

A review of relevant studies concerning farm forestry trends and farmers' attitudes to forestry.

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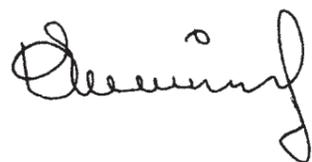
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## FOREWORD

Following some difficult negotiations at European and national level, Mr Hugh Byrne, T.D., Minister of State at the Department of the Marine and Natural Resources, announced recently that all new planting which took place from 1993 to 1999 would be eligible for the new, increased afforestation premium. This development has received widespread industry support. It was welcome news indeed as it was generally agreed that non backdating would considerably reduce the planting programme. Now that the planting grants have been increased, up some 30% from their previous levels, the industry can strive to achieve the planting targets outlined in *Growing for the Future*, the Government's strategy for the forest industry.

While this new development sends a strong signal to farmers and other landowners about the Government's commitment to forestry, it is obvious that other, less transient, barriers exist, which must be overcome if the planting targets are to be realised. Before developing strategies to surmount the challenges poised by these obstacles, it is necessary to assess the range of factors militating against the achievement of the planting target of 20,000 ha per annum from 2000 to 2030. To this end, the Irish Forest Industry Forum, established by Minister Byrne and chaired by Mr Gerry Daly, discussed the matter at one of their recent meetings. COFORD agreed to commission a review of all research and studies which examine the trends of afforestation and the attitudes of landowners to forestry.

If the planting targets are to be achieved, farmers, as owners of the target landbase for forestry, must be convinced of all the benefits of forestry – environmental, social and economical. This timely report by Brendan Kearney will facilitate the formulation of plans and initiatives to address this situation.



David Nevins  
Chairman  
COFORD

## 1. INTRODUCTION

This paper reports on a range of studies which have been undertaken over the past decade or so on attitudes to forestry and farm forestry in particular. It summarises their conclusions with respect to views and experience with forestry. It first reviews forestry trends and notes a number of studies concerning factors affecting the rate of afforestation over time, in so far as these affect attitudes to forestry, and decisions concerning planting. Some consideration is also given to issues concerning the availability of land for forestry.

The Strategic Plan for the development of the forestry sector in Ireland has set a target of afforestation of 25,000 ha per annum to the year 2000, and 20,000 ha per annum to the year 2030. Total productive area under this planting regime would rise from 464,000 ha to almost 1.2 million ha (17% of land area) with a consequent increase in annual timber output to 10 million m<sup>3</sup>. This is an ambitious target, with private afforestation set to account for some two thirds of total new afforestation. The target was nearly reached in 1995 but the area afforested fell back to about 11,400 ha in 1997 and increased modestly again in 1998 and 1999 (Table 1).

The expansion in the area under forestry over the past 15 years was almost exclusively due to the economic stimulus in the form of afforestation grants and annual premia. Numerous studies had demonstrated the suitability of substantial areas of the country for productive forestry, but it was not until the introduction of an annual income that any significant breakthrough occurred in the development of private forestry. The primary stimulation for private and farm forestry development was thus economic and obviously derived from a rational evaluation by the people concerned of the returns being received from forestry and the returns from the existing use of the lands concerned. It is quite possible of course that much of the land planted by farmers or sold on for planting to the private or public sector was either not being used for agricultural purposes or used only very extensively. Indeed we had little information until relatively recently on the actual use of the lands planted to date. We now know that much of this land planted to forestry may not have been producing much in the line of agricultural output at the margin while the balance of planting may have occurred on land where

agricultural activity was low but which could have been maintained on other areas of the farms in question by a small intensification of activity.

Under Regulation (EEC) 2080/92, the level of afforestation at approximately 100,000 ha, was considerably less than the target of 150,000 ha over the period 1994–1999. The two main reasons for the shortfall were the better than expected returns in the competing farm enterprises and the ambitiously high targets established at the outset of the programme.

## 2. THE STATE OF FARMING AND AFFORESTATION

The section which follows is mainly a summary of analyses undertaken by the author over the past decade or so, mainly for the Forest Service, on factors influencing forestry levels as a basis for determining the level of the forest premium. Given that those actually or potentially engaged in afforestation respond to economic factors impacting on them, the level of afforestation can be expected to be affected by developments in farm margins as well as in forest grant and premium rates. An examination of the past trends in the levels of crop and livestock activities and afforestation can help trace the evolving trend in their competitive positions for land use. While overall tillage margins improved from 1992 to 1996, producers were constrained from increasing the area planted. In the grazing livestock sector, suckler cow numbers, in response to beef cow headage prior to Common Agricultural Policy (CAP) reform and added to by suckler cow and extensification premia since, have exhibited continuous and strong expansion. The expansion in suckler cows and their progeny resulted in an increasing total bovine herd. The expansion in the suckler cow herd resulted in an increase of about 11% in total bovine livestock units from 1990 to 1998. Sheep numbers, as measured by the size of the breeding ewe flock, had been expanding prior to CAP reform and reached a peak of 4.756 million in 1992. However, since then numbers have declined.

With the strong upward trend in suckler cow and total cattle numbers, and despite the reduction in the sheep flock, total grazing livestock units increased by over 9% between 1990 and 1998 and over the same period the estimated area farmed shows a decreasing trend. As a result of these opposing trends, i.e. increasing livestock and declining agricultural land area, the overall stocking density has increased significantly.

The greatly increased level of afforestation in the early 1990s (Table 1), when taken in conjunction with the upward trend in grazing livestock units, indicates that overall competition between forestry and agriculture for land use did not prove very restrictive to either, at least up to and including 1995. Rather the developments in both imply greater use being made of hitherto under-utilised or derelict land resources.

