

## Problems of Forestry Development in Ireland

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**T**HERE are three main aspects of the problems of forestry development in Ireland which will be discussed with special reference to the poor land areas.

The first is the question of the criteria by which we should judge forestry policy, both at national and regional level; it is usual to distinguish five different criteria—the financial (or purely economic), the creation of employment, import-saving, the generating of economic growth and finally the recreational and tourist opportunities. The second is the problem of deciding the optimum use of particular pieces of land for agriculture or for forestry; and the opportunities for the integration of these so as to benefit each other. The third point is the actual rate of development of forestry in the western counties of Ireland in recent years and its effects as a stimulant to economic growth in that area.

Taking first the question of the criteria for determining national and regional forestry policy, there is a very wide variety of standards by which developments can be assessed. Even if we take purely economic criteria, and ask "does the forestry pay", the views and answers are complex. Normally when faced with the problem of assessing a long term capital project economists think in terms of either the internal rate of return or the present value of the investment. The internal rate of return is the net earnings on capital in terms of all revenues minus all costs, all investments being discounted at this internal rate over whatever time period involved. The second—the present day value, in forestry economics often called the discounted net revenue—is the absolute value of all revenues less all costs, discounted back at the appropriate discount rate. There remains the very large problem of deciding what is the appropriate rate to use and this may create many problems which cannot be relieved by any simple method.

Most forestry economists and applied economists working in other spheres where long term investment is involved, have advocated the 'present value' criterion. The problem of deciding what is the appropriate rate at which to discount costs and revenues is partially solved by presenting the results at a number of different interest rates. This problem is of critical importance in the viability of very long term undertakings, such as growing trees.

On the other hand, the internal rate of return does give a specific answer, and this type of exercise (such as was done for the forestry section of "Economic Development") at least leaves a fairly clear cut answer to the basic questions. Even here, however, there are difficulties.

In a recent paper it is argued that the internal rate of return is only relevant if time preference and social discounts are constant over the whole time period involved.<sup>(1)</sup> The point here is relevant in that we are investing money to-day in forestry which will not be realised as a consumable product for probably another 30 to 40 years. Even allowing for the changing value of money, it is by no means obvious that in the year 2004 the utility of the return will be equal to that which it could be realised to-day. This is very much a value judgement, but Turvey goes on to say that judgements by economists are better than those by non-economists because the economists are experienced in systematic thinking about this type of problem. The difficulty remains that if you get a number of economists on the same problem they will often give widely differing answers.

There are, in the real world of economic policy, other economic issues which are clearly important. The contribution of forestry to import saving is one obvious case; in 1962 imports of non-manufactured wood products (but including plywood, fibre, etc.) were over £5½m., and to this must be added £7½ m. of paper and paper manufactures. The present investment of around £3m. net on the forestry programme will obviously not replace much of this in the immediate future, but there will be many years during which the import saving effect of forestry will be of direct benefit in the national balance of payment. The Second Programme for Economic Expansion clearly envisages that by 1970 there will be a substantial deficit on the balance of international payments and by then the contribution of forestry will be of very considerable importance.

Another important issue is employment and this is something more than just a social benefit. In recent years the employment directly in forestry has been 4,600-4,800 men, which is a little over 0.5 per cent. of the total male labour force. The counting of heads is not an adequate assessment, for much of the employment is created in areas where the alternative employment opportunities are poor.

There is finally need to have regard to the extent to which the multiplier effects is involved—or what Professor Ryan calls 'linkage'—in the investment in forestry<sup>(2)</sup>. As much of the current total expenditure goes on wages, the 'backward linkage' in creating other industries to supply its need is very small. On the other hand the forward linkage effects would appear to be much better; the recent recommendation in the Report on the Paper and Paperboard Industry by the C.I.O. on the setting up of a new mill might be quoted as an example.

The non-economic criteria which must be examined has recently been emphasised in Britain in a paper read by Michael Dower in which he expressed the view that "forestry, and particularly mixed and hardwood forestry should be increasingly used to transform some of our drabber and poorer farmland" and puts in a plea for more liberal term of reference for the Forestry Commission in its buying of additional land for afforestation<sup>(3)</sup>.

The second main aspect of forestry development is the translation of these general criteria into practical decisions as to the optimum use of individual pieces of land, and the way in which forestry and agricultural developments benefit one another. Here the problems of actually estimating the returns per acre from farming and from forestry are almost as complex, and as full of uncertainties, as they are for the total national planting programme. The use of the internal rate of return criteria makes the problems of actually computing the answers less arduous; the effect of employment generation and of recreational and social advantages can be more precisely defined, but that of the effects on general economic growth generation has to be left out at this stage.

The real problem is to extract and project the data needed to such an exercise. This is of course already widely recognised; in a paper read recently in Dublin it was said that "It may well be that in the long term the inclusion of rather good quality land in the forestry estate will be justified by comparative studies of forest and agricultural relations".<sup>(4)</sup> Unless this type of analysis is done then many of the conclusions about forestry's contributions to the economic development of a particular region, or to the economy as a whole, will be more than a statement of hope rather than one of fact. Of course the task of getting the necessary data and making all the calculations involved is bound to be difficult; the fact that the information at present is not readily available is a strong reason for beginning now to get the necessary data together rather than a cause for delaying further. If we are to except that the national forestry effort is an economic business then it is necessary to begin to draw up fully budgeted accounts, not just in terms of day to day receipts and expenditure, but in terms of detailed estimates of return and profitability of the activities as a whole, and in the individual parts. It must be remembered that the investment of £3m. annually represents a large business effort and the same criteria should be adopted in the case of other businesses with long term periods of capital investment and amortisation. There seem to be a generally prevailing view that such an exercise would prove to be advantageous to the cause of forestry development and the necessary resources should be devoted to its prosecution.

