To plant or not to plant – Irish farmers’ goals and values with regards to afforestation

Keywords: Farm afforestation; decision-making; Ireland; rural development; multifunctionality; qualitative methods

Abstract

To encourage Irish farmers to transfer land into forestry, a premium scheme supporting farmers who afforest was implemented in 1989 and afforestation targets outlined in 1996. In the period from 1996 to 2006, however, only half of the targeted area was planted in Ireland. As the income of many farmers would improve when joining the scheme, a number of studies have been conducted to find out why the response was not as expected. However, to date the phenomenon has not been explained. Amongst the studies undertaken, a lack of qualitative approaches looking at farmers’ decision-making was identified. In order to understand farmers’ decisions regarding farm afforestation, in-depth interviews with 62 farmers in the North-West and Mid-Western regions of Ireland were conducted in Winter and Spring 2011. The interviews were based on the theory of farmers’ goals and values developed by Ruth Gasson in 1973 (Gasson, 1973) and relate specifically to their instrumental, intrinsic, social and expressive values about farming. The results of this study show that farmers exhibit complex, multiple and sometimes contradictory values in relation to farming. The biggest group in the study were guided by intrinsic values when it comes to farm afforestation. Their decision not to plant is made based on their values and beliefs about farming, e.g. that it is a shame to plant land used for food production, even though this returns low or no profits. A much smaller group were directed by profit maximisation when it
comes to afforesting land. These farmers would plant if the financial incentives around forestry were more attractive, i.e. the premiums of the scheme higher or the outlook for agricultural profits not as good as they anticipated them to be.

1 Introduction

1.1 Farm forestry in Ireland

Ireland has one of the most favourable climates for tree growth in Europe, with a mean annual increment almost double the European average (Kearney et al., 1993; Ní Dhubháin et al., 2003). Under natural conditions, the whole island would be covered with trees (Neeson, 1991). However, due to continued resource exploitation and the expansion of agriculturally-used land, forest cover decreased throughout the centuries and reached an all-time low in the 1890s, with only 1% of the land under forest. Due to a number of afforestation programmes, forests currently cover approximately 11% of the total land surface – considerably less than the European average of about 40% (European Union, 2010).

Up until the 1980s, afforestation was primarily undertaken by the State. The first increase in private sector planting followed the introduction of the EEC-funded Western Package Scheme in 1980. Farmers afforesting part of their holding could obtain up to 85% of their establishment costs (Ní Dhubháin et al., 1999). In 1989, a countrywide afforestation scheme was introduced, which pays farmers an annual premium to provide an income from the time of planting until the time the first timber harvest was due (see figure 1 for the amount of premiums paid to farmers) (Behan et al., 2005). The premiums are granted and thus do not have to be paid back. Premiums increased significantly after the scheme was transformed into an accompanying measure
according to EC regulation 2080/92 (Frawley, 1998; Behan et al., 2005; Ní Dhubhain et al., 2009). As a consequence, private planting rates peaked in 1995 with 17,000 hectares of farmland being afforested (Forest Service, 2009). Encouraged by these figures, the national forestry strategy ‘Growing for the Future’, published in 1996, set ambitious planting targets of 25,000 hectares per annum until the year 2000, and 20,000 hectares per annum from 2000 until 2030 (DAFF, 1996). This level of afforestation was predicted to lead to a level of timber output necessary to facilitate the establishment of a viable wood-processing sector, leading to additional employment opportunities (DAFF, 1996; Irish Government, 2002; DAFF, 2010). The Irish afforestation strategy is part of the State’s rural development policy and as such farm afforestation is expected to lead to diversified income options in areas where agriculture is not viable (Irish Government, 2002). So far no study analysed if farm afforestation displaced jobs in other areas. However, an input-output-approach to assessing the value of forestry to the Irish economy showed that the gross total value of an afforestation programme amounting to 15,000 ha per annum over a five year period would be 475 Million Euros (Ní Dhubhain et al., 2009).

Nevertheless, interest in planting dropped significantly after the strategy was launched. In the period from 1996 to 2009, only 48% of the targeted area of farmland was planted with trees (Forest Service, 2009), even though the value of the premium was increased in 1995, 1999, and 2007 (see also Figure 1). This decline in planting has been attributed to the availability of additional agri-environmental subsidies paid under the Rural Environment Protection Scheme (REPS), introduced in the reform of the Common Agricultural Policy in 1993. These subsidies offered farmers a competitive alternative to forestry that did not require a change in land use (Bacon, 2003). Land in REPS was not allowed to draw forestry premiums, which increased the competition between the two schemes. Furthermore REPS was attractive to farmers as the land enrolled could be withdrawn after the period of five years, whereas the decision to afforest was
irreversible (McCarthy et al., 2003). To make the afforestation scheme even more attractive, the Irish Government introduced the stacking of the Single Farm Payment in 2005, allowing a farmer who afforested land to continue to receive direct payments on that land.\(^1\) Nevertheless planting rates did not meet the targets and the Department of Agriculture, Fisheries and Food (DAFF, 2010) states in its Rural Development Programme for the period from 2007 to 2013 that ‘the major difficulty with the [afforestation] programme at the moment is the low rate of take-up’.

**Figure 1:** Private afforestation rates (hectare/year) and rate of annual farm afforestation premium (euro/hectare) in Ireland 1990-2010.


