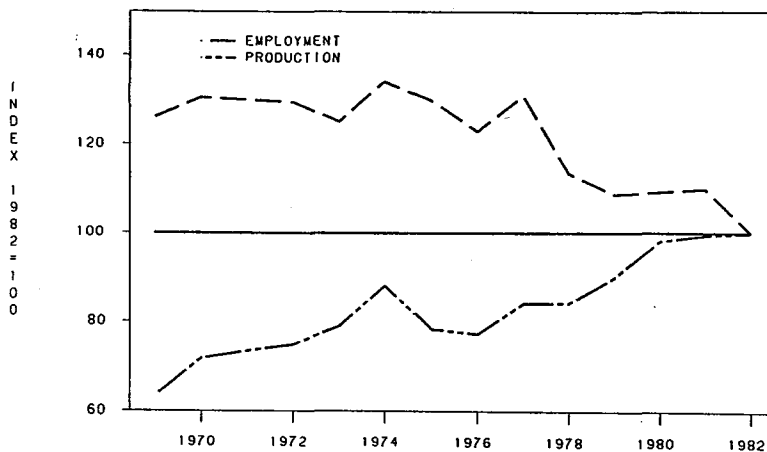


The many logging and trucking contractors who supplied the wood were severely affected as their costs escalated faster than new contract rates could be negotiated. As in the oil industry, owner-drivers and small contractors took unprecedented industrial action to regain their economic position.

The regional effects can be seen most starkly in Tasmania where the forest industries occupy one third of the manufacturing sector. The drain on the State's budget increased, profits continued to flow out to the mainland, reinvestment was directed more to labour-saving equipment and centralisation than to expansion, and employment fell. The net result was that, far from distributing the economic benefits widely, the effect of subsidising public forestry became more regressive. That is, the costs of the subsidies were increasingly shifted to taxpayers while the balance of benefits shifted to shareholders - the wealthy class of Australia. The forestry and wood industries sector appears to be a significant component in the 'Tasmanian problem' of regional decline, relatively poorer economic and social conditions, and depopulation (Dargavel 1980, 1984a).

FIGURE 7

EMPLOYMENT VS PRODUCTION : AUSTRALIAN PAPER MAKING



The problem of the forest environment

The industrialisation and export policies that resulted in accelerated cutting in the hardwood forests and increased pine planting provoked strong environmental attacks: wilderness, natural areas and rainforests were diminishing, uniform exotic pine plantations were replacing diverse native hardwoods, and broad scale clear felling for woodchip exports was creating scenes of devastation. The environmental objections were carried in publications (eg. Routley & Routley 1973, Jones 1975), press articles, television programmes and submissions to government inquiries. The attacks developed into sharply polarised regional and political issues that conjured forth innumerable debates, inquiries, submissions and reports. Two points only will be made here. Firstly, the States' forest services suddenly found themselves to be the focus of highly critical scrutiny. It became widely held that they were not careful custodians of the public forest services; they were confronted with a new range of management requirements for which they had little experience, such as recreation design, erosion control, scenic evaluation and the manipulation of wildlife habitat; the competence was questioned.

The problem of industrial composition

As in most industries during the last decade, the extent of corporate ownership of the wood industries has increased markedly at the expense of small, private and typically family-owned firms. This has occurred as a result of the concentration of ownership within hardwood sawmilling, the expansion of corporately-owned pine sawmilling, the take-over of sawmilling firms by paper and woodchip companies, and a great increase in the relative size and power of the paper and woodchip companies. The transition involved a loss of rights by the small, local firms relative to the large corporations.

The problem was most forcefully expressed in Tasmania where APPM (now a subsidiary of North Broken Hill Ltd) expanded its own operations and took over smaller firms to the extent that it now:

- cuts over 2 million tonnes of pulpwood a year, or about 60% of the State's total,
- holds 76% of the concessions over public forests,
- is the largest sawmiller with an allocation of 18% of the sawlogs cut on public forests, which it supplements with its own logs to produce 25% of the State's sawn timber, and
- is the largest single employer in Tasmania.

Those Tasmanian sawmills which have not been taken over, and which draw their logs from the public forests covered by APPM's concessions, were forced into a very dependent position. They had held rights to their own specific areas in the forests for 7-15 year periods, and had arranged their own small-scale logging operations that moved from patch to patch cutting a tree here and there. The large-scale clear-felling that supplied the woodchip

mills simply over-ran these small diffuse operations. The sawmillers' area rights were transformed into annual quotas and their logs supplied from APPM's operations. In the medium-term, this increased the supply of hardwood sawlogs, but some Tasmanian sawmillers felt that the premature felling of young trees for pulp jeopardised their long-term future (Kemp 1982).

Changes in industrial structure are intimately connected with the state's allocation and transfer policies for resource rights in public forests. Thus the state not only affects the conditions for private profitability, as O'Connor emphasised, but also affects the relative profitability of individual firms or structures within the industry (the importance of which has been stressed by Butler 1980).