In any examination, part of the data should be orientated towards putting figures on the inter-relationships between forestry and agriculture. In recent years it has become common practice to talk of the "integration" of the two forms of land use, as if this will in itself solve the problem of competition for the available land. In a recent paper, Dr. William Davies, Director of the Grassland Research Centre in Britain, said that "there has been much heated discussion as to the place of the forester on the hills of Wales and Scotland. There is clearly a place for both forest and grassland, and I for one would be very happy to see the escarpments and boulder strewn lands under forest. To achieve a sensible and practicable plan of development

demands co-operation between those interested in forestry and in grassland development". Mr. James McDonald, Deputy Director General Forestry Commission, Edinburgh, comments that "it isn't clear why the nimble forester should be confined to steep slopes and the land strewn with boulders while the presumably stiff-jointed sheep and shepherds should have the run of the smooth and gentle slopes".<sup>(5)</sup> He also goes on to point out the difficulties which arise due to a lack of precise knowledge, and this seems to be the real kernel of the issue.

In the whole question of multiple or alternative land use policy, the lack of data is the biggest stumbling block. How much can be got from work already being undertaken, and how much new work needs to be done cannot be readily assessed. I can only enter a plea on the strongest possible terms for the field to be cultivated; as often is the case it would look as though the task would fall first on the busiest people, but someone without a multiplicity of other duties could start to analyse the information which could be extracted from the existing records.

This brings me to the third major aspect—that is the present position and rate of progress of afforestation in western counties (which for this purpose consists of Connaught plus Kerry, Clare and Donegal). These counties account for 43.3 per cent. of the total area of the State, but until 1959/60 the area planted annually was under 40 per cent of the total planting. In the last few years the rise in the rate of planting in the West has increased so that the percentage of planting is approximately the same as the percentage of the total land area in these eight counties.

However, the actual area planted in these western counties has shown a very slight decline in the last couple of years, and it appears unlikely that this will be reversed in the immediate future. There are clear reasons why the planting in any area cannot be maintained on a precise line or trend, but even allowing for this it would appear that just at present the difficulties in acquiring suitable land for afforestation are somewhat greater in these Western counties. How much this is of a temporary character is difficult to say; part of it must no doubt come from alternative developments in land use and the increased competition which results.

At the same time the very great demographic changes which have been going on over the past decade must have an important repercussion on land ownership, and the pattern of changes in land ownership. The changes in population have been substantial. In seven of the eight counties of Connaught and Ulster the number of farmers' sons and daughters has gone down by over 40 per cent. in 10 years.

It is these changes in the population in the western counties that make it appear that the ultimate amount of land available for forestry is likely to become more than proportionately important in the western counties. This is not a question of social forestry—it is a question of

whether the opportunities for changing land use patterns are likely to be greater when the social structure itself is going through a period of major change.

There will obviously be important problems to be tackled in afforesting the poorer lands of the west. One of the dangers in discussing farming in these western counties is that of over-generalisation; this seems also to be a potential danger in discussing forestry policy. The western counties in fact include a very wide range of soil, exposure, climate and topography; the area is by no means all steep hills rising straight out to the Atlantic, or blanket-bogs stretching to the Leinster boundary. This brings us back to the need for much more information on the relative production potentials and costs of development in the different areas, and for as much investigation as possible into the problems in areas where no firm expectations can be projected.

If we accept the need to develop the economy of the west as part of a national programme, and look to both forestry and agriculture to stimulate employment and productivity per person in the rural areas, it should be possible to extend still further the contribution made by *both* these industries to the economy of the area. The income derived in the form of wages to forest workers in the eight counties with which we are concerned amounted to 0.5 per cent. of the total income earned in the region in 1960, compared with almost 50 per cent. in the case of agriculture. How far forestry can be extended without losing sight of the objective of an economically justifiable forestry programme integrated with its primarily agricultural environment is of basic concern. In view of the willingness of the government to give special consideration to the Western areas in the development of industrial production, the claims to similar treatment for developing the land-using industries must be regarded as of considerable importance.

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- (1) Turvey, R., March, 1963. "Present value versus the Internal rate of return—an essay in the theory of the Third Best". *Economic Journal*. Vol. LXXIII No. 209.
  - (2) W. J. L. Ryan, 1963. "Investment Criteria in Ireland". *Journal of the Statistical and Social Inquiry Society of Ireland*, Vol. XX.
  - (3) Published in *"The Observer"*, 15th March, 1964.
  - (4) H. J. Gray, December, 1963. "The Economics of Irish Forestry". *Statistical and Social Inquiry Society of Ireland*.
  - (5) "National Resources in Scotland". *Scottish Council (Development and Industry)* 1961.