1.2 Farm forestry and agricultural change in Ireland

According to the Irish forestry strategy, 70% of the planting target was to be carried out by private landowners – more specifically by farmers (DAFF, 1996). The rationale for the continued support of farm afforestation is closely linked to a paradigm shift in the EU agricultural policy – from a “productivist” to a “post-productivist” agricultural regime. According to Lowe et al. (1993), productivism can be conceptualised as the commitment to an intensified, industrially-driven agriculture driven primarily by increased output and productivity. In defining the post-productivist agricultural regime, Ilbery and Bowler (1998) characterise it as a shift in agricultural policy from intensification to extensification, from concentration of agricultural resources to the dispersion of resources and from agricultural specialisation to diversification. While such

---

\(^1\) Due to Ireland’s critical economic situation, forestry premiums in 2009 were cut – surprisingly little – by 8%. In the government’s budget 2012 target planting levels were adjusted to 7,000 ha. However the overall strategy of increasing the forest cover to 17% until 2030 is still in place.
categorisations are widely deployed in explaining the fundamental shift that has taken place in postwar agriculture, the binary/dualistic nature of the productivist/post-productivist discourse has been criticised as potentially misleading, leading to a forced categorisation in which underlying processes of change often remain unspecified (Wilson, 2001; Evans, 2002). At a policy level, responses to the problems associated with “industrialised agriculture” were apparent in the rural development measures introduced in some EU member states as early as in the 1960s (O'Connor et al., 2009). From the early 1980s, the Common Agricultural Policy (CAP) was continuously reformed. First implemented were quotas, set-aside and extensification regulations. Later on, with the Mac Sharry reforms in 1992, agri-environmental measures and the general support of the afforestation of agricultural land followed. As the focus of these policies is on support decoupled from agricultural output, the new rural development paradigm is often referred to in the “contentious” post-productivist terms outlined above (van der Ploeg et al., 2000; Potter et al., 2002; O'Connor et al., 2006). Part of this post-productivist rural development paradigm today is the notion of multifunctionality, which became a defining feature of the European model of agriculture (Potter et al., 2002). Many definitions and interpretations of the term multifunctionality are discussed in the literature. The most commonly used concept is that of multifunctionality being the ‘joint production of commodities and non-commodity outputs (public goods and externalities)’ (O'Connor et al., 2009, p. 334). It needs to be pointed out however, that the notion of multifunctionality is also not an uncontested one. For the advocates of further trade liberalisation within the WTO, multifunctionality is regarded as disguised protectionism (Dibden et al., 2009; O'Connor et al., 2009).

Marsden and Sonnino (2008) classify an agricultural activity as being multifunctional if it adds income to agriculture, reconfigures rural resources in ways that lead to wider rural development
and contributes to the needs of the wider society. Based on this definition, farm afforestation can be regarded as part of the concept of multifunctional agriculture, as farm forestry – according to European and Irish policies – is expected to meet precisely these targets. First, farm forests are expected to create an alternative source of income for farmers (DAFF, 2010). This can either be provided through non-food resources like timber or bark; or through food-resources such as game, honey, berries and mushrooms (Glueck, 1998). Second, it is assumed that forestry and related services or industries contribute to the development of rural economies (DAFF, 1996). This is because locally owned and managed farm forests are regarded as being more beneficial for rural development than large-scale State or privately-owned plantations, on the basis that profits are more likely to remain in the communities (Frawley, 1998; Schirmer, 2007). Furthermore, rural communities are likely to exhibit less negative attitudes towards locally owned and managed farm forests than towards large-scale (State) afforestation. In the past, large-scale planting had caused controversy and concern amongst the local population both in Ireland and in other countries such as Spain, Finland and Australia because it was linked to depopulation of rural areas and a depersonalized, factory-like productive use of land (Carvalho Oliveira et al., 1993; Selby et al., 1995; Schirmer, 2007; Marey-Perez et al., 2009). Third, with regard to the needs of the wider society, the established forests are also expected to meet environmental objectives, e.g. by sequestering carbon and providing an alternative energy source, as well as by improving the biodiversity situation (DAFF, 2010). While the social role of forests for example for recreation is acknowledged in the general Irish forestry strategy this function is provided by the State owned forests rather than by privately owned farm forests, as there is no public access granted onto private land like it is for example in Scandinavian countries, Austria or parts of Germany through the ‘freedom to roam’.
According to McDonagh et al. (2010), the discourse on productivist versus post-productivist agriculture outlined above mirrors a parallel discourse about the changing role for forestry, moving from a modernisation perspective that focused on the production of timber as a primary resource to one that recognises it a multi-use (e.g. carbon sinks, biodiversity, wood production) and multi-benefit (e.g. tourism, recreation, quality of life) resource. However, they argue that while the recognition of forestry’s potential role within a multifunctional model of agriculture is recognised and promoted at national and EU policy level, and while the farming community in Ireland may choose to engage in farm diversification practices which might include forestry, the ‘mindset’ of the farming community is still strongly entrenched in the need for productivist and more conventional farming practices.

1.3 Research on farm afforestation

Other countries in Europe experienced a pattern of farm afforestation uptake similar to Ireland. After an initial period of intense interest, planting rates also dropped in France and Finland (Selby et al., 1995; Mather, 1998). In England and Northern Ireland, participation in afforestation schemes didn’t meet expectations from the outset (Edwards et al., 1992; Ilbery et al., 1992; Burton, 1998). In Ireland, most attempts to explain the drop in farm afforestation focused on the socio-economic factors and the material resources of the farm. Economic analyses, for example, compared the returns from forestry and farming enterprises in Ireland over a typical forest rotation. They showed that using Net Present Value (NPV) analysis, forestry returns under current market conditions would exceed those from farming on poor quality land, namely beef and sheep enterprises (Collier et al., 2002; Behan 2002 cited in Wiemers et al., 2004; Duesberg et al., 2008). More recently, Breen et al. (2010) showed that the NPV of various forestry scenarios are higher even compared to farming enterprises typically carried out on medium-quality land.
The first income from timber harvesting is typically realised in a conifer plantation after 20 years. The aim of the forestry premium is to bridge this income gap and economic comparisons of family farm income with forestry premiums have also confirmed that the value of the latter exceed the former, where beef and sheep enterprises are being operated (Collier et al., 2002). On the basis of these results, agricultural land should have been planted with forestry at a larger scale than has been observed.

