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Incorporating agri-environment schemes into farm development pathways: A temporal analysis of farmer motivations

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Abstract

INTRODUCTION

Voluntary agri-environment schemes (AES) in the UK are a key policy instrument for the delivery of sustainable management of the countryside. These schemes are central to the Rural Development Programmes of European Union member states, and their significance is reflected in their rapidly increasing budget since the mid-1990s and in their extensive coverage across European agricultural land (Espinosa-Goded, et al., 2010; Riley, 2011). Current negotiations suggest that scheme payments to farmers for providing environmental benefits are set to remain an important support tool in the post-2013 Common Agricultural Policy (European Commission, 2010).

Farmers have a central role to play in implementing AES and understanding motivations for participation in these voluntary schemes is therefore crucial in any investigation of their effectiveness. Researchers have extensively debated the significance of a number of different influences on, and motivations for, AES participation including characteristics of the farmer; situational characteristics of the farm and farming system; nature and qualities of the innovation; communication or extension approaches and policy strategies; and socio-cultural influences (Ahnstrom et al., 2009; Siebert et al., 2006; Smithers and Furman, 2003; Wynn et al., 2001). However, previous studies have tended to look at present-centred issues and not addressed the dynamic nature of motivations affecting farm level decision-making.

Some commentators have identified the need to view participation as a culmination of various interrelated factors and motivations which change over time and place (Skerrat, 1994). Researchers have taken a backward looking or historical perspective (Riley, 2006) as well as a forward looking perspective, incorporating the life-long goals of the family farm (Farmar-Bowers and Lane, 2009) to address this need. The significance of farm continuity to farmer decision-making has been recognised; however, there has been little exploration of this with respect to AES participation decisions. Farm continuity is ensured by a range of survival strategies or farm development pathways which have been widely elaborated (Bowler 1992; Meert et al., 2005; Ondersteijn et al., 2003). It has been suggested that a decisive criterion for farmers' motivations about joining AES is whether or not the scheme can be incorporated into these farm development plans (Brodt et al., 2006; Siebert et al., 2006). Although motivations for participation have been examined against the backdrop of farming systems with respect to goodness of fit (Battershill and Gilg, 1997; Brotherton, 1989; Skerratt, 1994; Whitby, 1994), there has been less interest in how schemes are incorporated into the dynamic development pathways that farmers follow to ensure their livelihood and farm continuity.

As such, this paper aims to capture the complexity and dynamic nature of motivations for participation in AES. Specifically, it examines the extent to which decisions about participation in Tir Gofal (TG), a whole farm AES in Wales, can be traced to long-term motivations for farm continuity; and how TG fits into farmers' dynamic farm development pathways. It reports the findings from narrative style interviews with 25 TG agreement holders and 12 non-agreement holders across Wales.

The first part of the paper conceptualises motivation in the context of both farmers' long-term aims and their associated farm development pathways. This is followed by the methodology section which includes a description of the TG scheme. The results are then presented, examining if and how TG fits into existing development pathways. The paper concludes with a discussion of the suitability of farm development pathways as a framework for understanding AES participation in a dynamic sense, and a conclusion section.

CONCEPTUALISING MOTIVATION: A DYNAMIC PERSPECTIVE

Farmers' decisions about AES participation can be subject to a wide range of motivations active over different time frames. Some researchers have examined farmers decision making under the lens of different time scales, taking both forward and backward looking perspectives (Farmar-Bowers and Lane, 2009; Kinsella et al., 2000; Potter and Lobley 1996; Wilson 2007). The following discussion considers firstly the long-term perspective focusing on motivations for farm continuity, it then examines the notion of farm development pathways as a means of capturing the dynamic strategies farms enact to ensure continuity.

Studies concerning influences on AES participation have tended to focus on the balance between farmers' extrinsic and intrinsic motivations, showing that, as well as seeking financial rewards, farmers are also wishing to satisfy personal goals and self-fulfilment (Greiner et al., 2009; Jacobson et al., 2003; Kabii and Horwitz, 2006; Ryan et al., 2003; Smithers and Furman, 2003; Wilson and Hart, 2000). In an effort to widen understandings of motivation and accommodate the heterogeneity of farmer preferences, researchers have also demonstrated the influence of cultural norms, identity, social and cultural context; values, goals, objectives and principles; and worldviews or personal philosophy (Ahnström et al., 2009; Burton et al., 2004b; Fish et al., 2003; Gasson 1973, Harrison et al., 1998; Schoon and Grotehuis, 2000; Siebert et al., 2006; Stock, 2007). However, the dynamic nature of motivations affecting participation decisions has rarely been accommodated in previous studies. With a few exceptions (Lobley and Potter, 1998; Skerrat, 1994; Riley 2006, 2008), the majority of studies looking into farmers' conservation practices have taken a largely static approach that sees motivations and practices as a present-centred issue.

Farmar-Bowers and Lane (2009) take a forward-looking perspective and argue that motivations reflect the personal drive farmers have to satisfy long-term aspirations of their family farm, with farm continuity being a central and overriding motivation. From analysis of interviews with farming households in their study of Australian farmers' decision-making processes and their rationale for maintaining biodiversity, they concluded that, while goals or objectives (and associated business decisions) are a means to an end, life-long family motivations are ends in themselves. Although there is no established link between AES participation and such a motivation, there is supporting evidence from studies in Europe of the significance of farm continuity to AES farm decision-making. In the UK and Europe, commentators talk about the farm's mission, the overall reason for farming underpinned by family concerns which govern the farm's strategy and development and management (Ondersteijn et al., 2003; Shucksmith, 1993). As Siebert et al. (2006) note in their review of European AES participation, citing evidence from studies in the Netherlands and Finland, that long-term family and farm continuity concerns often seem to be the most important value guiding farmers' reasoning. Numerous studies have confirmed the importance of

family aspirations and responsibilities to the family in farm business decisions (Garforth and Rehman, 2006; Greiner and Greg, 2011; Miller et al., 2009). Additionally, rather than instant opportunistic or financial gratification, motivations for joining AES are more often expressed in terms of farm improvement, capital investment, security, long-term farm viability and/or risk minimisation (Gould et al., 1989; Pannell et al., 2006; Siebert et al., 2001;Wilson and Hart, 2000). According to Potter and Lobley (1996), a basic assumption is that environmental change, and therefore arguably AES participation, can ultimately be traced to actions taken to maintain farm household income and ensure family continuity in farming. It is pertinent to ask, therefore, to what extent can decisions about AES participation be traced to long-term motivations for family farm continuity?