The downturn in afforestation in 1996, while grazing livestock continued to expand, was indicative of increasing competition for land from agriculture, and with cattle production in particular beginning to have a restrictive impact on forestry. While the further reduction in afforestation in 1997 can be partly attributed to the timing of the review of the forest grant and premium rates delaying planting, nevertheless, it is likely that competition for land use with livestock was also a factor.

By contrast with farmers, both non-farmer private and public afforestation declined greatly in 1996 and 1997. While public afforestation had exhibited a considerable degree of stability prior

to 1996, non-farmer private showed considerable year to year variability. The level of activity by this sub-sector appears to have been affected by that of farmers, with sharp increases in farmer afforestation tending to have a negative effect on non-farmer private planting and vice-versa. The sharp declines in both non-farmer private and public afforestation in 1996 and especially in 1997 indicate difficulties in acquiring land in competition with both farmer forestry and livestock production under the Rural Environmental Protection Scheme (REPS).

In addition to the economic motive as a factor influencing the decisions of landholders with respect to forestry, the character of a number of social policies may also act as a disincentive to forestry, and this will be referred to later.

The prospects for the future planting programme are challenging and we must also remember that as the planting programme progresses, we are steadily encroaching on better land which in all probability is giving higher returns in farming than the previous tranche planted. Thus, for any given level, the premium would be becoming less competitive with farming returns.

Having regard to all the foregoing factors and developments there may well be a need to revise downwards the forest strategy planting targets which have been set for the medium term. When they were established, the demise of the CAP was probably greatly exaggerated and the strength of competing enterprises underestimated. However, with agricultural production severely restricted, increasing the area under forestry is one of the few remaining ways of more fully exploiting our land resources as it seems farming will be at best static. Increasingly however, as more marginal land becomes planted and other possible areas are precluded from forestry on environmental grounds, the competition for land between agriculture and forestry will intensify.

In view of the relativities over the period 1998 to 2000, afforestation premium levels available to farmers were regarded as being set at a competitive level overall vis-à-vis average margins from the main alternative land-using farm enterprises, but yet planting tapered off significantly. The expectation of higher grants and premia was probably a factor in the relatively low planting but constraints on farm afforestation are also likely to arise for socio-structural, attitudinal, land suitability and environmental reasons.

Both private non-farmer and public afforestation interests are liable to continue to have difficulties in acquiring suitable forestry land at affordable prices in competition with both agriculture and farm forestry, with environmental constraints also having some restrictive impact. As regards agricultural competition, the REPS scheme in particular will considerably restrict the pool of land available, ruling out 30% or more of the total agricultural area. In relation to competition for land within the forestry sector, the logic of higher annual premia is that forestry land would be largely retained by farmers, with non-farmer participants, both public and private, being mainly involved as providers of forestry services or through farm afforestation partnership schemes.

The Economic and Social Research Institute (ESRI) carried out a study on the impact of agricultural and forestry subsidies on land prices and land use in Ireland (Barrett and Trace, 1999). Trends in the price of both forestry and agricultural land in recent years were first presented and then the impact that various grants and premia have had on the price of agricultural and forestry land and on the rate of afforestation were analysed.

The price of both agricultural and forestry land has risen rapidly in recent years. In the case of forestry land, part of the price increase is due to better quality land being purchased for forestry purposes. However, price increases for forestry land have also occurred within land quality categories.

There was no evidence that the forestry premia are associated with higher land prices, either agricultural or forestry. They did, however, find evidence to suggest that the accompanying measures of the Mc Sharry reforms, in particular the REPS, are reducing the rate of afforestation.

Among the answers suggested for the question as to why the forestry targets are not being met are the lack of the required forestry-related human capital on Irish farms, negative attitudes to forestry among farmers and non-farmers, and the long time commitment that forestry requires.

The relative economic returns of forestry in comparison with farm enterprises such as dairying and cattle were assessed post CAP reform using linear programming techniques (Frawley and Leavy, 2001). Scenarios involved alternative uses of the farm resources such as extensive/intensive

**TABLE 1: LAND AREAS AFFORESTED 1988-'00 (HECTARES).**

Year	Total	Public	Private				
			Total	Farmer			Other
				Total	Full time	Part time	
1988	11,707	7,111	4,596				
1989	15,126	6,629	8,497				
1990	15,817	6,670	9,147	3,988	3,988	Nil	5,159
1991	19,147	7,855	11,292	7,990	7,990	Nil	3,302
1992	16,699	7,565	9,134	5,117	4,195	922	4,017
1993	15,998	6,827	9,171	6,779	4,497	2,282	2,392
1994	19,459	6,622	12,837	9,123	6,504	2,619	3,714
1995	23,710	6,367	17,343	14,675	10,641	4,034	2,668
1996	20,981	4,426	16,555	15,026	11,413	3,614	1,528
1997	11,434	851	10,583	9,212	7,577	1,635	1,370
1998	12,928	2,926	10,002	8,923	7,085	1,838	1,079
1999	12,668	891	11,777	10,800	8,870	1,930	977
2000	15,696	1,465	14,231	12,774	10,246	2,528	1,457

land use, forestry/no forestry and off-farm job/no off-farm job. The objective was to examine the profitability of forestry in a farm context in situations in which livestock enterprises qualified for REPS and extensification payments and in which off-farm jobs were (a) not available and (b) available at different wage levels. Non-economic considerations, such as the perceived unsuitability of forestry as a replacement for agricultural enterprises on 'good' land and the irrevocability of the decision to plant forestry could also come into play. In order to reflect these non-economic considerations, together with the higher risk associated with investment by individuals, a high discount rate (10%) was used in calculating returns to forestry.