Other Irish studies have looked at how factors such as farm size and the farming population’s demographic characteristics (e.g. age, occupation and successor situation) have influenced farmers’ decisions with respect to afforestation (Hannan et al., 1993; Ní Dhubháin et al., 1994; Frawley et al., 2001; Collier et al., 2002; Connolly et al., 2005; Farrelly, 2006b). However, the outcomes of these studies have been partially contradictory. In addition, a longitudinal study on on-farm diversification in Scotland showed that neither household type or size nor farmers’ age had had an impact (Shucksmith, 1993). The only variable showing a consistent influence on farm afforestation in Ireland, as well as in the UK, was farm size. Farmers with larger than average farms have been shown to be more likely to plant (Ilbery et al., 1992; Ní Dhubháin et al., 1994; Frawley, 1998; Mather, 1998; Frawley et al., 2001).

An early survey on farmers attitudes towards planting in Ireland revealed that most farmers would only plant land that was ‘good for nothing else’ (Ní Dhubháin et al., 1994). Other Irish studies confirmed that the land planted or considered for planting was mainly marginal agricultural land yielding little or no agricultural return (Hannan et al., 1993; Frawley, 1998; Frawley et al., 2001; Kearney, 2001; Collier et al., 2002; McCarthy et al., 2003; Ní Dhubháin et al., 2003). In 2006, a supplementary survey on farm afforestation was conducted as part of the
Irish National Farm Survey. When asked about the barriers to afforestation, farmers stated that the main reason for not planting was that they needed all their land for agriculture (McDonagh et al., 2010). Similar findings were made in England, Spain, Finland, Scotland and Northern Ireland, where farmers were also more willing to afforest marginal land such as fallows, unimproved bog or rough grazing ground (Edwards et al., 1992; Clark et al., 1993; Selby et al., 1995; Watkins et al., 1996; Marey-Perez et al., 2009). In Ireland, less than one quarter of farmers indicated they would have no objections to planting good farmland (Frawley, 1998). Kassioumis et al. (2004) found similar results in Greece, where only one quarter of farmers in an area dominated by agricultural production believed that fertile agricultural land should be planted. Ní Dhubháin and Gardiner (1994) asked Irish farmers what would encourage them to afforest land. Interestingly, 67% could not think of any factor which would positively influence such a decision. Similarly, Potter and Gasson (1988) asked farmers in England how high premium would need to be to transfer agriculturally-used land into forestry and 61% did not want to join at any rate.

Frawley (1998) concluded that farmers follow an economic rationale when planting marginal land. However, when it comes to displacing conventional agricultural enterprises, deeply held values about the appropriate use of good farmland can be a barrier to afforestation (ibid). Bishop (1990) and Watkins et al. (1996) came to the conclusion that negative attitudes towards forestry on farmland were deeply rooted amongst farmers and that farmers’ attitudes and beliefs about farm afforestation are among the main obstacles to planting.

Very little work has been done so far to explore these deep-rooted attitudinal barriers to afforestation of farmland amongst farmers. Burton (1998) studied the influence of farmers’ self-
identity on the participation in a community woodland scheme in England. He found that farmers
gain little satisfaction from the management of woodland and thus are disinclined to establish one
on the farm. In Ireland to date, no study has explored in-depth the factors underlying the
decision-making of farmers with regards to the practice of farm afforestation. However, this is
crucial to be able to identify and address potential barriers.

2 Farmer decision-making theory

The Irish afforestation scheme offers farmers external motivation in the form of financial
incentives to plant their land with trees. Thus it assumes that farmers make this decision based on
profit-maximisation values (Schneider et al., 1990). This assumption is true to a certain extent, as
almost no farm afforestation took place prior to the introduction of the premium scheme, while
studies conducted since that time have shown that the vast majority of farmers would not plant if
grants were not available (Maguire, 2008; Carroll et al., 2011). On the other hand, there has been
a significant shortfall in planting rates despite the higher profitability of forestry compared to
dominant farm enterprises in Ireland. Thus, it seems that elements of the farming community
make their decisions with regards to afforestation based on goals and values other than profit
maximisation. The general literature on farmers’ decision-making confirms this assumption.

There is abundant evidence that farm management (especially on owner-occupied family farms)
is not only motivated by economic goals (Gasson, 1973; Potter et al., 1988; Morris et al., 1995;
Battershill et al., 1997; Burton, 1998; Willock et al., 1999a; Austin et al., 2001; Shucksmith et al.,
2002).

Gasson (1973) described several different types of goals and values observed amongst British
farmers. Goals, according to Gasson (1973), are defined as ends or states in which the individual desires to be. They are satisfiable and achievable. The decision to pursue one goal or another is influenced by values (see Figure 2). Values serve as a guideline to categorize situations, objects or events into being good or bad, right or wrong. Based on the literature and her own empirical research, she classified the following value groups prevalent amongst farmers:

• Instrumental: i.e. making the maximum income, making a satisfying income;
• Intrinsic: i.e. enjoyment of work tasks, preference for a farming life-style, purposeful activity, control over land;
• Social: farming for the sake of interpersonal relationships, continuing the family tradition;
• Expressive: farming as a way of self-expression, meeting a challenge, exercising special abilities, aptitudes, pride of ownership.