Farm continuity is largely guaranteed by a broad range of adjustment, survival or livelihood strategies, or development pathways (Gormann et al., 2001; Kinsellsa et al, 2000; Meert et al., 2005). These, if Farmar-Bowers and Lane's (2009) perspective is applied, might be thought of as the means to the end. Development pathways have been described in a general sense as broad adjustment strategies available to farm families in response to stimuli. They have been framed round three broad strategies considered open to family farms: capital accumulation, economic survival and no change (Marsden et al., 1992)[1], which have been elaborated with respect to strategies such as diversification (McGregor et al. 1996; Ondersteijn et al., 2003). Meert et al. (2005) for example, building on previous work (Bowler 1992, et al., Bowler 1996; Ilbery 1992; 2001), described six pathways: I Maintaining a viable agricultural enterprise (1. industrial model and 2. agricultural diversification); II. Non-farm income diversification (3. structural diversification and 4. income diversification); and III. Marginalisation of the farm enterprise (5. Reduced farming activity and 6. Part-time farming and semi-retirement), with a natural order 1-6 having a declining requirement for capital. The broad notion of farm development pathways offers a means of examining farmer strategies in the context of AES participation. Indeed some commentators suggest that a decisive criterion for farmers' motivations about joining AES is whether or not the scheme can be incorporated into these dynamic farm development plans (Brodt et al., 2006; Siebert et al., 2006). Others consider that AES participation represents a separate diversification pathway in itself (Meert et al's pathway 3).

Development paths are not mutually exclusive; the farm family can elect to combine elements of different paths. Meert et al. (2005), for example, found in their study of marginal farm households in Flanders that farmers combined a number of pathways, including a range of diversification pathways. Wilson (2007) also emphasises the complex nature of farm pathways; he conceptualised multiple transitional pathways at the farm-level showing that farm development pathways can span the entire multifunctionality spectrum (from weak to strong), influenced as they are by financial situation, successional patterns, inheritance practices, farm family life cycles, geographical location or pluriactivity opportunities. As, such, this concept offers a way of understanding how AES participation, as one pathway choice, fits in or combines with other pathways, and how the farm's overall pathway (or set of pathways) will change as a result.

Neither are the pathways static; they were conceptualised as individual farms moving between different pathways of development at different points in time seeking, for example, capital accumulation or economic survival (Bowler, 1992; Bowler et al., 1996). Potter and Lobey (1996) highlighted the importance of considering recent environmental and land use change on farms in terms of longer trajectories of farm business development. Using cluster analysis they identified five clusters showing the distinction between a small number of developing, expansionist farms, a large majority of essentially static businesses and a group

[1] Marsden et al. (1992) identified three broad strategies open to family farms have been described: capital accumulation (expansion, profit maximisation), economic survival (consolidation and production of the family farm) and no change (marginalisation and disengaging from full-time agriculture).

of farmers, disengaged or disengaging from full time agriculture, supporting other findings on farm business change (Gasson and Errington, 1994; Marsden et al., 1992). However, when farmers were asked about their management histories, five different patterns of farm development were revealed over the previous thirty years.

Pathways are considered to move in response to internal and external changes (Bowler 1992; Bowler et al., 1996). With respect to external stimuli, farmers are constantly dealing with change, working within a framework of fluctuating commodity prices and buoyancy of the industry and the progression of technology and policy change (Brodt et al., 2006), as well as regulation, institutional changes, social trends etc (Bowler et al., 1996; Meert et al., 2005; Wilson, 2007). Farmers have been described as both responding to external triggers and pressures (Ondersteijn et al., 2003; Sutherland et al., 2012) when changing pathways and actively creating opportunities and scanning for options in the external environment (Farmar-Bowers and Lane 2009). These changes in turn affect decisions about AES participation; studies have found that the appeal of financial security offered by schemes may be more attractive during times of financial hardship, for example, in a context of volatile market prices and reducing subsidies (WAO, 2007).

Regarding internal stimuli, development pathways are embedded in the household structure of typical family farms; as such, one of the key influences on farm pathways is the life cycle of the farm (Brodt et al., 2006; Ondersteijn et al., 2003). Family concerns and family changes are known to be important with respect to shaping farmers' responses to opportunities and constraints (Johnsen, 2003; Potter and Gasson, 1988) and governing the farm's strategy, development and management (Ondersteijn et al., 2003; Potter and Lobley, 1996; Shucksmith, 1993). Life cycle events may define critical transitions when farm business restructuring, expansion, consolidation and retrenchment are most likely to take place as changes in family and labour availability and other resources, such as capital, come about (Gasson and Errington,1993). Potter and Lobley (1996) showed that succession status is a good indicator of a farm's likely trajectory. Burton and Wilson (2006) also describe what they call 'family-oriented identities' which can determine how the farmers follows a specific economic development path such as business expansion to allow a successor to join the farm business, even where the farmer's personal agricultural preference lies elsewhere. Wilson (2007) also notes that changes in farm family lifecycle can influence the direction of farm multifunctional transitions. Evidence from AES studies has shown the influence of life cycle on participation decisions. Potter and Lobley (1992, 1996), for example, found that, where succession is planned, maintaining the economic viability of the farm through intensive farming becomes the overriding motivation rather than conservation management; while Riley (2006) observed that lack of a successor was often a reason not to enter land into a conservation agreement due to a winding down and poor availability of labour meaning they were unable to meet the AES management requirements. The suggestion is that farmers adjust their activities to accommodate succession, which satisfies in the long-term the motivation for continuance of the family farm, thus a connection can be made between life cycle stimuli and farm continuity motivations proposed by Farmar-Bowers and Lane (2009).

Taking a broad perspective of farm development pathways which encompasses these different influences allows a temporal analysis. Thus, further to the earlier question on the extent to which decisions about AES participation can be traced to long-term motivations for farm continuity, one can also ask: how are AES incorporated into dynamic farm development pathways to enable this continuity?

In summary, farmers' decisions about AES participation can be subject to a wide range of motivations active over different time scales. Some literature suggests that the desire for continuity of the family farm drives farm survival strategies or development pathways, which themselves change in response to external opportunities and constraints, and are embedded

in the farm life cycle. The extent to which AES participation can be traced to long-term motivations for family farm, and extent to which AES fit into farm development pathways is explored in this paper. Specifically these aspects are examined in the context of participation decisions about TG, a whole farm scheme in Wales.

[INSERT FIG 1 HERE]

SCHEME CONTEXT AND METHODOLOGY

Tir Gofal ('land in care') is a menu-based whole farm scheme with a 10[2] year agreement. It has been the Welsh Assembly Government's (WAG) main AES in Wales[3] and has run since 1999, with closure of the scheme to new applicants in 2009. The core objectives of this scheme are to: protect and enhance habitats of importance to wildlife; protect the historic environment; protect and restore rural landscapes; and promote public access to the countryside. However, the scheme plays a wider role in that it was central to the rural development agenda in Wales and in particular to WAG's ongoing policy of sustaining family farms which dominate Welsh agriculture (WAG, 2007a,b). Following initial barriers, reorientation of the scheme towards small to medium-sized family farms has enabled them to participate in the scheme more easily. A survey carried out as part of an evaluation found that 75% of TG respondents described themselves as 'Welsh family farms', and that support from the scheme has helped to support family farm businesses (Agra Ceas Consulting, 2005). Given this, family-oriented motivations might be considered important with respect to participation decisions.