The analysis shows that in situations in which off-farm jobs are either not available or are available at a low wage level, extensification and REPS payments enable efficient livestock enterprises to compete with forestry. In these situations forestry is a profit maximiser only on farms which have surplus land. However, the availability of off-farm earnings at or near the industrial wage rate changes the farm plan by increasing the forestry area, sometimes to the exclusion of cattle enterprises.

In a study titled Ireland's greenhouse gas commitments: linkages with the forestry sector, a question addressed is whether emissions trading would stimulate a substantial enough increase in the level of private afforestation in order for Ireland to meet its annual forestry target (McCarthy, 2001). As no emissions trading system exists as yet, its likely impact is measured by estimating the response of private afforestation to an increase in the forestry subsidies.

Under the assumption that the required increase in afforestation needed to reach this target is met by private afforestation, it was possible to calculate the increase in the level of forestry premia needed to reach this target. This converted to an annual increase in the forestry premium of about IRE100 from the panel regression analysis, or IRE200 from the time series analysis.

### 3. SOCIAL AND STRUCTURAL FACTORS AFFECTING DEVELOPMENT OF FARM FORESTRY

The economic motive is not obviously the sole motive influencing the decisions of landholders with respect to forestry. There is abundant evidence that it would be financially worthwhile for many farm operators to plant their land, compared with the level of returns which it generates in its present use. Yet this is not happening to the extent that one might expect from a rational perspective. A study pertaining to the influence of non-economic issues on decision-making on land use was undertaken by the ESRI (Hannan and Commins, 1993).

The study concluded that in general terms the availability of land for afforestation is dependent on the interplay of five sets of factors: restructuring in the farm sector, the diversification of the rural economy, public policies, landholder responses to structural change and public policy, and implementation strategies in afforestation programmes. Arising from consideration of these factors the following main trends or conclusions can be drawn:

- arising from restructuring there has been a reduction in the number of people entering farming, and an increasing disengagement of farmers from full-time farming into part-time and retirement farming;
- with the rural economy becoming more dependent on non-farm jobs, land use is likely to change with part-time farming, but it can also negatively influence land mobility;
- public policies of an economic, social or structural nature have a profound influence on the character of land use and land mobility;
- individual decisions with respect to land use will also be influenced by such micro-level factors as the subjective disposition of the landholder, the characteristics of the farm household and of the holding;
- the availability of land for afforestation depends not only on the incentives available but also on such factors as awareness levels,

promotion activities and technical support systems.

Changes in Irish farming over the past 30 years have resulted in commercial farming becoming more concentrated in larger farming areas, while farming has become more marginal on the smaller and poorer quality farms of the west and north-west. Where part-time farming evolved, especially prevalent near urban areas - farming activities were better maintained than in more remote areas. Such areas, endowed with poor quality land, have witnessed a considerable withdrawal from full-time farming into less intensive farming and reliance on non-earned income.

In the study referred to above, a particular concept of mobility was used: primarily landholders moving from dependence on intensive farming for household income to one where income from the land is additional, or even residual to the main off-farm source. It includes sales, lettings, change to part-time farming or retirement farming. Regions subject to most mobility in total were those with the poorest land, the less intensive farming and the most remote from expanding growth centres. With respect to the sales element of mobility however, the rate is greatest in conventional farming areas. Landowners in those areas where farming is poorer and smaller in scale are the most unlikely to sell their holdings, but hold on to their land and shift into a part-time or retirement mode. Sales of land for afforestation do however conform more closely to the overall tendency for land mobility and are most likely to occur in remoter inland and upland poorer farming areas.

The regional distribution of applicants for afforestation grants and premia conforms more however to the commercial logic which underlies the pattern of agricultural land sales, being concentrated in bigger farm areas on better soils and where the more intensive systems of farming operate.

The study also carried out an investigation of the underlying reasons why low output/income landowners do not afforest their land. With regard to the type of landowners afforesting, in the north-west full-time farmers predominate, planting poorer parts of their holdings. Part-time farmers or inheritors, who no longer live locally, and investors, make up the second and third most important categories respectively. Landholders on the dole or having the NCOAP (Non-

contributory Old Age Pension) did not seem to participate. In the south, applicants again appear to be mainly from full-time farmers afforesting small and poor quality parts of their holdings. The balance is largely made up of part-time farmers, as absentee inheritors do not appear to be significant in this region. Planting is more usually in the hilly upland areas, though recently spreading to lowland, poor draining and poor soil segments of farms and particularly outfarms. It appears to be moderately concentrated geographically and spreading by a typical diffusion process. Sellers of land, on the other hand, appear to be from the category with little interest in farming and often non-resident, and not generally from the older or 'empty nest' farm owners.

With respect to the applicants for forestry grants and premia, roughly half were from full-time farmers. Another 12% were from part-time farmers while another 15% were from landholders who do not directly or seriously farm. Although full-time farmers make up the bulk of applicants they are significantly lower than their proportion among landholders. Part-time farmers are generally younger and better off financially and are over represented among forestry applicants especially in the west. Interest in forestry is less among retired and elderly farmers and landowners and consequently recipients of dole and old age pensions who maintain a negative attitude to forestry because of its implications for means test assessment in their circumstances.

In summary there appear to be three main types of constraints operating:

- (a) factors diminishing awareness and interest in the afforestation scheme - the typical barriers to adoption and diffusion that occur with any agricultural innovation;
- (b) strong negative attitudes to forestry, per se, which appear to be still characteristic of most West of Ireland areas – particularly in north Leitrim;
- (c) income maintenance programmes' rules mean – in the case of Unemployment/Smallholders Assistance, for instance – there is a IRE1.00 for IRE1.00 reduction in the dole for any increase in incomes from afforestation premia.

It is very revealing that the officers interviewed in this study from the Forest Service, Teagasc and Social Welfare had not come across any case where landholders with such assistance payments had applied for afforestation grants.