Gasson (1973; p. 525) furthermore described values as being organised in systems and that ‘people desire to achieve all valued ends, but in situations where these are mutually exclusive, it is the relative ordering of values which determines how they decide to act.’ It is this ordering of values we need to know, in order to understand the course of actions taken in specific decision-making situations such as farm afforestation.

Researchers in the field of behavioural studies have developed much more complex and sophisticated models of farmers’ decision-making. The most comprehensive study undertaken in this area was probably the Edinburgh Study of Decision-Making of Farmers (ESDMF) (Willock et al., 1999a; Willock et al., 1999b; Austin et al., 2001). An interdisciplinary group of researchers consisting of psychologists, agricultural scientists, business management specialists and
mathematicians incorporated personality, cognitive ability and external farm variables to model farmers’ general behaviour. They have shown that both personality and intelligence factors significantly contribute to farmers’ behaviour (see Figure 2) (Willock et al., 1999a; Austin et al., 2001).

Battershill and Gilg (2006), too, distinguish between different factors influencing farmer behaviour and decision-making, identifying “structural factors” such as government policy, financial pressures and family structure, and “attitudinal” factors such as farmers’ values, dispositions and personalities. This conceptualisation is in line with a “structurationist” approach, which gives equal weight to farm circumstances and farmer circumstances in terms of influencing decision-making and behaviour.

Going a step further, Clarke and Lowe (1992) have highlighted the prevalence of “farmer-free” theories, which neglect the important role of farmers’ own ideas and intentions in explaining their decisions. According to Battershill and Gilg (2006), this dimension of the “farmer focus” remains overlooked in most agricultural research.

All the above-mentioned aspects are important to draw an all-encompassing model of farmers’ behaviour. However, the authors of the ESDMF study themselves pointed out that ‘whilst this observation might be interesting from an academic viewpoint, the policy relevance of such results is less apparent.’ (Willock et al., 1999a, p. 300). They furthermore contend that there are problems with integrating structural and attitudinal variables in models in terms of practicability, as large data sets would be required. Instead they recommend that in order to gain a deeper understanding of the factors influencing farmers’ decision-making processes, farmers’ behaviour in specific domains such as animal welfare and farm conservation should be explored (Willock et al., 1999a). Against this backdrop, exploring the decision-making of farmers with specific regard
to afforestation will thus not only lead to practical policy recommendations, but also to deepen the understanding of farmers’ decision-making processes.

The approach taken in this study is to draw on Gasson’s (1973) basic decision-making model and the work of Willock et al. (1999b) (see Figure 2). This approach provides the researcher with sufficient guidance through the theoretical structure while at the same time allowing sufficient freedom for data collection.

**Figure 2: Factors Impacting on Farmer Decision Making**

Derived from Gasson (1973) and Willock et al. (1999b)

### 3 Material and Methods

#### 3.1 Research design

To date, quantitative approaches have dominated the studies undertaken on farmers’ decision-making with regards to afforestation. This means that farmers were confronted with predefined questions and possibilities of answers rather than being given the opportunity to articulate their own views. To let them talk about their personal reasoning behind the decisions of land-use in general, and afforestation in particular, is crucial to gaining a deeper understanding of the decision-making process and the goals and values influencing it. Thus a qualitative approach in the form of semi-structured interviews (in-depth interviews with open-ended questions) was chosen as such an approach permits one ‘to understand the world as seen by the respondents’ (Quinn Patton, 2002). The interviews were shaped by a topic guide covering the broad discussion topics and structuring the conversation, but also allowing for the exploration of issues brought up during the interview. The guidance note covered general questions regarding the farm enterprise...
and size, the farm family, future expectations for farming, agricultural markets and policy as well as general goals for the farm. It also included discussion areas such as the information situation about the afforestation scheme, the value of incentives paid and farmers’ values with regards to planting forestry on farmland. Each interview was recorded and transcribed. The interviews times ranged from 15 minutes to two hours, lasting on average 45 minutes. All interviews were coded using Nvivo©-software to identify farmers’ values and goals towards farming in general and the values underlying their decision-making on afforesting marginal and agriculturally-used land.

3.2 Coding strategy

In order to establish farmers’ goals with regards to afforesting land, the interviews were first coded by farmers’ reasons for not planting trees and their reasons for planting trees. In a second step, the coding strategy investigated further the values farmers held about farming in general and how they influenced the farmers’ decision-making process with regards to afforestation. The analysis followed Layder’s (Layder, 1998) “adaptive theory”. It attempts to combine an emphasis on prior theoretical ideas and models, which feed into and guide research, while at the same time adding to the generation of theory from the ongoing analysis of data. The coding was conducted based on Gasson's (1973) farming values: instrumental, intrinsic, social, and expressive values as outlined in the theoretical discussion above. During the coding process, for each value, several sub-values were identified, based on the data collected and put into sub-value groups according to Gasson’s (1973) theory. Wherever this was not possible, new sub-value groups were created which were grounded in the data collected. Instrumental values were divided into two mutually exclusive sub-values: making the maximum profit and making a satisfying profit. Intrinsic values were divided into four sub-values. Three of those sub-values – enjoyment of work tasks, priority for food production (‘purposeful activity’) and keeping control – were also described by Gasson
The fourth sub-value ‘habit’ was created to represent farmers’ views where they exhibited a certain passivity towards the course of action taken on the farm. Coded under social values were quotes expressing farming values such as 'to keep the family tradition going', 'to leave a good asset for successors' and also quotes about farming relating to social contact or the value that farming has for society as a whole. The latter aspect was not described by Gasson (1973) but expressed by many farmers in this study. Coded as expressive sub-values were quotes expressing pride of ownership, exercising special abilities, but also quotes showing that farmers exhibited entrepreneurial characteristics, didn’t mind taking risks and/or had business ideas. Also coded as an expressive sub-value were farmers' quotes expressing nature conservation values.