TG comprises three elements, each of which has specific funding: the mandatory Whole Farm Section, which set basic standards for all farms participating in the scheme; mandatory prescriptions, where relevant; and optional prescriptions. Capital grants are available as well as annual payments.

Although the scheme has been open to any landholding in Wales, a scoring system for assessing applications has meant that entry to the scheme has been restricted to farms with a significant degree of actual or potential environmental value as points were awarded for the presence of valuable habitats or features and the willingness to restore or create others (Agra Ceas Consulting, 2003; Posthumus and Morris, 2010; WAO, 2007). As typical requirements under the whole farm mandatory element include a maximum stocking rate, this has influenced scheme uptake. Many larger upland farms have always grazed rough pastures lightly or maintained other favourable habitats so need to do little to change to join; thus large upland sheep farms have predominated in the scheme. Conversely, dairy farms, smaller farms and more intensive lowland farms have been under-represented in TG as they have found it difficult to offer the required environmental benefits and have to do more to gain entry, such as reduce stock density considerably or reduce the use of fertilisers and herbicides (National Assembly for Wales Audit Committee, 2008; WAO 2007). As such, TG is a whole farm scheme popular with family farms where the extent of unimproved or semi-improved land has largely been understood to be significant in determining access to, and eligibility for, the scheme. However, this perspective has been largely static. As Brodt et al's (2006) study demonstrates, farmers hold many unique combinations of motivations, goals and values that result in different management strategies, even when they have the same enterprises within the same geographical region. These strategies change over time and it would seem that a simple association of a particular farming system or geography with a particular outcome is not justified; understanding the context in which it operates is essential (Reed et al., 2008). Against this background, this research sought to understand the diverse motivations of TG agreement holders and non-agreement holders in the context of dynamic farm development pathways.

[2] With a break clause after five years.

[3] In 2007 Tir Gofal covered around 3,000 farms and about 20% of agricultural land in Wales

Farm decisions are subject to a changing set of motivations which are unique to the farm family (Farmar-Bowers and Lane, 2009). To capture this, narrative style semi-structured face to face interviews were used in which respondents were led through prompts and questions, which explored the on-farm decisions taken throughout the lifetime of the farmer. This approach can reveal, current and past motivations, and how they shaped, and will shape, pathways over time. Understanding livelihood strategies, household strategies and their historical development and dynamics over time has proved a valuable approach in other research with respect to farm pluriactivity (Gormann et al., 2001; Kinsella et al., 2000).

This research was carried out as part of a larger study into farmer motivations for entering AES undertaken for the Welsh Assembly Government (WAG) in which 253 TG agreement holders and 115 non-agreement holders were randomly selected for a telephone interview from lists provided respectively by WAG and Farming Connect. The sampling framework for the face to face interviews included all farmers who had participated in the telephone survey and had agreed to be interviewed face to face. From this, 25 current TG agreement holders and 12 farmers not currently in TG or any other AES agreement were selected for interview. Selection of these farmers was designed to include a range of farm types, sizes and geographical locations. The intention was not to be representative in sampling but to be illustrative and provide a picture of farm households in different contexts (Table 1). Reluctance of non-agreement holders to participate explains the smaller number of non-agreement holders. Interviews were carried out with the main decision maker, often with other family members present. In most cases the spouse was present and this contributed to the depth and extent of the narrative, as they were able to supplement the historical information. There was frequent use of 'we' rather than 'I' when referring both to farm activities and motivations suggesting a shared history and vision for the farm within the family. The analysis is based on all comments in the interviews, although the quotes used are all from the main decision maker. Welsh speaking interviews were carried out where requested by the farmer.

For the most part, the farms were owner-occupied small to medium family farms and the majority of both agreement and non-agreement holders came from families who had been in the locality for many generations. Farm size was generally bigger in the agreement holder group, with five farms in this group exceeding 200 ha. Upland beef and sheep (UBS) farmers dominated the interviews with agreement holders (15) and non-agreement holders (7), with the remainder being lowland beef and sheep, with some mixed arable farms and smallholdings (agreement holders), and dairy (non-agreement). Thirteen of the 25 agreement holders and four of the 12 non-agreement holders received income from diversified activities or off-farm earnings, and these tended to be the smaller farms (Table 1). Where another family member was present,

[INSERT TABLE 1 HERE]

RESULTS

This section firstly looks at farmers' motivations with respect to farm continuity, and then examines whether, and how, TG fit into three broad development pathways that the agreement and non-agreement holders interviewed follow.

Farm continuity and TG participation decisions

The continuance of the family farm and traditional farming values is an important goal for many of the respondents, agreement and non-agreement holders. Farmers expressed their desire to preserve the family farm for future generations; for example, one said 'I say to the boys if things come to head in the future never sell it or any ground, plant it in reserve if you

like but never sell' (AH6). There were also frequent references to the family tradition, many farmers, both agreement and non-agreement holders, saying, for example, 'I am keen to keep the family tradition going' (AH15).

Although respondents expressed these same basic desires, they articulated them differently. Those who regarded themselves as traditional farmers, who were in the most part agreement holders, expressed a desire to perpetuate the values of traditional farming. Their goals were securing family livelihood, as one farmer commented, 'My main reason for farming is to put a loaf of bread on the table' (AH15). Other sentiments, such as those regarding stewardship of the environment, are connected to this ideal of traditional farming. Many regard their holdings as special places and express this 'specialness' in different ways; wildlife is important, but so too is the connection to the past, the generations who had farmed there and the landscape and field patterns which they have created; this all contributes to a sense of place and belonging. Collectively, these aspects, together with survival, livelihood and continuity, attachment to place and care for the environment characterise the traditional farming that agreement holders want to continue. To satisfy these motivations, farmers appraise different options or possible pathways; as one said, 'we have to look at all possibilities to secure the future' (AH19). Participation in TG as one possible pathway is favoured because it makes possible the continuance of a way of farming valued by the farmer and enables the farmer to retain his/her identify as a 'traditional' farmer. In this sense, motivations to join TG are shaped by the desire to continue the farm but in a way that is valued and which itself is anchored in the past.