The study concluded that operational improvements are possible to maximise collaboration and fine tune promotional activities for farm forestry. More needs to be done to heighten public awareness of the potential of forestry and to recognise the need for sensitive action to take account of local environmental and attitudinal considerations. Promotional practices could also be used to counter negative attitudes by the greater involvement of local decision-makers thus giving the development of forestry a strong local orientation. There is, however, one critical problem in the promotion of forestry. Whereas mass media approaches help to create awareness and convey general information, actual decisions are usually made after extensive person to person communication. Unfortunately however, the relevant development agencies have little contact with an important particular target group for forestry, i.e. those older or retired farmers especially on marginal farming areas. At present there is insufficient staffing for this purpose especially in Teagasc, but if afforestation targets are to be achieved, the level of staffing, resources, and approach to forestry promotion may need to be reviewed, according to this 1993 report.

## 4. ATTITUDES TO FORESTRY

### 4.1 ALL FARMERS

A survey of farmers, concentrated in the West of Ireland, was carried out in 1992 (Ni Dhubháin and Gardiner, 1994) and set out to establish the factors that influence a farmer's decision to plant trees. It also determined farmers' attitudes to forestry in general. The impact of the conversion of agricultural land to forestry on agricultural output and workload on the farm was also established.

Only 12% had then planted trees on their land. Most of the farmers who had planted had done so on bogland or on land that had previously been used for rough grazing. The respondents were asked their main reason for planting trees. The majority stated that they had planted in order to provide shelter. A further 23% gave financial reasons (i.e. availability of grants and long-term income). The vast majority had planted conifers, with broadleaves accounting for only 14% of planting. Pure stands of Sitka spruce were most common.

The impact of planting trees on farm output was queried. Eighty four percent of respondents indicated that their farm output had not been affected by planting part of their land with trees. Furthermore, the majority of respondents indicated that planting trees had not affected the workload on the farm.

The 82% of respondents who had not planted trees were asked to give their reasons for not planting. Lack of suitable land and a limited land resource were the two most popular reasons given (35% and 15% of the respondents respectively). Many of those giving the former reason indicated that their land was "put to better use in agriculture" or was not "bad enough" for forestry.

Only 10% stated that they would plant in the future. A further 31% said that they were unsure about planting while the remaining 59% would not plant trees. The most popular reason given for future planting was to use up poor ground which was "good for nothing else". Fifty nine percent of the respondents stated that they will not plant trees in the next ten years.

A series of statements of frequently expressed attitudes to various forms of forestry development were presented to the respondents, who were asked to indicate whether they agreed or disagreed with the statements. Analysis of the responses showed that the number of respondents who felt that state forestry generated employment was significantly greater than those who felt that commercial private forestry (CPF) generated employment. In addition, more respondents considered that CPF caused population decline than considered that state forestry caused population decline.

Sixty percent of respondents agreed that forestry on farms generated additional income for farmers but only 36% agreed that it kept people on the land.

A paper on 'Farm Forestry: Land Availability, Take-up Rates and Economics' dealt with:

- i) the factors which influence land availability for forestry;
- ii) the factors influencing individual landowners to plant trees; and
- iii) the relative economic returns to landholders from forestry (Frawley and Leavy, 2001).

In a survey of 415 farmers in Co Mayo during October/November 1995, an examination was undertaken of farmers' attitudes towards afforestation as well as the reasons proffered for negative opinions. More than half of farmers indicted a favourable attitude towards forestry in general, while another 20% had no view either way. Conversely almost 25% would not welcome forestry development in their area. Only 3% had some forest planted. However, the vast majority of farmers in the county were not considering afforestation on their own farm despite the incentives available. The main difficulty with the idea of farm forestry was that farms were seen as too small to allocate some land to forestry because existing enterprises would have to be scaled back. In addition about one in five indicated that they preferred farming to forestry.

In another study in Co Offaly in 1998, 370 farmers indicated broadly similar views. County estimates show that 6% of farms had a forest enterprise with another 4% considering afforestation. Farmers' ratings of forestry as a farm enterprise

on their own farm were mixed, with 38% (of those who had not planted nor intended to plant) not in favour and another 22% neutral or indifferent. A favourable attitude was indicated by 30%. The most often cited difficulty was the view that 'good land' should not be planted. Positive attitudes were supported by the belief that forestry was a good use of marginal land or otherwise yielded favourable or guaranteed returns.

#### 4.2 FORESTRY FARMERS

A study of 206 farmers who had planted new forest in the period 1992 to 1996 was carried out late in 1997 by Teagasc staff (Frawley, 1998). Two contrasting farm areas were selected, one comprising the counties of Leitrim and Roscommon in the Severely Handicapped North-Western part of the country and a somewhat bigger area comprising counties Offaly and Tipperary in the midlands, where generally soils are more fertile. The most often cited reason for planting was that the land was of limited utility for other enterprises; this response was especially associated with the western area where land quality is generally poorer. Premium incentives and better returns from forestry account for a quarter of responses and this economic logic was more prevalent in the midlands region. Long-term investments were also cited by 8% of the sample but this too was associated with the midland region.

More than 90% of those who had planted were satisfied with forestry and this view held in both regions. Financial gain and a good investment were most often mentioned by more than one in five. When taken together those responses indicate that two thirds of those who had planted regarded the economic aspect as the main justification.

Respondents were challenged with the idea of forestry as a farm enterprise competing with conventional enterprises for good farm/grazing land. Less than a quarter indicated they would have no difficulties in planting good farm/grazing land; there was no differences between the regions in this respect. Of the remainder, who were either strongly opposed (35%) or those more modestly opposed, the main difficulty was an attitudinal one. Forty percent of farmers indicated a preference to farm good land or were of the view that good land ought to be farmed. Income considerations, such as lower returns from forestry and more oblique economic

problems such as limited options were not the dominant factors in regard to afforesting good land.

