

## **Understanding the social aspects of agri-environmental actions – European Comparisons**

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Since the MacSharry reforms of the early 1990s, European agricultural policy has drawn upon voluntary agri-environmental schemes (AESs) as the key instrument to promote biodiversity, limit environmental degradation, reduce wildlife loss and promote landscape preservation. It is estimated that a total spend of 3.3 billion euros from the annual expenditure from the 2007–2013 European Agricultural Fund for Rural Development (EAFRD) is dedicated to this (de Snoo et al., 2013). Although the exact format of these schemes has evolved and some differences in implementation can be seen across Europe, ‘actor-orientated’ payments – that is payments designed to encourage farmers to undertake ‘environmentally friendly practices’ – are a central tenet. The flagship AES in the UK - the ‘Environmental Stewardship Scheme’, which superseded the Environmentally Sensitive Areas Scheme (ESA) and Countryside Stewardship Scheme (CSS) in 2005 – is estimated to have covered close to 60% of utilisable agricultural area at the end of January 2010 (Natural England 2010). There remains some contestation over the ‘success’ of AESs both in ecological as well as economic terms (see Boatman et al., 2010; Kleijn et al., 2006), but what remains certain, however, is that understanding farmers’ willingness and ability to participate in AESs is a central to AESs future. As de Snoo *et al* (2013), amongst others, have recently pointed out – whilst ecologists have an important role to play in attempting to measure any biodiversity and landscape benefits that might result from AESs, and economists might play a role in understanding what fiscal measure may increase scheme participation and what ‘value for money’ AESs may offer, social scientists have a key role to play in understanding the important social, cultural and geographical contexts in which farmers operate and how, accordingly, this might impact upon their scheme participation. As Knowler and Bradshaw (2007) and Finger and Lehmann (2012, p.28) have observed “‘universal explanations’ may not exist and locally focused studies should be conducted to assist policymakers”. With this in mind the award from the Farmers Club was used to visit key centres of social science research in Norway, Switzerland, the Netherlands and Poland with a view to developing an understanding of both the nature of recent research advancements on farmers and their conservation managements and, importantly, what such insights from other countries might tell us for the context of the UK agricultural industry.

## **The social contexts of farmers' conservation activities and AES participation**

A key area which social science research has focussed on is the demographic characteristics of farmers and how these might relate to their environmental behaviours (Burton, 2014). In reviewing the previous studies on farmers participation schemes Burton (2014) notes that there are mixed findings from research as to how the age of farmer, for example, may impact on their AES participation, the research on which he categorises into four broad conclusions. Taking three of these the first is what might be referred to as a 'cohort' effect, in which farmers of a particular generation may take up the technologies and ideologies of a particular time period. Burton's work, for example, has pointed to the 'productivist' era of the post-second World War period which many farmers were encouraged – through government incentives and the formulation of production-related agricultural policies – to develop an outlook which focused on agricultural production with relatively little regard for the environmental consequences (Burton and Wilson, 2006). Allied to this, evidence from the United States has suggested that younger farmers may have grown up in a period in which environmental concerns have been more prevalent, both within the popular press and, more recently, agricultural policy and this might exhibit greater sympathies to environmental issues within their farming activities (Brodt et al., 2006). A second area is related to how getting older might impact on the farm and its management. The work of Potter and Lobley (1992), which draws on a survey from England and Wales, suggested that process of 'winding down' might occur where older farmers do not have a successor present. This, they suggest, may lead to an extensification of their farm management and thus make them more willing to enter into conservation agreements on their land. Others, my own research included, have found that this may be specific only to those habitats or features of the farm that require only extensive management and not those, such as hay meadows for example (Riley, 2006), which actually require a higher level of labour input and active management(s) in order to adhere to the rules and prescriptions of AESs. Other research has offered alternative views on the status of older farmers – with Genius *et al* (2006) suggesting from their work on organic land conversion in Greece that older farmers are less willing to engage in the necessary information gathering administration needed to participate in schemes. Thirdly, Burton makes reference to the importance, especially on family farms, of the 'life-cycle' stage of the farm and how decisions on investment and management of the farm are influenced by those planning to succession and/or retirement. Research from Wageningen on the Mineral Accounting System (MINAS) (which penalises nutrient surpluses) has suggested

that a farm may go through a number of interlinked phases and that each of these may bring forward new directions for the farm business which will ultimately have an impact on any conservation ethos and AES participation (Ondersteijn et al., 2003).

Although a less prominent feature in the research literature, gender has been pointed to in a number of studies, with some suggestions that women farmers are more likely to partake in conservation activities than men (Boon et al., 2010). Whilst other studies have suggested that they have not found direct correlation between gender and conservation status (see Conradie et al., 2013), my own research has found that it is the often gendered role on farms, such as who completes necessary paper work and administration, which means that farm women may more commonly be involved in the application of AESs on farms (Riley, 2009). This visit gave the opportunity to learn more about the research of Professor Berit Brandth and Professor Marit Haugen, who have considered the role that farm women may play in farmland conservation and farm diversification – often in more ‘hidden’ roles (such as administration and in supporting the work of their partners). Others have considered the importance of education, with assumption that formal education will increase the ability of farmers to engage with what are often complex sets of agreement details and management prescriptions.