Those who describe themselves as commercial farmers, who are all non-agreement holders, demonstrate a keen desire to keep the farm going for the next generation. This is expressed in terms of preserving their identity as a food producer and a reluctance to compromise their ability to make a profit, as this remark demonstrates:

> *I am a commercial farmer who is keen to keep the family tradition going. My father's family has farmed here for generations. In my father's day and before that the family would have employed labour and several members of the family would have been involved but now I undertake the work largely by myself with help from contractors seasonally and for particular tasks. This simply reflects what has happened to farming generally in the area and I consider myself quite lucky, as a farmer's son, to be able to join the business. I hope that I can keep it going and hand it over to the next generation – if there is one*. Non-AH2

There are frequent references to past generations and there appears to be an implicit duty to continue the farm for the next generation. These farmers, like the traditional farmers, talk about family tradition; however, for them this is synonymous with producing food (not environment or landscape), as these comments show:

> *[I am]a commercial farmer and business man – keen on developing the farm's potential, enthusiastic about my role as a food producer and keen to do anything within reason to keep the next generation in the business and in the community.* Non-AH 10

> *The farm has been in the family for several generations but has been added to gradually by purchase and renting of additional land. It was a family tradition to farm and I have never wanted to do anything else. All I have wanted to do is to farm well and efficiently – to farm responsibly but always to remember that I am food producer; environmental management should be secondary to producing food.* Non-AH5

These farmers are also weighing up options for the future, but they do not regard TG as something that will enable their family to continue farming. As one explained, he had not joined TG 'because it would not appear to be the best way to secure the farm's future to allow my sons to join the business' (Non-AH9).

The interest in securing the family farm's future by both agreement and non-agreement holders is supported by other studies revealing the significance of farm continuity to decision-making (Johnsen 2003; Stock, 2007). The sentiments are generally expressed in terms of wanting to pass the farm on to the next generation. However, this desire for farm continuity is an expression of a collection of values including instrumental values, in that farmers want to safeguard income for the future; and social values, in that they wish to continue the family tradition (Gasson, 1973). Both traditional and commercial farmers make a link between their farming goals and the past and express an attachment to a way of farming. As Riley (2006) has observed, farmers with a long family history on their farms project a narrative of continuity which they felt duty bound to continue; by continuing the family and the way of farming, these farmers embody and cultivate an ideal of tradition; in this research, however, this ideal is interpreted differently by traditional and commercial farmers. Although there is no direct link between participation decisions and farm continuity, it is clear that farming goals and decisions are often referenced to past practices and future needs and aspirations.

The research also shows that the farmers' goal is continuance of values with respect to farming system orientation, irrespective of whether these values are commercially or traditionally oriented. Thus collectively these values can be thought of as 'end-states' or ideals to be striven for which are stable over time (Gasson, 1973; McGregor et al., 1996); they shape long-term motivation, and in turn, pathway choice, including decisions about participation in TG. They can be thought of as a set of guiding principles that a farm development pathway will follow. This adds a further dimension to those considered to influence farm development pathways and will be explored below. The following section describes the different pathways of farm development that agreement holders and non-agreement holders follow to satisfy their motivations and ensure farm continuity and examines whether TG can be incorporated into these pathways.

Farm development pathways

Farm histories, current and future pathways are diverse and dynamic, responding to external and internal farm and family changes. Three broad sets of development pathways were identified: A. low-intensity traditional pathways; B. traditional but productive pathways; and C. commercial agricultural pathways (Figure 2). These are defined by a set of common attributes but are not distinct categories. Although for the most part agreement holders tend to follow traditional pathways (A, B) and non-agreement holders commercial pathways (C), there are exceptions to this pattern.

[INSERT FIGURE 2 HERE]

A. Low-intensity traditional pathways

The pathways are underpinned by motivations to preserve the family farm and are shaped by values of 'traditional' farming. Farmers acknowledge that they are on marginal land and as such their farming options are limited. Low-input farming systems with extensive stocking levels and low levels of grassland and moorland improvement (fertilisation and liming) have evolved suited to these limiting conditions. Farmers regard the marginal nature of their land not so much a constraint but as an opportunity for an alternative way of farming and living. For them, keeping inputs (e.g. fertilisers and labour) and debt low is a strategic farm business decision. This is a positive decision, in the realisation that intensive trajectories can

lock farmers into high-input systems. A number also mentioned that they had areas of environmental interest on the farm such as woodlands and meadows, which they valued and did not want to improve or 'throw fertiliser at'. In most cases these low-input and low-income approaches are accompanied, and enabled, by income diversification.

Tir Gofal fitting into low-intensity traditional pathways

For a number of agreement holders, TG is seen as an opportunity to support this way of farming which makes fewer demands on their resources and on their time. The low-input approach and extensive stocking prescribed by TG also enables farmers to manage their land according to their traditional values; as one said, 'I firmly believe in farming traditionally and looking after the countryside. To me conservation schemes allow me to carry on doing that' *(*AH5).

One farmer (AH20, age 60) described his long held practice and belief about farming less intensively which has persisted through various enterprise changes. When he first started farming with his father, they had a 'truly mixed farm' with dairy cows, arable and sheep. He then specialised more in dairying and built up the herd over a long period, but then went out of dairying and into sheep and beef. He said 'even when we were in dairying I never believed in farming intensively' and his fertiliser use was very low for a dairy farm. He claimed to have been always interested in the environment. When TG started, he joined it as 'It seemed the right thing to do'. He has not modernised the farm like other farmers around him and has kept the small fields and hedges. He believed that 'the more fertiliser you put on the more cows you have to have to pay for it'. The family have additional income from holiday accommodation and so are not dependent on the farm for their income; this enables them to continue with this low-input approach. Joining TG fitted in with his philosophy and with this diversification development pathway. These sentiments concerning traditional approaches have endured throughout changes in the farming system:

> *The farm has been expanded over the years by the purchase of more land and, although the farming system has changed with the times e.g. silage instead of hay, the aim has always been to stick to traditional ways and values. AH 2*

In another case, the agreement holder (AH4, age 59) went to college to get a degree in farm management and then built up his own haulage business because the farm could not sustain two families to begin with. When his father retired, he rented the farm from him. He took over the entire farm about 20 years ago and began building up the farming side of the business and putting less effort into other activities such as the haulage business and the farm shop. He said he did not want 'a sterile farm' as he likes wildlife and this explains his low-input approach. His wife is a teacher and provided a very important income to the household, which meant that they did not have to rely on the farm for income and that affected the way they could farm it. Also, they wanted a life together and the freedom to go on holiday and not always be tied to the farm. Thus interest in wildlife, off-farm income and lifestyle choice all contributed to his decision not to farm intensively. This is turn made the mandatory elements of TG an attractive option since it fitted in with their low-intensity pathway. Like this agreement holder, a number noted that being less intensive meant being more relaxed and allowing more leisure time with the family, although this needs to be supported by other forms of diversification. As such, the farm development pathway is linked to lifestyle and family-centred motivations. TG enables these motivations to be satisfied. As well as fitting in with the overall pathway, TG can represent an attractive option at specific periods of the farms life cycle, as discussed next.