### 3.3 Study area

Cattle and sheep farms have for many years been the least profitable agricultural enterprises in Ireland. Market returns in these systems have not covered the costs of production for many years and parts of the support payments are used to make up the shortfall (Connolly et al., 2009). As discussed earlier, calculations and comparisons of Net Present Values (NPV) have shown that forestry returns would exceed those from beef and sheep enterprises (Collier et al., 2002; Behan 2002 cited in Wiemers et al., 2004; Duesberg et al., 2008; Breen et al., 2010). Thus they have been identified as the farm types where forestry is an attractive financial option (Leavy, 2001). The region chosen for study was the Mid-West/North-West of Ireland as farming in this part of the country is characterised by small cattle and sheep farms on poor soils. Depopulation is also a feature of the region, with the population declining by 19% and employment by 24% between 1971 and 1996 (Kearney et al., 1993; Bacon, 2003). Creating alternative income options for farmers in these areas could help to stop further marginalisation. The three study counties chosen were Roscommon, Sligo and Westmeath as their forest cover is also below the Irish average.
Thus, the potential in these counties for afforestation was assumed to be high.

Figure 3: Study counties and forest cover rates by county*

Source: Forest Service (2007)
(*the afforestation policy does not apply in Northern Ireland)

3.4 Study participants

The target population was farmers operating their farms in the three chosen counties. The names and addresses of farmers in Ireland are not publicly available. Hence, we requested the Irish Department of Agriculture, Food and the Marine to facilitate the survey by inviting a random sample of 800 farmers to participate, of which 62 agreed to do so. Due to restrictions associated with the Freedom of Information Act (1997), it was not possible to obtain any details on non-respondents in order to investigate non-response bias. However an overview of the demographic and socio-economic characteristics of the study participants given in Table 1 shows that the average farm size in the sample was above the national average, which might be due to eight unusually big estates in the sample, each of which comprised more than 100 hectares of land. When these were excluded, the average farm size of the sample was exactly that of the national average. Of the 62 participants, 14 had planted forestry on their land. Again the average size of these forests was larger than the national average farm forests. However, when the large estates were excluded, the average farm forest size dropped below the national average (see Table 1).

Table 1: Overview of characteristics of survey participants

<table>
<thead>
<tr>
<th>Percentage of participants by county</th>
<th>Roscommon</th>
<th>Sligo</th>
<th>Westmeath</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roscommon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sligo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Westmeath</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Table 1: Overview of characteristics of survey participants.
<table>
<thead>
<tr>
<th>Counties</th>
<th>Percentage of participants by farming enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cattle</td>
</tr>
<tr>
<td></td>
<td>Mixed cattle</td>
</tr>
<tr>
<td></td>
<td>Sheep</td>
</tr>
<tr>
<td></td>
<td>Dairy and other</td>
</tr>
<tr>
<td></td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>37%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage of participants by occupation</th>
<th>Cattle</th>
<th>Mixed cattle</th>
<th>Sheep</th>
<th>Dairy and other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45%</td>
<td>44%</td>
<td>6%</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Cattle</th>
<th>Mixed cattle</th>
<th>Sheep</th>
<th>Dairy and other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>50%</td>
<td>27%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Part-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average farm size</th>
<th>Sample</th>
<th>Adjusted sample</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>53 ha</td>
<td>37 ha</td>
<td>37 ha</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average forest size</th>
<th>Sample</th>
<th>Adjusted sample</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 ha</td>
<td>7 ha</td>
<td>9 ha</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average age</th>
<th>Sample</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>55 years</td>
<td>55 years (2007 figures)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average direct payments in €</th>
<th>Sample</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18,200</td>
<td>17,300 (2010 figures)</td>
</tr>
</tbody>
</table>

1. Excluding farms larger than 100 ha

Results are presented in the following order: First farmers’ goals and values towards farming in
general are described. Second, farmers’ reasons for not planting and third reasons for planting are presented. Finally, results are explored in the context of Gasson’s (1973) theory and policy implications of the results are discussed.

4 Results

4.1 General farming values

Regarding *instrumental values*, most of the participants exhibited one of the two instrumental sub-values described by Gasson (1973). The two sub-values described and observed were either making a ‘maximum income’ or making a ‘satisfying income’. They were mutually exclusive meaning that farmers held either one or the other sub-value. The majority were looking to make a satisfying income rather than the maximum one (see Table 2). This bigger group typically said that farming financially ‘only breaks even’, but in most years they would keep all or most of the Single Farm Payment as their profit. This seems to be a satisfactory enough income, as most of the interviewed farmers were not interested in increasing their income further.

‘You are lucky if you break even. The better farmers are holding their single farm payment and a small bit along with it. But most farmers would be losing some of their single farm payment.’

Most farmers looking for the maximum income didn’t state this openly and if so, they qualified their intention to make as much money as possible with an additional remark such as ‘you will never become a millionaire farming!’’. Another farmer complained that pursuing the maximum income puts him and his animals under ‘too much stress’. Farmers who exhibited profit maximisation as their target for farming were more inclined towards exploring and deploying
alternative market opportunities such as mushrooming, organic farming, wind farms, selling spring water from the farm, producing good quality food but also forestry.

'I have a great well on my land it’s thousands, millions of gallons of water leaving it probably every day. If I could ever get the money to set up a water bottling plant at it... because it’s the finest of spring water, it’s perfect.’

But also adapting quickly to the changing market situation was one of their strategies.

'I’m going to get into more cows, that’s what I’m planning anyway, sell more weanlings. Well so far it’s quickest way to make money.’

