

MANAGING THE REGIONAL IMPACT OF FOREST DEVELOPMENT PROGRAMMES

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ABSTRACT

This paper proposes that, in situations where the regional development impact represents an important part of the total benefits of a project, some effort must be made to manage the project so as to increase the impact on regional employment and incomes. This will probably require some amendment of centralised purchasing policies, support for local servicing industries and acceptance of seasonal employment.

INTRODUCTION

As recent studies of the economics of exotic forest establishment and expansion have shown, the social benefits of forestry are an important part of the total benefits of exotic plantations (N.Z. Forest Service, 1975; Anon., 1977). In fact, at current stumpages little exotic forestry can be regarded as economically viable without the social benefits, except perhaps for export logs. This is something that most foresters and politicians already know, although it is not usually stated explicitly in forest management plans.

Perhaps because of this, the pressures for an economic justification of the afforestation programme have led to the inclusion of a range of "social" benefits generated by the expanded afforestation in many forest planning exercises. The social benefits of major utilisation schemes have also been important considerations in planning the use of existing forests. Examples include the planning exercises which resulted in the Carter Oji Pan Pacific mill in Napier and the Winstone's mill in Karioi. In all these studies a considerable proportion of the "social" benefits of the afforestation and processing schemes have arisen from the impact of the schemes on the local or regional economy.

In many ways all that is happening is that the economic analysis of the forest project is extended to include factors which were already envisaged as important by those politicians and foresters making the decisions. Thus the employment impact of afforestation schemes in areas such as Aupouri and the East Coast were always important considerations in the decision to undertake afforestation in those districts. However,

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when the forest sector is competing for a share of the nation's resources it is necessary that benefits such as these be explicitly incorporated into the planning exercise and the bargaining processes.

Further, if the regional impact is thought to be a substantial part of the benefits of an afforestation or forest processing scheme, then a knowledge of the size and nature of the regional benefits, and an understanding of how they can be influenced by management, are likely to be prerequisites to obtaining the greatest benefit from the investment. While the idea of managing a forest project so as to influence the nature and distribution of its regional impact may be novel, it is no less sensible than managing for the financial return — which in fact may be the smaller of the two benefits.

EMPLOYMENT IMPACT

Where attempts have been made to quantify the regional social benefits of forestry schemes in New Zealand they have mostly concentrated on the impact on regional employment and on employment-related factors such as population. Members of this Institute may recall that there has been some discussion about the way in which total employment impact is calculated (Grant, 1977; Collins *et al.*, 1977; Fraser and Horgan, 1978). In essence, the debate reveals that while the direct employment impact is easily measured as the people directly employed in the forest-based enterprise, any assessment of the consequential or indirect increase in employment in the region is more problematical. More important, perhaps, is the understanding that, in regions where the regional impact of an afforestation or forest processing scheme is an important proportion of the total benefits, there is likely, prior to the scheme, to be both *unemployment* and *underemployment* in the region. Areas where forestry is seen as providing attractive social benefits characteristically have a stable population and a declining work force as young people move to the cities. The East Coast, Northland, and Otago regions are all areas with these trends. As a result many businesses, and both government and local body agencies, find their turnover and workloads falling as the reduced spending associated with a declining work force occurs. These factors inevitably mean that local servicing enterprises, which rely on the local market for their income, face falling profitability and declining productivity.

Over a number of years these trends lead to an increasing proportion of the local residents finding themselves on lower than average incomes. The conditions are accentuated when

the local agricultural sector has failed to keep pace with improvements in productivity, or where landowners have not aggregated land holdings as the minimum economic farm size has increased. Thus in both Northland and the East Coast, for example, there are a number of underemployed people with uneconomic farming units, and shops and professional practices earning less than similar enterprises in other regions.

When a development project such as afforestation or forest processing is proposed as a way of ameliorating these conditions, a considerable proportion of the employment impact can be expected to go towards increasing the productivity and earnings of people already in work. In a study of industrial development in five depressed counties in Kentucky, U.S.A. (Garrison, 1972), it was found that the indirect impact (that is, the impact on those not employed directly in the new industries) was almost entirely an increase in the incomes of those already working. There was hardly any impact on employment other than the new jobs created within the industrial plants.

In a survey of the effect of industrial development in Tennessee, U.S.A., Ruttan (1955) found that increased "off-farm" jobs by members of farm families were more important in raising the income levels of those families than increased labour productivity on the farm.

These trends have also been observed in New Zealand. Surveys of the local employment impact of the Tasman Pulp and Paper Company's mill in Kawerau have suggested that 20 to 30% of the work force directly engaged in the mill commute from outside Kawerau, many of them using intermittent work at the mill as a way of supplementing family income which previously provided a low, though acceptable, standard of living (Grant, 1976; Whitelaw, 1961). In Kawerau the use of mill work to supplement other sources of income was detected only in unskilled workers. It is unlikely that there would be many members of an existing community who would possess the necessary qualifications to take skilled mill positions as a way of supplementing other income.