Specific periods of no-growth and succession

Some farmers going through a static or consolidation phase found that the financial security provided by TG annual payments was considerable and presented a way of keeping the farm

business going when farm incomes were low. Indeed, for some agreement holders, there was no question of not joining TG; it offered a lifeline to an unprofitable business. In one case, a part-time farmer (age 50), who was also a postman, described a period of financial hardship, caused by a new phase in the farm's life cycle, his son's return to the farm. For this agreement holder, TG represents a survival mechanism, providing income and enabling the son to stay on the farm, where other opportunities are limited:

> *I have been involved with the farm for the last 15 years or so and the farm was farmed by my mother's family before me. The farm is one of the largest farms in the locality but only 100 out of the 2000 acres are enclosed as fields and only a very little of this land is suitable for harvesting. The nature of the land means that real change and improvement in farming practices are not really a possibility. The farm would have employed several family members and hired help originally but now I farm on a part-time basis. My son has recently returned from university and is keen to take the business on, is interested in improving the flock and I will support him as much as I can. Buying into the business (as a family – previously owned by family members) is putting and will put great strain on my finances. I am only 50 and have no plans to retire but my youngest son will get the chance to gradually take over. There are no real plans to expand yet because it is not an appropriate stage for the business to do so. But we have to look at all possibilities to secure the future. With TG I need the income and cannot really imagine what it would be like without it. I doubt my son would be able to stay at home.* AH14

Here TG combines with this phase of succession and with off-farm income diversification pathway at a stage when 'it is not an appropriate stage for the business' to expand. TG participation is just one episode in the farm's history; when the son takes over the farm the financial situation may improve and a new set of pathways may be considered which might not be compatible with TG. In this example there is little reference to traditional values and a strategy is chosen which might be described as opportunistic, however, it is driven by a desire to keep a son on the farm, and ultimately to ensure farm continuity.

Specific periods of marginalisation

Some farmers were experiencing specific pathways of low engagement with farming activities due to the late phase of the life cycle which TG can also fit into. They describe a period of retrenchment or a 'holding pattern' they have adopted waiting for a decision to be taken about the future of the farm, or waiting for a son to return home from college before the farm can start a new trajectory. Other farmers have experienced poor health and were winding down the farm, which involved gradual reduction of stock and renting out land. One agreement holder (AH7, age 62) who was born into a farming family and inherited the farm from his father, described the past changes on the farm. It was originally a mixed farm where he finished the cattle as well as breed them; then he changed to a sheep farm as it was easier to manage, as he got older. Last year, due to illness, the farmer rented out all his land to another farmer who grazes sheep on it. He said 'It changed because circumstances forced things to change. Just the way things worked out.' This history illustrates how the farmer has adapted and changed enterprises as he aged. TG fits in well with this current temporary pathway as he waits for his son to return to the farm.

In most cases farmers were already in TG before they started to run down the farm. TG, therefore, whilst originally fitting in with and supporting low-input traditional farming, provides a further opportunity to reduce farming activities during a temporary stage of disengagement. At such times, life cycle and farming philosophy of the AH seem to dovetail with TG. This period specific marginalisation with reduced farm activity and semi-retirement, combines and coexists with off-farm income diversification and TG participation, however, TG might not necessarily fit in to the next life cycle phase.

Tir Gofal not fitting into low-intensity traditional pathways

Although the majority of respondents following low-intensity traditional pathways were agreement holders, there were some exceptions. In two cases farmers had not joined TG as they felt they were too old to commit to the required management for 5-10 years and were delaying the decision about participation until their sons were older. One farmer who is over 60 and farms 36 hectares of lowland sheep and beef explained that, despite a positive disposition towards AES, the point of the life cycle is not considered appropriate for entry into TG:

> *We have looked at Tir Gofal but we didn't pursue it. I'm going on in age and my son was a bit young. He was too young and I was too old. We will definitely be concentrating on that kind of thing in the near future. I think it will fit in very much with what we want to do. There is the need for developing habitats. We have corners of fields that we would like to do. My son feels the same way about the environment. He works on the next-door farm for the money alone. He is coming back here with other plans*. (Non-AH 4)

Although the farmer and his son are sympathetic to TG aims, there was a specific period in the farm's life cycle when TG does not fit into the traditional pathway. Thus whilst some farmers at this late stage regard TG as an opportunity to sustain a period of retrenchment and marginalisation, others see it as a future pathway when the son starts to farm and a new stage of the life cycle begins.

All farms in pathway A demonstrate a dynamic history of enterprise change, but an enduring pattern of low-intensity pathway development where traditional values, livelihood, lifestyle and attachment to, and protection of, the environment are particularly important. The natural assets of the farm tend to limit farming opportunities and therefore some pathways are closed off, as one farmer explained 'The nature of the land means that real change and improvement in farming practices are not really a possibility'; here, as Kinsella et al. (2000) noted, farm household livelihood strategies are closely linked to livelihood assets. Traditional pathways tend to combine elements of off-farm income diversification with reduced farming activity; as such multiple pathways co-exist and combine. Participation in TG adds a further pathway which fits in, both with respect to the traditional values and farming approaches. Combining TG participation with the low-intensity traditional pathways enables a way of life to continue often centred around the family and this can contribute to a sense of culture and identity, as has been shown in other studies (Miller et al., 2009). As Sutherland (2010) found, schemes provide an enabling framework within which farmers operate, where they make possible activities which were already valued by the land manager. Lifestyle motivations characterise these pathways, where there is a common notion that making a profit is important for the family farm's livelihood but should not be at any cost, as has been noted elsewhere (Battershill and Gilg 1997; Johnsen, 2004; Reed et al., 2008; van Rensburg et al., 2009). These motivations are often entwined with conservation motivations (Maybery et al. 2005) and satisfied by part-time farming and off-farm income, and by TG participation.

As well as enabling a way of life to continue and fitting in with the overall pathway, TG participation provides a farm survival pathway during specific periods in the life cycle: when there is no growth planned, succession and marginalisation. Whether this is a transient pathway is unknown, there is a high level of uncertainty particularly amongst farmers as to their future plans. Whilst some farmers' participation appears to be in response to financial incentives, for example 'With TG I need the income and cannot really imagine what it would be like without it', this is related to a particular phase of the farm's life cycle; it is also related to the desire to keep a son, a successor, on the farm and, therefore, ultimately farm continuity. In some cases, TG cannot be incorporated due to temporary life cycle limitations,

however, there are plans to join TG once a new phase of the life cycle has started. Whilst previous researchers have concluded that 'traditional' farming is an ideal type of environment-friendly farming system, which AES can help to support (Battershill and Gilg 1996), they have tended to take a static view. These results suggest that the situation is changeable and farmers incorporate TG into their current set of pathways both in line with enduring values and as a temporary adjustment or survival pathway during certain life cycle phases.