The profit maximisers were also very interested in and well informed about the current and future development of agricultural policies, especially those affecting support payments. In general in can be said that they showed a more active, entrepreneurial approach towards managing their farm.

A small group of farmers did not have instrumental values at all. They were either retired, had full-time off-farm jobs, or were successfully self-employed. Farming for them was more like a hobby and sometimes they would use the income of the off-farm job to subsidise the farm business.

The majority of farmers with instrumental values additionally held one or more of the other values – intrinsic, social or expressive – described by Gasson (1973). With regards to the whole
sample, the most frequently mentioned of these additional values were intrinsic values (see Table 2).

Table 2: General farming values and sub-values by number of interviewees*

<table>
<thead>
<tr>
<th>Farming value</th>
<th>Sub value</th>
<th>Number of interviewees</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instrumental</strong></td>
<td><strong>Total</strong></td>
<td>62</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Satisfying income</td>
<td>40</td>
<td>65%</td>
</tr>
<tr>
<td></td>
<td>Maximum income</td>
<td>13</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>No instrumental value</td>
<td>9</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Intrinsic</strong></td>
<td><strong>Total</strong></td>
<td>51</td>
<td>82%</td>
</tr>
<tr>
<td></td>
<td>Enjoyment of work tasks and lifestyle</td>
<td>29</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>Habit</td>
<td>17</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>Priority of food production</td>
<td>15</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>Control over land</td>
<td>15</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td><strong>Total</strong></td>
<td>18</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Family tradition</td>
<td>16</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>Good for society</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>Social contacts</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Expressive</strong></td>
<td><strong>Total</strong></td>
<td>15</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>Meeting a challenge</td>
<td>9</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Knowledge, abilities and aptitudes</td>
<td>7</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Nature conservation</td>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Pride of ownership</td>
<td>2</td>
<td>3%</td>
</tr>
</tbody>
</table>
Within the *intrinsic value* group, four sub-values were identified during the research process. Three of those – ‘Enjoyment of work tasks and lifestyle’, ‘Priority for food production’ (as purposeful activity)’ and ‘Control over land’ – were also described by Gasson (1973). For many farmers intrinsic values seem to compensate them for low financial returns from farm work:

‘I never liked farming in my younger days, but I’m just glad to have it now. It’s not really for farming; it’s just the pleasure of it. (...) A place to have a nice walk. It is peaceful. It certainly is not the income, I know over the last number of years, the income off it has been little or nothing or negative.’

A fourth sub-value was identified and termed ‘habit’. As noted earlier, it was created to represent farmers who stayed in farming simply because it is what they were used to doing all their life. Those farmers typically expressed a negative attitude towards change in general. They either felt too old for change, or didn’t like change because of the ‘hassle’ involved and therefore preferred to keep doing what they were used to.

‘I know people change, but a lot of people won’t, because they are at it so long, they are not going to change. I suppose I won’t say it’s like a religion or something like that. It’s just in them to produce cattle or produce sheep or whatever.’

After ‘enjoyment of work tasks’, ‘habit’ was the next most frequently mentioned sub-value, closely followed by ‘priority of food production’ and ‘control over land’.
The other additional values – social as well as expressive – were less dominant in the discussions about running the farm in general. Gasson (1973) similarly found that farmers’ most frequently-cited sources of work satisfaction were those related to intrinsic and instrumental values, while those related to expressive and social values were mentioned less often. Ilbery (1983) also found intrinsic values to be most important among the goals and values of hop farmers, followed by expressive values, with social values having the lowest priority. In this study the most frequently-cited social sub-value was continuing the ‘family tradition’ (see Table 2).

'I do it, I guess maybe for the kids if they have an interest.'

Other less frequently-mentioned social values were the enjoyment of the social contact made possible through the farming lifestyle and the idea that farming is beneficial for society as a whole.

Expressive sub-values as described by Gasson (1973) and exhibited by the interviewees were ‘meeting a challenge’, exercising special ‘abilities and aptitudes’ and ‘pride of ownership’ (see Table 2). Also coded as expressive sub-values were quotes by farmers whose farm management was influenced by ‘nature conservation’ values – which arguably could also have been coded as a social value. As Gasson (1973) noted, grouping of sub-values is by no means clear-cut and the meanings of value groups often overlap. We decided to code the 'nature conservation' sub-value to the group of expressive values, on the basis that the interest in wildlife and the creation of suitable habitats for them was closely related to the sub-value of exercising special abilities.
The expressive sub-value ‘meeting a challenge’ was linked to entrepreneurial thinking in terms of actively looking for new business as a challenge.

‘I'm in the process of developing this new project; I'm a project person! I'm putting up a cool chill room, for my organic lambs. (...). Well of course there's other projects you can do as well, once you have these sheds fixed up (...) you could actually take in turkeys or geese or other things. You can use the sheds in the summer then for other options.’

To exercise special abilities or to make use of special knowledge was often expressed through an interest in breeding high-quality stock or through managing the land in order to make it look good.

In contrast to the instrumental values, intrinsic, social and expressive values were not mutually exclusive. They were held in parallel creating a complex value system with regards to farming in general. One farmer, for example, had sold some wet land to a forestry company. He managed the remaining part of the farm with the goal of profit maximisation and entrepreneurial thinking in terms of enjoying new challenges (see quote above). However, at the same time the farm work also provided great source of joy to him:

‘With the sheep I work very hard. But it’s enjoyment as well, you may go through a lot of punishment for two months in the lambing, because it’s all hours, but at least when they are all up and running and out, and they are all looking well, you forget all that, it’s gone, looking forward to the next thing then!'
4.2 Reasons for not planting

When presented with the option to afforest some land, the most commonly-expressed reason for not planting trees was that the farm afforestation scheme wasn’t attractive enough financially. However, only a very small group of farmers knew the financial details of the scheme and had compared them with their farming returns. Although they had heard about the existence of the scheme, most respondents were not actually informed about the details. After informing them of the financial benefits of the scheme many farmers admitted that it would pay better than staying in farming.