There are some aspects of this research which are of interest to forest managers. First, if one of the purposes of the forest project is to alleviate the burden of those deriving low incomes from other sources, forest managers should ensure that they adopt flexible employment policies which enable people to work in the largely unskilled jobs on an intermittent basis. From a purely practical point of view it may be necessary to insist that individuals conform to some regular seasonal pattern (such as being available for the annual planting or pruning). However, it should almost be axiomatic that

the project should bring no additional unskilled labour into the region until all the people wanting seasonal employment have been accommodated.

In such circumstances a forest manager recording a high labour turnover by adopting these principles may be managing his forest efficiently for the benefit of the total community, in contrast to present circumstances where a manager with a high labour turnover may be judged a poor manager of staff.

Similar attitudes should be taken by managers of utilisation plants and logging fleets, but their opportunities for managing their project for this type of impact may be limited by the skill levels required in the work force.

The second conclusion from this review must be that the employment impact will underestimate the total regional economic impact of a forest in many regions; and the income impact of a project is likely to be a more accurate reflection of its likely influence.

INCOME IMPACT

There are two ways in which a development project may increase the incomes of residents in the project area — by direct salary and wage payments, and indirectly by purchasing materials and equipment in the region, thereby creating the possibility of new employment opportunities or higher wage payments in the local servicing and supplying industries.

The results of an analysis of purchases of goods and services in Mangonui County, Northland, by Lands and Survey farms and Aupouri Forest, respectively, are given in Table 1.

The table has two important messages for forest managers. First, it shows the importance of tree stocks, which represented 20% of current expenditure and 40% of total expenditure in Aupouri Forest. When the purchase of forest tree stocks is excluded from the purchase of other goods and services, the relative importance of local purchases falls by half. These figures reinforce the knowledge that the local impact of an afforestation project is significantly increased if the nursery supplying the trees is located in the development area.

Since most forest projects will not be established in localities with a local forest nursery, it is the second message which is more generally appropriate. It is seen that state farm development makes between 63 and 68% of its purchases of goods and services in the local region, while state forestry (with no regional nursery) makes only 20 to 30% of its purchases within the region.

These figures should not be used to suggest that farming has a bigger total local impact than forestry, for they do not

TABLE 1: MANGONUI COUNTY LAND DEVELOPMENT PROGRAMMES: PURCHASES OF GOODS AND SERVICES BY PLACE OF PURCHASE¹
(Percentage distribution)

| | <i>Mangonui</i> | <i>Rest of Northland</i> | <i>Elsewhere</i> |
|--|-----------------|--------------------------|------------------|
| Lands and Survey farms | | | |
| Current operations | 65 | 32 | 5 |
| Total expenditure ² | 68 | 26 | 6 |
| Forest Service forest (including purchases of tree stocks from Sweetwater Nursery) | | | |
| Current operations | 58 | 13 | 29 |
| Total expenditure ² | 48 | 14 | 38 |
| Forest Service forest (excluding purchases of tree stocks from Sweetwater Nursery) | | | |
| Current operations | 30 | 21 | 49 |
| Total expenditure ² | 20 | 52 | 28 |

¹ A description of the data collection and analysis is given in Roper (1978).

² Includes expenditure on capital items.

include direct expenditure on salaries and wages. Indeed, the same survey revealed that the proportion of total forest expenditure (including salaries and wages) spent locally was between 66 and 70%, while farming spent only 43 to 49% of its total expenditure in the region.

The table does suggest, however, a difference between the purchasing policies of the two government departments. In fact, the Department of Lands and Survey regards itself as a farm developer and expects to transfer its farms into private ownership within the foreseeable future. Its purchasing policies are thus designed to support local industry and to encourage the local servicing industry to stock a range of farming products.

In contrast, the state forest purchasing policies appear to be more constrained by the bulk purchasing policies of the department and the Government Stores Board.

A similar situation appears to exist in the purchase of services. While the Lands and Survey Department goes to considerable lengths to encourage a stable local agricultural spraying and fertiliser spreading industry, the Forest Service lets the job of spraying its forest to the cheapest tenderer, who in the year of the survey happened to come from outside the region.

Similar comments can be made about the Forest Service policy of employing its own servicing work force. Mechanics,

fitters, painters, and carpenters employed by the Forest Service are not available to the local public, whereas a policy of using local services would support additional servicing enterprises which would be locally available. These arguments also apply to both the logging industry and the forest processing industries.

DISCUSSION

Nobody doubts that with the expanded planting programme both afforestation and forest processing will have a big impact on income and employment in some regions. But New Zealand is a small country, both geographically and economically, and inevitably this causes some regional development problems. For example, it is relatively easy for a large organisation to have centralised ordering, marketing and planning facilities because the central office is never far from the region. Indeed, it is often desirable initially, because the local facilities may not be able to cope with the sudden expansion in business associated with a greatly expanded local planting programme or the establishment of a significant forest processing enterprise.

However, in situations where the regional development impact is an important part of the total benefits of a project, some effort must be made to manage the project so as to increase the impact on regional employment and incomes. This will probably require some amendment of centralised purchasing policies, support for local servicing industries, and acceptance of seasonal employment.

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