With respect to the farm forest, while there are significant differences between regions, a general profile of the farm forest is described as:

- (i) being composed of a mixture of conifers and especially Sitka spruce;
- (ii) on soils which are generally marginal to grazing such as peat or wet lands;
- (iii) where the previous use was either rough grazing or summer grazing; and
- (iv) usually at low altitudes.

Significant differences between the regions in the first instance was a larger forest area in the midland region (where farm size is also generally larger).

With respect to the farm context, in size terms, as measured by Agricultural Area Used (AAU), forest farms are substantially larger than the average farm in their region. With respect to farm system, specialist dairy farms are under-represented in the forest farms but the opposite holds for sheep systems. An interesting finding however, is that 25% of forest farms, in both regions, did not report any other farming activity.

In the context of the Strategic Plan for the Development of the Forestry Sector in Ireland published in 1996, a survey of private forest owners in the Forest Service's records of grant recipients was carried out during 1995-1996 (Wall, 1997). Wall investigated private forest owners' objectives for their woods and sought to determine their level of participation in forest management activities, including extension activities such as courses and field days. The survey showed that respondents had afforested many small areas. One quarter of those interviewed had afforested less than 4 ha; 35% had afforested 4 to 11 ha. Despite the large number of small plantations, the average area planted was 22 ha. However, this arises from a skewed distribution in the sample as the population average is about 9 ha.

The majority of respondents had planted conifer-broadleaf mixtures, but almost a quarter planted monocultures of Sitka spruce. Most of the forests

were very young, with 70% less than four years old. Many were fragmented. In general, the quality of sites planted was poor. Just over 60% of respondents indicated that the previous land use was rough grazing or wasteland. As few as 6% had planted on land previously used for crops or pasture.

Many private forest owners had multiple objectives for their forests. Ninety percent of owners intended to produce timber for sale. Production of timber for domestic use (such as fencing or firewood) was also popular, as was the provision of recreation for the owner and his or her family.

One of the main objectives was to determine the level of involvement of private owners in the management of their woods. The results clearly show the vast majority had little or no involvement in management and rely on management companies.

Most forest owners have no tradition, experience or knowledge of woodland management, as private forestry in Ireland is a recent phenomenon. It was shown that forest owners are not taking advantage of the available extension services. Their poor attendance at courses may be due to lack of time or inconvenience of the courses, but perhaps courses and demonstrations are not the preferred means of information transfer. Most private forest owners indicated they would prefer a visit from the Forest Service Inspector.

The involvement of forest owners in managing their forests is crucial to the success of the current afforestation programme. Many of the forest owners who have used management companies intend to assume management of their forests after the management contract expires. However, most forest owners are ill-equipped to manage their forests, given their lack of involvement in the initial stages of woodland management as well as their failure to use extension services.

#### 4.3 ATTITUDES OF THE PUBLIC

As part of a study on The Impact of Forestry on Rural Communities, attitudes to forestry were elicited (Kearney and O'Connor, 1993). A sample of 570 names was drawn from the Register of Electors to identify households and their characteristics. All persons in the sample

households were asked their opinions on the development in their area. There were large differences in attitudes detected between forested and relatively un-forested areas. In Wicklow 53% of respondents expressed themselves as 'strongly in favour' of forestry development compared with less than 6% in Mayo while a further 34% in Wicklow and 47.5% in Mayo were 'in favour'. The perception of forestry is strongly correlated with its stage of development and/or with the rate of afforestation. Thus, mature forest areas offer an opportunity of observing the significance of forestry in rural development which an incipient forestry programme cannot.

A negative attitude to forestry was expressed by 5.7% of respondents in Wicklow but this response rate increased to almost 31% in Mayo with about one quarter in this category expressing a strong opposition to forestry development. The differences in attitude are a matter of concern and interest.

The responses were analysed to test possible differences in opinions to forestry as between persons working in agriculture and with other occupations. In Wicklow a slightly higher proportion of people with other occupations was in favour of forestry, and a slightly lower proportion against, than those with agricultural occupations. In the western region similar differences were apparent in the responses of persons with non-agricultural occupations but the opinions against forestry were much more strongly felt by those in the agricultural sector than in other occupations.

The overwhelming reason given in Wicklow by those in favour of forestry was that it gave employment (c. 75%) followed by its positive contribution to the environment (10%). By contrast the dominant reason (70%) given by this category of respondents in Mayo was that forestry provided a good way of using marginal land with a significant proportion (13%) stating that forestry development gives employment in the area.

The dominant reason given by those opposed to forestry in Mayo was that it was inimical to agriculture (c. 60%), while other reasons most frequently mentioned were that it caused depopulation and isolation or gave little employment.

A great diversity of responses was given to the question as to what constituted a positive attitude to forestry but in each area one particular category stood out. In Wicklow nearly 70% had a positive attitude to forestry because of its perceived significance in the local economy with regard to employment. Respondents or members of their families were either directly involved in the forestry sector themselves or more importantly they were aware of the scale of economic activity and employment in the area either directly or indirectly associated with forestry. In Mayo the most frequent response given related to the use of forestry for exploiting marginal land. This accounted for nearly half the responses associated with a positive attitude to forestry. Another important category of response (21.5%), which can be treated as either closely related to the previous reaction or separate in its own right, viewed forestry as supplementary to agriculture in terms of giving some employment, stabilising the local population and enhancing farm earnings. The role of forestry in enhancing the environment and the landscape and amenity features of the area were very much secondary to the main responses referred to earlier.