‘Each year? For the twenty years? That would include fencing and planting? ...Jesus you have me thinking now! And I thought you said you weren’t promoting forestry!’

However, even after being presented with the financial benefits, no farmer became seriously interested in planting. The most frequently cited reason for not planting was that the land on the farm wasn’t suitable for forestry, i.e. not ‘bad’ enough or that the farm was too small for planting.

‘Well that’s out with me, I have all very good fertile land and I would not plant it, I wouldn’t destroy it, there is no way, no matter how attractive it was, it’s one of the last things I would do, I would feel I would be destroying my land, by planting trees on it. I only agree to planting poor quality land for forestry, but good land, I don’t like the idea of it.’

At this point of the interview, farmers were asked why they would not plant agriculturally-used land, despite forestry returning higher profits. Interviewees’ answers generally centred around
three reasons, which were in most cases influenced by intrinsic farming values: they either said
that farming was the more attractive option, because it produced food (31); or because it had the
advantage of a fairly quickly adaptable land-use cycle and they wanted to ‘keep control’ over the
land (45); or because it was linked to a specific enjoyable type of work and lifestyle (17).
Reasons were not exclusive and most farmers mentioned two or all three of them. A typical
statement for farming being linked to the preference of food production was:

‘You tend to hold onto land, you don’t tend to plant land, you tend to hold onto it, as growing
crops, beef or cattle anyway.’

For farmers, the second attribute making farming more attractive than forestry was, as mentioned
above, linked to a flexible land-use system, which can potentially be changed from one year to
another. This very often was expressed in the notion of forestry being too much of a long-term
enterprise.

‘Forestry as you know, you are in there for twenty years, you can’t change, whereas I get out of
sheep or get out of cattle I could get back in two years later or three years later.’

The third attribute characterizing farming as the preferred land-use is linked to a strong affinity
for the activities and lifestyle related to farming:

‘But the spring time is a lovely time of the year when you are farming, when calves are being
born and I don’t think it’s really what you make out of it, it’s the fact that you get the animals and
you get them to stay alive and you get them thriving, that’s basically it, it’s the job satisfaction.'
There is not much job satisfaction in forestry.'

A quite large group of interviewees (17) indicated that Irish farmers would have a general resentment towards forestry, which is deeply rooted in the nation’s history of oppression, tenant farming and famine.

‘In Ireland there is a huge tie to the land. The fact that you have land is worth more than the land itself. It’s historically, going back to the famine times and going back to different times. (…) To put your land in forestry is a sin and I would have been told that, when I planted my land.’

‘Irish people and land, there’s a sort of a bond there all the time and the forestry is sort of foreign. (…) a lot of it is coming from history, the fact that you had the English landlords here.’

Another substantial group of farmers (17) had concerns about the impact forestry would have on the landscape and environment. Typically, farmers were afraid of forestry blocking the view, destroying the landscape or impacting on water quality.

‘Once you plant your green field, you don’t see your green field anymore, because the trees start to grow on it. It’s nice to look out that window and you see a green field.’

A small group of farmers (5) stated that they would not plant because of social value reasons, i.e. that they hoped the next generation would take over the farm soon and they would rather leave the decision about what to do with the land to them.
4.3 Reasons for planting

Most of the interviewed farmers who already had planted some forestry had a similar view on planting as the majority of farmers without forest; farmers with forest mostly planted because they had land that was difficult to farm or bad land that they could not improve (e.g. drain) to make it fit for grazing. In many cases, the planted parcels were separate plots, typically far away from the farmhouse and the farming facilities. Those farmers who had planted typically had more than one reason leading to this decision. Similar findings were made by (Frawley et al., 2001) and (Ní Dhubháin et al., 2003).

‘We inherited the land and we planted it two years after inheriting it. It was such a burden having it, because it was far away from the house, it put extra pressure on you going to see cattle on it. (…) This land it was bog, it was mountain, it would have been dangerous for cattle, because it wasn’t drained properly, there were dykes in it, so it wasn’t used.’

Asked if they would plant more – and also better quality land – most of them expressed the same view as farmers who had not planted, which was ‘I would never plant good land’. Only two farmers had no major objections towards planting land that was agriculturally-used. They had planted because forestry in their case was the most attractive option financially. But even these farmers had additional reasons driving them towards planting trees on agricultural land, e.g. not having time to farm the land themselves; having a big farm by comparison – hence leaving enough land for farming; or having a plot of land far away from the farmhouse or plot that was difficult to farm.
'The farm is in about twenty plots and we have one farm, I think it’s thirty-five minutes away from the home house and we used to keep all our cattle there we’ll say. And we just found it wasn’t viable anymore to keep. But the main reason why we did move was because the main Dublin-Galway road would split the land in two. So it was harder to farm as well.'

5 Discussion and Conclusion

Most of the farmers interviewed appeared to exhibit multiple values in parallel about farming in general, confirming Gasson’s (1973) view that farmers have complex value systems. In terms of instrumental values, the results showed that the two sub-groups – making ‘the maximum income’ and making a ‘satisfying income’ – are mutually exclusive. Although Gasson (1973) groups the two instrumental sub-values under one heading, they lead to two very different decision-making processes. Farmers who look to make the ‘maximum income’ generally showed a more active approach in running the farm enterprise and improving their income and thus their profit. Farmers looking for a ‘satisfying income’ seem to look for an alternative source only when their income falls below a certain threshold over a longer period of time. Amongst the interviewees, the dominant instrumental value was to make a satisfactory income rather than the maximum one, confirming similar results of Battershill and Gilg (1997). Farmers themselves were aware of the fact that their income from farming is quite low and pointed this out in the interviews. This is also supported by statistical data showing that the average family farm income is only half of that of the average earnings of industrial employees in Ireland (Hennessy et al., 2010; CSO, 2011). However, intrinsic, social and expressive values with regards to farming in general seem to compensate farmers for this low income. At the same time, direct payments provide a certain income security to many farmers and thus there is no necessity or immediate pressure to identify
alternative income options for farmers looking for a ‘satisfying income’. This might explain why few farmers knew about the details of the afforestation scheme.