B. Traditional but productive pathways

Farmers in these pathways are fully engaged in agricultural activities from which they derive all their income. Farmers describe themselves as traditional farmers, but are more likely to talk about combining traditional values with production interests, although they do not regard themselves 'as big fertiliser boys'. One farmer explained:

> *My values have always been the same – traditional but productive farming can run hand in hand with conservation. I have always cared for the environment and don't propose to change.* AH6

For these farmers, there was a repeated theme of looking for opportunities to continue to gain an income from farming. TG is one of a number of options being considered; other schemes, grants, new enterprises and markets are also being reviewed and many farmers are constantly scanning and weighing up various options. This explains the varied and complex farm histories that were recounted by respondents. These comments reveal this outlook:

> *Everything that has come along, we have had a good look at and we have gone into schemes - farming connect, the organic scheme and Tir Gofal. We are pretty adaptable and if there is a chance to move the business forward [we take it].* AH3

> *We have certainly more or less had to follow the trend towards agri-environment schemes because it has offered us another opportunity to carry on farming here.* AH17

<u>Tir Gofal fitting into traditional but productive pathways</u>
For many farmers following this pathway TG is regarded as an opportunity or a survival strategy, and this is particularly so at specific periods in the farm life cycle, as considered next.

Specific period of growing the business

Adaptable, often younger farmers in early stages of the farm life cycle, who are expanding and growing the business, regard TG as an opportunity. One farmer (AH1, age 39) with a young family describes the history of enterprise change on the farm and the expansion strategy since his father died:

> *I went to college, came home and put sheds up for sows to increase to 80 sows, and did that for 15 years then came out of pigs because I couldn't make it pay. The sheds were steel framed so we converted them to cubicles for suckers – we bought 126 acres in 1989 and have taken on further rented ground of 110 acres in 1994. The biggest changes was when father passed away 2000 and we took on more ground and rented another 90 acres in 2001 – so have 550 acres now. We expanded to spread costs, in future we would continue to expand if it was viable and manageable and nearby rent costs are manageable. We signed up to the scheme at the same*

time as he died. A lot we are doing my father would have been good at. It's like stepping back and using more traditional methods. AH1

For his farm TG annual payments for optional prescriptions represent an opportunity to provide a secure income for a 10 year period; as such, the farmer was willing to integrate TG into his development pathway. The farmer went on to explain his reasoning:

> *In a way I think I am maximising profits -in the last 10 years we have maximized profits by being in TG. Realistically we haven't made much of margin in last 10 years producing beef and lamb so by attaching myself to schemes like this it allows you to produce meat but gives you buffer in the market place and income that allows you to farm not so intensively….. Joining an agri-environment scheme has been an absolutely key element of the farm's development…loss of TG would be like dropping a complete system out of your business from a financial point of view.* AH1

Undertaking optional prescriptions has meant a significant change in his farming system, to gain eligibility, but he has been prepared to create new habitats, such as streamside corridors, and has sown arable crops in some areas, which for a livestock farmer he admits required a lot of new learning. He has also changed toward a more traditional and less intensive approach. In cases like this, schemes are not a bolt-on or short term response to a payment incentive, but part of a long-term adjustment. They enable the farmer to maintain agricultural production and a viable business, with TG providing a financial buffer during a period of growth of the farm business. They are regarded as central to the future trajectory of the developing farm business and to the continuity of the farm. As this farmer said 'When we applied in 2000 we couldn't see a future in farming, we felt we had to get into TG'.

In a similar example, an older agreement holder (age 65) who farms with his eldest son regarded TG as an opportunity to provide payments during a period of growth and expansion in this succession phase, even if it required some changes to the farming system:

> *I have been farming 50 years, before that dad, brother and myself farmed a bigger unit but we split up and I took on this farm, and when neighbouring farm came up I spread my costs across some acres. I've just finished paying it off in February, I bought some more ground about 8 years ago and at end of the 5 year Tir Gofal period we brought that land into the agreement. I have 3 sons, the eldest is on the farm. ….. There is evidence that every business to succeed should expand whether its acres or something else. So yes we will continue to expand. My Project Officer thought that the farm lent itself to the scheme and said that if we put 100 acres of improved ground back into unimproved and did education access I would have enough points so that is what we did.* AH6

This farmer was willing to revert land back to unimproved pasture to join TG. He expressed an attachment to traditional farming and conservation, but equally his goal was productive farming. As such, TG was able to satisfy these motivations and provide an opportunity to continue on a pathway of full-time farming with his son during a period of growth and expansion. However, as with the previous example, this is only possible with considerable change to a low-input approach, and thus a long-term change in pathway.

Tir Gofal not fitting into traditional but productive pathways

For some farmers following this pathway TG does not represent an opportunity. They express similar sentiments to the agreement holders and value traditional farming but, having considered TG, they are not prepared to revise their pathways to fit TG in. One farmer (Non-AH1, age 52), who described himself as traditional beef and sheep farmer on 405 hectares argued that, while other farmers were on a treadmill of high inputs in the quest

for profit, he could achieve it through good management with lower inputs. However, he did not want to change his pathway, in particular he did not want to reduce stocking. Even as he starts to wind down the sheep flock (for the first time in 20 years he has not lambed), while he waits for his son to join him in partnership, TG was not considered to fit into the current pathway. Nor was it needed as a survival mechanism as he had investments which meant he 'was not reliant on any form of subsidy'.

Another sheep and beef farmer on 120 hectares similarly was not prepared to revise his pathway, he did not want to reduce his stocking or fertiliser input nor did he want to plant arable crops as an optional prescription. He explained that:

> *The prescriptions for hay meadows are turning the clock back at time when we need more food. I'm not one of these big fertiliser boys but I want to keep things as they are, I don't want to cut back.* Non AH 6

An organic dairy farmer (Non-AH9) on 121 hectares talking about his history of decision-making said that the key period in the farm's development was the late 1990s when he considered three different trajectories for the farm business: going organic; expanding the conventional dairy enterprise and concentrating on on-farm processing. He discounted the latter two options. The main change to the farm on becoming organic was to extensify production and lower the stocking rate of the dairy herd. However, he explained that the farm had always been based around a low input-output system, even when it was conventionally farmed. He said:

> *We have always been mindful of what we could get out of the land. There is no use putting on 300 units of nitrogen on land isn't capable of taking it. So you work within the constraints of the business.* Non-AH9

When he investigated TG in detail he said 'I was very disappointed in the scheme and anything it could have done to benefit us as a business or the environment'. He argued that the payments in TG for leaving winter stubble would not work on an organic dairy farm. In this respect, choosing one pathway (organic dairy) in the 1990s, reduced opportunities for other pathways in the future.