Responses and the problem of state competency

Several responses were made to the environmental attack. The Commonwealth and State governments set up several public inquiries and created more national parks. Although large areas were transferred to parks, only some contained commercial stands and some of these were allowed to be logged once. In Victoria, the area of national parks was increased to 24% of the area of public land but the volume available commercially was reduced by only 10%. The forest services introduced ameliorative practices and set up publicity sections to improve their image. The forest industries, aided by some notable foresters, set up anti-conservation groups to lobby parliamentarians for continued rights to the forest resources.

Initially the conservation movement appeared to concentrate on the philosophical analysis and the photogenic values of the forest environment and avoid economic or class analysis. Recently however, there have been moves to design alternative job creation schemes as part of conservation campaigns. Although the Australian Conservation Foundation and other conservations bodies have funded such moves, they face severe difficulties. On the union side, it can be hazardous for often sympathetic union officials, particularly when facing re-election, to be seen associating with conservationists. On the conservation side, campaigns carefully planned by umbrella organisations can be wrecked when individual groups launch precipitous action. On the industry side, it has proved remarkably easy to whip up fears of job or resource losses in campaigns 'to get out and fight this disease of conservation' (Australian Forest Industries Journal 1984).

The forestry departments have lost much of their former autonomy in Western Australia, Victoria and the Australian Capital Territory by being merged with other land management and conservation agencies. These moves seem related both to the rationalisation of administration and to the re-legitimation of forestry by placing it within wider-based departments.

The worsening financial position of public forestry services has been addressed by trying to raise revenue and make expenditure more effective. On the revenue side, it remains to be seen whether rates charged for wood can be increased significantly.

Byron and Douglas (1982) have argued that the industry does have the capacity to pay, yet in an economic recession it is difficult for the state to act. On the expenditure side, most States have changed their archaic public accounting practices to program budgetting or similar systems. Again it is too early to tell whether the better management information that results will enable annual deficits to be reduced.

Although the accounting systems have been modernised, there has been little progress towards more modern or more economic forest management. Indeed it seems as though the specialist staff of the forest services have been so embroiled in making and defending submissions before the host of inquiries that they have been unable to maintain some of the advanced planning systems that were being developed during the late 1960's and early 1970's.

Most seriously, the whole conception of public planning for the forest sector in Australia has remained at the crudest physical level. That is, simple trend forecasts are made of overall 'demand', policies of attaining 'self-sufficiency' are asserted, and plans are prepared to make sufficient wood 'available' to 'supply' and 'demand'. Scant consideration is given to the relationship between demand and price, the feasibility of displacing imports from metropolitan markets is not studied, and the likelihood of being able to grow and process wood at internationally competitive prices, without subsidies or tariffs, remains to be analysed effectively in most States. Moreover, even though considerable research has been conducted into improving silvicultural regimes, there is little evidence that these are being evaluated in plans prepared for many regions. Indeed, progress in obtaining more detailed resource data and developing computer models that would enable the complexity of the forests to be properly recognised has been disappointingly slow.

In sum, the forest services have generally failed to adopt advanced planning systems that would enable them to use the research information they have, recognise the complexity of the forests, or cope with their current situation of increased environmental and recreational demands, declining hardwood resources, regional imbalances, structural change in the industries and employment effects. A new order of competence is needed for a new era.

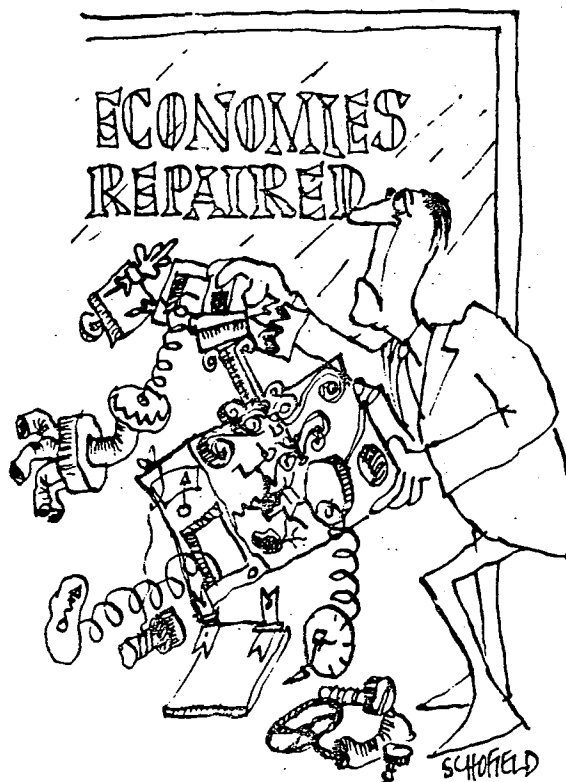
Conclusion

The trends in the Australian forest economy indicate that state deficits will rise, structural change will continue, unemployment will increase and controversy over environmental issues will not abate. These trends appear to be exacerbating the fiscal, social and legitimisation problems of the state. There is little evidence of the state forest services having the competence to cope with them, if indeed solutions are obtainable. Whether these problems will lead to a more general crisis, as many have argued, remains to be seen.

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