From the results of this study, we can conclude that multiple, sometimes contradictory farming values co-exist unchallenged under stable circumstances. Burton and Wilson (2006) provide an overview of empirical evidence on farmers with ‘multiple farming identities’ or ‘farming styles’ which confirms this conclusion. However, when it comes to a concrete decision between two alternatives – such as the option to afforest land versus the decision to stay in farming, the situation is different. In a concrete decision-making situation, the various co-existing values can contradict each other as discussed by Gasson (1973). In such a situation, one value or group of values takes precedence over the others as a main guiding value in the decision-making process.

For example, the majority of farmers with general profit-maximisation values would never plant agriculturally-used land, even if it would produce more profit under forestry. Only two farmers in this group had no major objections to planting agricultural utilised land (and actually had planted such land). The majority however would never plant ‘good land’. This is underpinned by the fact that private forests in Ireland are mainly growing on land considered marginal for agriculture such as peat (30%), poorly drained gley soils (30%) or podzols (10%) (Farrelly, 2006a). It should be pointed out that ‘good land’ from a farmer’s point of view is not a standardised characterization according to soil quality parameters. What constitutes ‘good land’ to somebody in the West of Ireland could be marginal land worth planting to somebody in the midlands. In a survey of Irish farmers who afforested as part of the Coillte farm partnership, those participants with farms in the West of Ireland – where wet soils prevail – planted predominantly wet mineral soils, whereas farmers in other parts of the country planted mostly dry mineral soils (Ní Dhubháin et al., 2003). It seems that ‘good land’ from a farmer’s point of view is defined as land
that is used for food production in a typical way under the given conditions. While farmers in regions where the soil quality is lower frequently use quite wet land for farming, farmers in other regions with land of similar quality could think of it as suitable for planting. Regardless of the “objective” quality of the land in question, there seems to exist a common view amongst the farming community that the ‘good land’ should not be planted, even if it would return a higher income. However, most farmers would plant ‘bad’ land without hesitation. This decision is based on profit-maximisation values, given that, after planting, the land at least produces some income.

When farmers were asked why they would prefer farming over planting – despite the lower income earned – intrinsic farming values were the most frequently cited reasons. Sometimes, one single intrinsic value dominated, but most often farmers mentioned more than one value as being a barrier to planting. This means that if only ‘good land’ is available, values other than instrumental ones are guiding the decision-making process. Similar findings were made by Battershill and Gilg (1997) in a study on the influence of farmers’ dispositions on environmentally-friendly farm management practices, in which farmers ranked the enjoyment of farming and the countryside higher than the achievement of profit-maximisation targets. The importance of values other than instrumental ones in guiding the decision-making process on afforestation of agriculturally used land also explains why farmers didn’t change their mind in favour of planting, following the provision of more detailed information about the scheme and the realisation of the profitability of forestry. It can be concluded that simply addressing the lack of information will not be sufficient to encourage more farmers to plant. The reason why forestry is not an option to these farmers simply is because it is not farming. Similarly, Selby and Petäjistö (1995) found that Finnish farmers clearly favoured solutions that maintain productive farming over various other means for reducing overproduction. Elands et al. (2004) in their multinational
research in eight EU countries found that in Atlantic countries – and especially those with a short forestry history such as Ireland – the view that ‘forests are harmful’ (i.e. because they are a threat to other land use activities such as farming or because they diminish the beauty of the landscape) is more widespread than in central European countries with a long forestry history such as Germany. This gives rise to the conclusion that the Irish farmers’ value systems with regards to farm forests exhibit both universally valid and regionally-specific value system characteristics.

This study demonstrated that Irish farmers’ value systems with regards to farming and afforestation can be a barrier to engage in this alternative land use. This finding is highly significant for future policy design in the area of farm afforestation support in Ireland. As the majority of the farmers interviewed were not guided by profit-maximisation values when it comes to afforestation, it is questionable if the farm afforestation scheme in its current form alone will be sufficient to increase the planting rates as envisaged in the Irish policy strategy. The results suggest that an additional policy tool is needed to overcome the barriers rooted in Irish farmers’ value system about farming. To find out which tool might be appropriate, the collected data would need to be analysed further and from a different, more policy-oriented angle. Furthermore, in order to provide recommendations regarding improved policy tools, a quantitative study would be needed to assess the applicability of the results to the wider farming community in Ireland. Such a study would also allow the findings to be related to demographic and structural factors, which will also lead to more specific policy recommendations.

Acknowledgements
This research was funded by COFORD, Department of Agriculture, Fisheries and Food under the National Development Plan. The authors would also like to thank the Department of Agriculture, Food and the Marine for facilitating participant sampling.

References


Maguire, K., 2008. The objectives and harvesting intentions of Ireland’s private forest owners, Department of Crop Science, Horticulture and Forestry, University College Dublin, p. 116.

Marey-Perez, M.F., Rodriguez-Vicente, V., 2009. Forest transition in Northern Spain: Local responses on large-scale programmes of field-afforestation. Land Use Policy 26, 139-156.