Another farmer (Non-AH5 age 45) who joined the family farm straight from school said that the 24 hectare dairy farm with a herd of 50 milking cows has stayed 'pretty much the same' since he joined it. The farmer had thought about expanding but decided that it would be too expensive to modernise the farm and the land was too expensive as well. He values the way of life and the environment and considered TG but found that the stocking rate prescriptions would have necessitated a major pathway change away from dairy farming which he was not prepared to consider.

These last examples show that typically traditional farmers who value the environment and have a farming philosophy of reduced inputs do not consider TG to be an opportunity, and do not consider changing pathways, even at a late stage in the life cycle. Within these traditional but productive pathways, a number of farmers are prepared to revise their pathways to capture the opportunity TG offers. In the examples presented here, large adjustments were made to the farming system taking a trajectory towards traditional low-input systems. In these instances, joining TG represents a change in pathway which is possibly more enduring, as one farmer said 'Joining an agri-environment scheme has been an absolutely key element of the farm's development'. Other farmers, despite having values sympathetic to the environment, were excluded from exploiting the TG opportunity because of previous pathway decisions, notably those following pathways centred around higher stocking levels, or dairy enterprises. This suggests a path dependency which means that

changes to any system (social or natural) can only occur within specified limits of what is likely or possible (O'Sullivan, 2004; Sutherland et al., 2012).

Examining how TG is incorporated into these traditional development pathways shows that it does not always satisfy the range of motivational values associated with the traditional approach to farming. Taking a temporal view also reveals that, for a number of traditional but productive farms, TG can represent an opportunity at period specific phases; but also that previous pathway decisions can restrict AES options.

C. Commercial agricultural pathways

This pathway can be described as maintaining the full-time, profitable and mainly food-producing role of a viable agricultural enterprise and as such is aligned to Meert et al's (2005) pathway I. A commercial orientation is typical with a reliance on income from agricultural rather than diversification activities. In this respect, farmers are tied into intensive production systems to provide income and less likely to choose a trajectory that allows them to cut down on costs and labour inputs and compromise outputs. There is a commitment to the core farm business and strong motivations to farm profitably linked to aspirations to sustain the farm for the next generation. Farmers commonly describe a history of improvement, showing how this orientation has shaped farm development, for example:

> *We have done a lot of improvements. We reseeded, fenced and put modern buildings up and put in the road. When we came here there were 99 ewes and we expanded to 400 which we were able to do because of the improvements.* Non AH 19

<u>Tir Gofal not fitting into commercial agricultural pathways</u>
All those interviewed following this pathway were non-agreement holders. Unlike traditional pathways, where TG was considered by some to be an opportunity during specific periods of life cycle, this does not appear to be the case here, as the following examples demonstrate.

Specific period of growing the business

One farmer (Non-AH 2, age 34) explained that he did not join TG because 'the opportunity was not there'. This farmer is 34 and the farm has reached a stage at which it can provide him with an income; he envisages growth and change framed around producing food. As such, joining TG, which would entail destocking and reducing production, is not perceived as an opportunity that can satisfy these needs and this future; he explains:

> *I like stock in particular and want to have good quality stock that look well but they must pay their way. The business will have to grow and will change but I am not sure how – a lot depends on the fate of agriculture and what income the farm will bring. In the past I have taken work off the farm to supplement income, but the business has enough work for me now and will have to generate enough income for me. I am hopeful for the future as long as we do not lose sight of the fact that we are primarily food producers and the world will need this food in the not too distant future.* Non-AH 2

This farmer's attachment to the farm and desire to hand it on to the next generation, and his self-image as a food producer, drive and shape the path of development and collectively influence the current decision not to join TG. Previously when he had to work off-farm to supplement the income, participation might have represented an opportunity but in the current life cycle phase this is not considered appropriate. In another example, a farmer (non-AH 1, age 40), who farms 35 hectares of upland beef and sheep, describes how he was also growing the business and increasing his acreage. With respect to his farming goals he said: 'I like to maximize as much profit as I can'. As such, he perceived TG's requirement to destock as being too restrictive and not enabling him to continue on the trajectory of

accumulation. These farmers express motivations of wanting to produce food profitably as part of maintaining a viable agricultural enterprise pathway and are at a stage of the life cycle where this motivation is strongest; for them, 'the business must pay its way' and they are not adaptable and do not intend to revise their farm pathway to incorporate TG.

Specific period of succession

At the stage when sons who want to return to the farm, this development pathway is again considered incompatible with incorporating TG. These two farmers at a similar life cycle stage explain:

> *We are a commercial farm and a family farm…[I am] a farmer – someone who produces food – not a park keeper. The business must pay its way and I always have to look at the options that will allow me to do that so I cannot dismiss any possibilities in future…. I have two sons (at school and agricultural college respectively) who want to join the business and the aim is to continue to expand the business in order to allow this to happen. … I am determined to do what is necessary to ensure that my sons, who are both desperately keen to farm, have a viable farming business to return to while they are still young and keen enough to develop it further.* Non-AH 12

> *Of course I would be foolish not to consider taking steps in this direction myself [AES] if it was the way of securing my business but the nature of the farm and the fact that I want my son to join me means that I have to farm fairly intensively and the other routes do not appear to be an option currently. The business has been driven by the desire and need to produce food and remain profitable and that has not really changed, although I would be willing to consider schemes such as AES as long as they made the farm more profitable.* Non-AH 8

In their view, only by choosing a commercial and intensive trajectory at this stage of the farm life cycle can enough income be generated and the next generation assured of a role on the farm. In this sense, the desire to continue the farm shapes motivations about not joining TG. TG is considered not to fit in with current stage or future plans, in which an intensive future is planned to cover the succession period; nor does it satisfy motivations to retain an identify as a food producer. The strength of motivations to produce food to underpin the farm's strategies is apparent with many non-agreement holders and, as the above quote shows, the drive to produce food 'has not really changed', that is, it is enduring.

According to Meert et al (2005) farmers in such pathways tend to make decisions based on accumulation and have characteristics of higher levels of profit which service high levels of debt. There are indications of a path dependency, one farmer saying for example 'the nature of the farm and the fact that I want my son to join me means that I have to farm fairly intensively and the other routes do not appear to be an option currently*'.* This path dependency is shaped by the farm's natural assets and current farming system and by desire for the farm to continue into the next generation. There is a recurrent motif amongst all those interviewed of an apparent willingness to consider any options and exploit any opportunities to continue farming. The strength of the desire to 'secure the farm's future' and 'do anything within reason to keep the next generation in the business and in the community' is particularly apparent amongst those in these commercial agricultural pathways. However, decisions about new opportunities appear to be conditional on whether the farmers' underlying values concerning food production, and running a business that does not need additional support, are satisfied. There is a sense that these sentiments prevail at every stage of the life cycle.