The major reasons for the negative attitudes towards forestry, particularly in Mayo, were that it causes isolation and depopulation. There were also some concerns expressed about the risks of fire, that forestry encouraged vermin and increased land prices. These reasons were given little or no emphasis in Wicklow.

About 95% of respondents in Wicklow who gave an opinion on forestry development stated that their dwelling or farm was located close to an area of forest, the corresponding proportion was 63% in the west. The attitudes in this regard are closely related to those on the opinion on forestry development with a strongly positive attitude in Wicklow but a significant minority in Mayo expressing dissatisfaction with living or farming in close proximity to forests.

Attitudes to forestry were cross-tabulated with the proximity of the respondent to a forest. In Wicklow a higher proportion of those living near a forest were in favour of forestry than those not living near a forest. In Mayo almost as high a proportion of those not living close to a forest were as opposed to forestry as those who were living in close proximity to a forest. These responses in both areas suggest that proximity to a forest per se is not a very cogent reason for being opposed to forestry.

By the same token the perceived advantages of living close to a forest were given as improving the landscape and providing an amenity in Wicklow while significant numbers referred to the shelter which it provides. The corresponding responses in Mayo were more economic in character and the environmental reasons were less frequently mentioned.

Clinch (1999) carried out the first nationwide survey of the Irish public's attitudes to an increase in the forest area. The attitude of the Irish public to afforestation was assessed by surveying a representative sample of households in Ireland. Due to a restriction on space, it was possible to ask respondents only a few questions on their attitudes towards afforestation. It was therefore decided to ask them about their impressions regarding the impact of the present afforestation programme upon the environment.

This survey provides an interesting insight into the views of the public regarding the impact of afforestation on the environment. A majority of the public feels that afforestation will improve the landscape and provide better habitats for wildlife. Fewer are convinced of the merits of afforestation for recreational opportunities. Over two thirds of the population believe that, on balance, afforestation will have a beneficial effect on the countryside.

Younger people are more favourably disposed to forestry than are older generations. The high correlation between environmental concern and a positive attitude towards forestry suggests that forestry is seen as an environmental good rather than an agricultural good. This view is supported by the finding that those households with children have a more positive attitude towards afforestation and are also more concerned about the environment. In addition, urban dwellers are much more positive than those living in rural areas.

It is not surprising that those who use forests for recreation are more favourably disposed to afforestation particularly in relation to its recreational value. The more favourable response to afforestation from counties with a low or medium level of forest cover compared with those with a high level of forest cover suggests that there are diminishing external benefits of forestry. While farmers are the least well disposed to afforestation, a substantial majority has a favourable attitude to the environmental impact of afforestation.

A survey was carried out on the perceptions and attitudes of two case study populations, one of which was positively disposed towards forestry and the other highly critical (O Leary et al, 2000). The core object of the paper reporting the results was to introduce a social dimension to the discussion regarding forest policy pertaining to landscape planning and design. The study aims to provide unambiguous empirical evidence of forestry conflict in one of the case study county populations and, accordingly, suggests measures which could be used to nurture a more positive disposition in the future.

Combining the results of the first four investigations concerning historical relevance, degree of familiarity, artistic association and recreational involvement, it would appear that the Wicklow respondents have a closer cultural relationship with forests and forestry than do those interviewed in Leitrim. This is hardly surprising given that County Wicklow has had a longer association with forests than County Leitrim, has higher percentage forest cover, greater area of semi-natural woodlands, greater historical use of traditional forest products such as, for example, charcoal, and many more forest parks.

When asked if they felt forests are a traditional part of the Irish landscape, approximately 90% of the Wicklow population agreed compared with only 58% of the Leitrim population. They were next asked if, in their opinion, forests occupy land which could be used for agricultural purposes. In this case only 20% of the Wicklow population agreed compared with approximately 68% of the Leitrim population. Taking these two issues together it is suggested that the Wicklow population is considerably more positively disposed towards forestry generally than are residents from Leitrim.

Seventy two percent of the Wicklow population approves of the Forest Strategy compared with just 18% of the Leitrim population. The principal reasons for disapproval of the Forest Strategy in Leitrim were: "there is too much forestry" (40%), "the land should be used for agriculture" (24%), "forestry removes people from the countryside" (18%), and "forestry destroys the landscape" (8%).

The Irish Forest Industry Chain (IFIC) (1997) carried out a forestry awareness survey and investigated general issues such as the level of environmental awareness and concern of the Irish public as well as a limited number of other more

specific matters such as, for example, perceptions regarding forestry and its role in relation to nature, landscape and recreation.

The specific objectives of the survey were to:

- To establish the level and nature of awareness of the forestry industry in Ireland;
- To examine the public's understanding of the economic, social and environmental impact of the industry.

With respect to forestry and the economy:

- Almost 4 in 5 adults believe that the Government should continue to provide financial incentives for planting forests;
- On balance the general public believe that forests contribute to the national economy and, especially, help to create jobs in rural communities.

On the environment:

- More than 4 in 5 adults believe that forests are good for the environment. This may in part be linked to a belief that forestry is a land use which is good for rural Ireland: over 8 in 10 agree with this statement;
- More than half those surveyed believe more farmland should be made available for forests.

With respect to forestry and leisure it is obvious that the general public are strongly in favour of forests being used for leisure purposes. The most enthusiastic endorsement is in respect of putting more effort in making forests good places to visit, by means of walks and picnic sites.

## 5. SUMMARY AND ASSESSMENT

This review of relevant studies concerning farmers' attitudes to forestry also covered forestry trends since the early nineties and the factors associated with the evolution in farm forestry. It also took note of a few recent studies which may be helpful in contributing to an understanding of future forestry trends by reference to comparative returns in forestry and agriculture.