Farm development pathways - a framework for understanding AES participation

Farmer narratives reveal the dynamic nature of farms, their unique family histories, diverse farm businesses and enterprise trajectories. The farms have been moving between different pathways of development at different points in time, seeking capital accumulation or economic survival and ultimately wanting to satisfy long-term motivations of farm continuity. The pathways are, as others have described, multiple and dynamic, co-existing and changing as external opportunities and pressures and internal changes come and go (Bowler, 1992; Meert et al., 2005). The resulting farm trajectory is the sum total of past and present, multiple, and at times competing, pressures and opportunities (Meert et al., 2005; Wilson, 2007). TG participation is just one further pathway being considered. Participation should not therefore, be regarded as a distinct development pathway but rather as an additional strand that is incorporated into an existing collection of pathways.

Whilst the development pathways described in this research appear to be diverse and changing, the values that underpin them are more enduring. The pathways described can be characterised by the following quotes: pathway A – 'the aim has always been to stick to traditional ways and values'; pathway B - 'My values have always been the same –traditional but productive farming can run hand in hand with conservation'; and pathway C- 'the business has been driven by the desire and need to produce food and remain profitable and that has not really changed'. These values are expressed as different identities, as traditional farmers and food producers respectively. Farmers' motivations for continuance of the farm are wrapped up with those for continuance of these values, both are the 'end states' to be striven for and shape farm trajectories, including decisions about participation in TG. Values also define the limits of pathway change, and close off certain options including AES. Wilson (2007) similarly talks about decision making corridors, the latter of which can be understood as 'bundles' of decision-making opportunities bounded by productivist and non-productivist action and thought. Path dependency, determined by these values and the farm's natural assets, limits what is possible or likely with respect to system change. In the same way the history of trajectories constrains pathway choice; previous pathways can limit what is possible in the future; in this respect decisions about future trajectories are a function of the past, as well as current conditions, as shown elsewhere (O'Sullivan, 2004; Wilson, 2007).

Previous typologies where 'types' of farm and farmer, classified on the basis of values and their associated goal orientations and the pathways they are expected to follow (Brodt et al., 2006; Fairweather and Keating, 1994; Shucksmith and Herrmann, 2002), have been criticised as failing to provide an analysis of how individual farms move between pathways. This research has shown that pathways can change temporarily in response to life cycle changes; growth and expansion might result from early stage life cycle or accompany succession, while marginalisation can result from retirement or uncertain succession. Potter and Lobley (1996) note it is important to distinguish between enduring and period specific pathways in trying to understand farm change; equally it is important to distinguish between them with respect to AES participation. This research has shown that whilst it is possible to identify farmers likely to be following long-term pathways such as A, B and C on the basis of their enduring values, natural assets and approaches to farming, and predict their responses to AES, these pathways are subject to periodic changes at certain stages of the life cycle where responses to AES are less predictable.

The pathway decision process is ongoing, as Bowler et al. (1996) explain. The participation decision is taken in the context of comparing other possible future options but referencing them to the past, both with respect to what is acceptable and what is possible. Many of the farmers are constantly appraising options for the future; whilst a current decision might be not to join TG, a future decision might differ. Implementation of a path will change conditions within the farm and the cycle of decision-making is repeated. These changing patterns in the farm's development resemble the flux described by Sutherland et al. (2012) who conceptualised a period of path dependency followed by a trigger event such as a

change in the life cycle, which leads to a new pathway being implemented. Similarly Wilson (2007) in his conceptualisation of farm transition recognises the importance of 'nodal points' which might be internal such as succession, or external, such as the opportunity to join an AES, in changing farm trajectories.

Interestingly, in the farm development pathway literature the language centres on *survival* (Bowler, 1992; Gorman et al., 2001 Meert et al., 2005). Marginal pathways are thought to be followed for farm survival, rather than capital accumulation, while diversification pathways, including AES, are also seen as adjustment strategies to help with farm survival. The examples in this research have shown how TG is incorporated during a period of debt or succession where economic survival is the goal. However, *opportunity* has also been shown to be important. For farmers in traditional but productive pathways in the early stages of the farm cycle, TG represents an opportunity to develop the farm in line with a trajectory of expansion and growth. In these cases farmers are revising their livelihood strategy to maximize newly created opportunities. This aligns with previous research which has shown how farm strategies emerge in response to a continuously changing context as farmers actively create and exploit opportunities in their desire to sustain the family farm (Darnhofer et al., 2000; Farmar-Bowers and Lane 2009). Indeed, some argue that the diversity, that diversification brings, provides the seeds for new opportunities; it increases the options for coping with shocks and stresses and as such is a key element of family farm resilience (Berkes 2007; Darnhofer et al., 2000). This research suggests that AES is regarded as an opportunity in some contexts and a survival strategy in others. It shows that participating in AES is not only a survival strategy limited to traditional or marginal farms, or, as for some pluriactive farms, to those 'on their way out of farming' (Kinsella et al., 2000), but for some farms at some stages, is an opportunity to be exploited and can form the basis for a revised and more enduring pathway.

Using narrative interviews proved an effective method in positioning farmers' motivations and participation decisions in past as well as current contexts. Where another family member was present, usually the spouse, this further contributed to the depth and extent of the narrative, although in most cases the farmer was the main decision maker.

CONCLUSION

A complex of motivations interact with the farm development pathway and farm life cycle to influence decisions about whether or not to participate in TG. The paper has drawn on hitherto disconnected literatures in an attempt to position understanding of AES participation motivations in a temporal context. The hypothesis that farm continuity is an overarching motivation in farm decision making has been explored here and the results show that both agreement holders and non-agreement holders express a strong desire to continue the farm and pass it on to the next generation. The way these farmers satisfy this desire is subject to other similarly high level motivations driven by end states or values and together these determine the nature of development pathways, the means to the ends. As such broad development pathways reflect farmers' long-term aspirations of securing continuity for the farm and their respective traditional and commercial values.

Using narrative interviews, and framing analysis of farmer motivations for joining TG both around long-term continuity perspectives and farm development pathways, has revealed that farmers' decisions are subject to a wide range of motivations and competing options which can all change over time. Specifically analysis has shown that current pathway decisions are, both driven by the desire for future farm continuity, and are grounded in the farm's history, past activities and traditions. Thus, rather than trying to explain AES participation in terms of static motivations or factors, a more sophisticated and dynamic analysis is required.

Incorporating a temporal dimension into the wider question of farmers' participation in AES can help to improve understanding of farmers' behaviour, particularly given the variety of possible opportunities currently open to, and used by, family farms such as pluriactivity, diversification, direct and indirect marketing and environmental programmes, as well as the current financial imperatives on them to look for adjustment strategies.

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