By and large the studies/surveys cited here fall into four categories:

- a) those which are largely desk research and concern the availability of land for forestry and comparative returns in forestry and agriculture;
- b) those which relate to surveys of all farmers and their attitudes to and/or their experience of forestry where relevant;
- c) those which relate to surveys of farmers with forestry; and
- d) those surveys of the general population with reference to their views on forestry and its attributes.

A brief summary of the key findings/conclusions/issues from these four categories follows.

With respect to **Category (a)**, there is abundant evidence that it would be financially worthwhile for many farm operators to plant their land, compared with the level of returns which it generates in its present use. Yet this is not happening to the extent that one might expect from a rational perspective.

A study concluded that in general terms, the availability of land for afforestation is dependent on the interplay of five sets of factors: restructuring in the farm sector, the diversification of the rural economy, public policies, landholder responses to structural change and public policy, and implementation strategies in afforestation programmes.

The study also carried out an investigation of the underlying reasons why low output/income landowners do not afforest their land. With regard to the type of landowners afforesting, in the northwest, full-time farmers predominate, planting poorer parts of their holdings. Part-time farmers or inheritors who no longer live locally, and private operators make up the second and third most important categories respectively. Landholders on the dole or having the NCOAP (Non-contributory Old Age Pension) did not seem to participate.

With respect to the applicants for forestry grants and premia roughly half were from full-time farmers. Another 12% were from part-time farmers while another 15% were from landholders who do not directly or seriously farm. Interest in forestry is less among retired and elderly farmers and landowners and consequently recipients of dole and old age pensions maintain a negative attitude to forestry because of its implications for means test assessment in their circumstances.

In summary there appears to be three main types of constraints operating:

- (a) factors diminishing awareness and interest in the afforestation scheme;
- (b) strong negative attitudes to forestry, per se, which appear to be still characteristic of most West of Ireland areas; and
- (c) income maintenance programmes.

In **Category (b)**, the main findings from a western survey indicated that most of the farmers who had planted had done so on bogland or on land that had previously been used for rough grazing. Eighty four percent of respondents indicated that their farm output had not been affected by planting part of their land with trees. Furthermore, the majority of respondents indicated that planting trees had not affected the workload on the farm.

Lack of suitable land and a limited land resource were the two most popular reasons given for not planting trees. Many of those giving the former reason indicated that their land was "put to better use in agriculture" or was not "bad enough" for forestry.

Only ten percent stated that they would plant. The most popular reason given for future planting was to use up poor ground which was "good for nothing else". Fifty nine percent of the

respondents stated that they will not plant trees in the next ten years. The most common reason given for not planting was lack of suitable land.

From another study, it is clear that the vast majority of farmers in a western county were not considering afforestation on their own farm despite the incentives available. More than half of farmers indicated a favourable attitude towards forestry in general while another 20% had no view either way. Only 3% had some forest planted. The main difficulty with the idea of farm forestry was that farms were seen as too small to allocate some land to forestry because existing enterprises would have to be scaled back.

In another study farmers indicated broadly similar views. County estimates show that 6% of farms had a forest enterprise with another 4% considering afforestation. Farmers' ratings of forestry as a farm enterprise on their own farm were mixed, with 38% not in favour and another 22% neutral or indifferent. Thirty percent indicated a favourable attitude. The most often cited difficulty was the view that 'good land' should not be planted. Positive attitudes were supported by the belief that forestry was a good use of marginal land or otherwise yielded favourable or guaranteed returns.

In the **Category (c)** studies, the most often cited reason for planting was that the land was of limited utility for other enterprises; this response was especially associated with the western area where land quality is generally poorer. Premia incentives and better returns from forestry account for a quarter of responses and this economic logic was more prevalent in the midland region. Long-term investments were also cited by 8% of the sample but this too was associated with the midland region.

More than 90% of planters were satisfied they had planted some forestry and this view held in both regions. Financial gain and a good investment were most often mentioned by more than one in five. When taken together those responses indicate that two thirds of planters regarded the economic aspect as the main justification.

Less than a quarter of respondents indicated they would have no difficulties in planting good farm/grazing land. Of the remainder, who were either strongly opposed or those more modestly opposed, the main difficulty was an attitude one. Forty percent of farmers indicated a preference to farm good land or were of the view that good land ought to be farmed. Income considerations, such as

less returns from forestry and more oblique economic problems such as limited options, were not the dominant factors in regard to afforesting good land.

With respect to the farm forest, while there are significant differences between regions, a general profile of the farm forest is described as

- (i) being composed of a mixture of conifers and especially Sitka spruce;
- (ii) on soils which are generally marginal to grazing such as peat or wet lands;
- (iii) where the previous use was either rough grazing or summer grazing; and
- (iv) usually at low altitudes.

Private forest owners' objectives for their woods were investigated in another study and their level of participation in forest management activities determined. Most of the forests were very young, with 70% less than four years old and over 60% of respondents indicated that the previous land use was rough grazing or wasteland. Ninety percent of owners intended to produce timber for sale. The vast majority (80%) had little or no involvement in management and rely on management companies. Most forest owners have no tradition, experience or knowledge of woodland management, and they are not taking advantage of the available extension services.

The first study reported in **Category (d)** was the ESRI Wicklow and Mayo/Roscommon comparative project. In Wicklow 53% of respondents expressed themselves as 'strongly in favour' of forestry development compared with less than 6% in Mayo, while a further 34% in Wicklow and 47.5% in Mayo were 'in favour'. In Wicklow a slightly higher proportion of people with other occupations was in favour of forestry than those with agricultural occupations. In the western region similar differences were apparent in the responses of persons with non-agricultural occupations but the opinions against forestry were much more strongly felt by those in the agricultural sector than in other occupations. The dominant reason by those opposed to forestry in Mayo was that it was inimical to agriculture, while other reasons most frequently mentioned were that it caused depopulation and isolation or gave little employment.

In Wicklow nearly 70% had a positive attitude to forestry because of its perceived significance in the local economy with regard to employment. In Mayo the most frequent response given related to the use of forestry for exploiting marginal land.

This category also includes an assessment of the Irish public's attitudes to afforestation especially their impressions regarding the impact of the present afforestation programme upon the environment. A majority of the public feels that afforestation will improve the landscape and provide better habitats for wildlife. Fewer are convinced of the merits of afforestation for recreational opportunities. Over two thirds of the population believe that, on balance, afforestation will have a beneficial effect on the countryside.

Younger people are more favourably disposed to forestry than are older generations. While farmers are the least well disposed to afforestation, a substantial majority have a favourable attitude to the environmental impact of afforestation.

A survey was also undertaken on the perceptions and attitudes of two case study populations, one of which was positively disposed towards forestry (Wicklow) and the other highly critical (Leitrim). The object was to introduce a social dimension to the discussion regarding forest policy pertaining to landscape planning and design. It would appear that the Wicklow respondents have a closer cultural relationship with forests and forestry than do those interviewed in Leitrim. Taking the responses to relevant questions, it is suggested that the Wicklow population is considerably more positively disposed towards forestry generally than are residents from Leitrim.

Another survey was carried out on forestry awareness and investigated general issues such as the level of environmental awareness and concern of the Irish public as well as a limited number of other more specific matters such as, for example, perceptions regarding forestry and its role in relation to nature, landscape and recreation. The main conclusions were that most people believe that the Government should continue to provide financial incentives for planting forests and that forests contribute to the national economy and, especially, help to create jobs in rural communities. Most also believe that forests are good for the environment, and that more farmland should be made available for forests, and the general public are also strongly in favour of forests being used for leisure purposes.

## 6. CONCLUSIONS

Of the four categories of studies listed above, three are the most critical to a better understanding of the factors influencing the decision of farmers with respect to forestry: viz. a), b) and c). While it is important to determine the state of public opinion on forestry, and gratifying when that turns out to be positive, the key factors influencing the adoption of forestry in a farming context are its competitive economic position as a land using enterprise and the other or non-economic factors which are also fundamental to the decision-making process. The competitive position of forestry as a farm enterprise has been monitored by Teagasc for some years now. This author has also, mainly in association with the Forest Service, been regularly monitoring the farming situation and the trends in farm incomes and enterprise margins, as influenced by changes in grant aid and support schemes. Some results from this analysis have featured in a number of conferences/seminars in recent years but more work has been done in this area than has been reported.

As has been illustrated above, much work has been done on farmers' attitudes to and experience of forestry and also on the opinions of the general public. However, although the Terms of Reference for this study seemed to focus on attitudinal issues as the sole criterion influencing forestry decisions, it is also necessary to take account of the wider agri-policy, social, and economic environment in which the sector operates. Farmers' attitudes to forestry will obviously be affected by changes in that environment. Thus it is important to monitor and evaluate changes in that environment with respect to how they impinge on the propensity of farmers to afforest their land, side by side with monitoring changes in farmer attitudes. If there is not a clear-cut financial advantage in planting trees in his/her particular circumstances, then the farmer concerned would probably have a negative attitude to forestry for economic reasons. We should therefore adopt as a working hypothesis that when we refer to attitudinal reasons for not planting trees we are dealing with non-economic factors.

Taking account of the studies undertaken to-date and the changing socio-economic and policy environment, the following set of questions could provide a framework for establishing a research programme agenda appropriate to farmer decision-making with respect to forestry in the context of the Terms of Reference:

1. How do the relevant forest premia compare with margins in competing enterprises - at the interface between forestry and farming, taking account of such factors as region, farm size, level of efficiency - in the recent past, now, and in the immediate future? Agenda 2000 impacts, BSE and FMD effects, agri-environmental policies, market developments, and CAP commodity and budgetary reviews would be relevant here.
2. Which, and to what extent, do developments in the national economic and social policy arena and farm structural policies affect farming and farm forestry and in the propensity to afforest? The Celtic tiger with its income and employment effects are apposite to this question as also are changes in the structure of farming.
3. How does the designation of sensitive areas and increasing environmental requirements impact on the potential for farm afforestation? A review and update of these issues would be appropriate.
4. How does the scale of afforestation to-date affect the pace and extent of afforestation in the medium term? Does an increase in planting negatively impact on planting potential?
5. How and to what extent do promotional campaigns operate, what is their effectiveness and what proportion of potential clients or particular target groups are not reached? This is a particularly important question as development agencies may have little contact with older or retired farmers especially in marginal farming areas, and a review of the entire support service for the primary forestry might be relevant also.
6. Finally, what are the outstanding negative attitudes for farm forestry, how and to what extent are they changing, how much - as a discrete category - are they retarding the rate of afforestation, and what initiatives could be considered to ease the anxieties and/or counter the misgivings and sometimes ill-informed opinions of the people concerned.

The short answer to the final point in the Terms of Reference with respect to what further studies would be necessary "to accurately determine reasons for farmers not planting forest under grant aid", is that further studies are required under the

broad umbrella of all six questions posed above. However, it is recognised that this would be unrealistic in the short term and if priorities were to be established, perhaps a sharper focus could be imparted to studies/surveys relating to these questions by the adoption of a case study approach at a representative local or regional level. That focus should be on areas which could be objectively assessed as having the greatest potential for forestry, identifying the constraints specific to these areas, ranking those constraints in order of priority and formulating recommendations for their alleviation. Finally, the knowledge and expertise of all relevant stakeholders in forestry development at that local level should also be elicited as a means of supplementing primary data.

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