*Professor Berit Brandth and Professor Marit Haugen have pioneered research which explores the roles that women play on farms and how these often ‘hidden’ roles are central to farm management and farmland conservation.*

It has been noted that there is a distinct geography to the participation within AESs. It has been observed that AESs may be taken up more readily in more marginal land than areas where land use has, historically, been more extensive (Buller et al., 2000) and has also been commented upon that farmers might hold quite different attitudes towards the conservation of

different habitats across their farm – often more willing to conserve ‘non-productive’ habitats such as hedgerows which impact less on their farm operations than the management of features such as pastures and meadows which are an important part of the feed and fodder system (Battershill and Gilg, 1996). Indeed some researchers have gone as far as to point to the potential dangers of a ‘halo effect’ whereby some, more easy to conserve, habitats are conserved and others might continue to be managed more conventionally and even intensified (see for example Robinson, 2005; Wilson, 1997a).

More recent social science research has highlighted that we cannot ignore the social contexts in which farmers and farm businesses operate. Whilst it is important to recognise the political and economic contexts of farm decision making, Geoff Wilson (2001, p.86) has made the important observation that ‘the farming community has often been viewed as responding almost entirely to *outside* forces, with little acknowledgement of possible changes from *within*’. Rather than suggesting that we can trace whether, or not, farmers will participate in AESs, to a single characteristic we need to consider the complex interplay of a number of actors as they are set within particular social and cultural contexts (Riley, 2011; Siebert et al., 2006) and recognise that ‘motivations for participation in AESs can only be fully understood if the wider economic, social and cultural frameworks within which European farmers operate are taken into account’ (Wilson and Hart, 2000, p.2162)

## **Lessons from Europe:**

### **Integrating local and ecological knowledge – taking on the viewpoint of farmers**

An area of concern in recent social science research is recognising the importance of conservation-relevant knowledge that farmers may hold. Whilst there is a presumption that conservation ‘experts’ may be the ones who may be the listened to voice within conservation, there is a recent recognition that farmers, through their repeated and continuous management of land over many years, may hold much knowledge of conservation value (Riley, 2008). In discussing the development of AESs generally – authors such as Wilson (Wilson, 1997b) have noted that these have tended to be somewhat ‘top-down’ with expert opinion more often given priority despite, he suggests, the fact that farmers often have a long-term engagement with their land might know much about the specific ecological aspects of their farms. In their work in the early 1990s in the Yorkshire Dales McEachern (1992) observed how farmers

commonly referred to working *with* nature, rather than being cast as exploiting nature. Others authors have referred to the importance of specific places within this, challenging the often de-contextualised nature of scientific knowledge – which has often been abstracted from trial situations or the case of a very specific area under study (McHenry, 1998). Research by Agroscope, in Switzerland, visited during the trip

The visit to Norway gave the opportunity to hear more about the joint work of Bioforsk (the Norwegian Institute for Agricultural and Environmental Research) and the Centre for Rural Research, Trondheim, which looks to integrate the traditional knowledge of farmers with scientific knowledge in developing sustainable, adaptive management, for hay meadows. Like in the UK (see Riley, 2005 for a review of the UK context) hay meadows are seen as a highly valued habitat in terms of biodiversity, with their historical management patterns of cutting, turning, drying and light grazing and manuring meaning that they host a diverse range of floristic and faunal species (Norderhaug et al., 2000). Similar to the UK these traditional managements have been simplified and many of the traditional types of management have been lost and hay meadows have now been designated as ‘Selected Nature-type’, with an Action Plan for Hay Meadows (APHM) published in 2009. These APHM’s set out management plans which seek to safeguard the future of hay meadows. Although there is some knowledge of the impacts of particular knowledge Bioforsk and CRR have been investigating the potential of traditional ecological knowledge (TEK) which might exist amongst farmers. What this concept of TEK focuses on is a traditional (or local) knowledge base which is based on resource users (which might include farmers) rather than experts – specifically “a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission” (Berkes, 1999, p.8). Berkes *et al* (2004) use the example of a forest-dwelling indigenous group who may see the value of forest (such as a source of fruit, medicines and game/food) very differently from a conservation agency or forest company. The Bioforsk/CRR project considers how this idea might be taken forward in considering farmland conservation. Specifically, they are exploring not just the ecological aspects of this knowledge, but are also considering the idea of ‘knowledge cultures’ – that is how the wider social contexts (such as what other neighbours and farmers in the region are doing) might also shape what are appropriate, socially acceptable, way of working. Here, the research focusses less on the linear approach to conservation management of ‘identify, implement, solve’ to instead a more adaptive approach of ‘act, monitor, learn, adapt.’ (Folke et al., 2005). Focussing on the

county of Møre and Romsdal, where 203 hay meadows have been registered as being of high value, with 67 of those under APHM management by January 2012, the project works with farmers/land managers to explore what can be learnt from both farmers and conservation scientists in developing field-specific management plans for these habitats. As an example, the project is undertaking ecological surveys of the species present in the hay meadows and combining these with oral accounts (as well as historical sources such as personal diaries and aerial photographs) given by farmers of their historical management. A specific focus is on the historical cutting and grazing patterns and the project is attempting to calculate how variable these patterns were historically and what trends might be seen between cutting patterns and current sward diversity. A particularly important social science strand to the project is to examine how TEK has evolved over time – attempting to examine how knowledge about the land is passed from one generation to another and how contemporary management plans may be designed to fit into the farmers' ideas of what is 'good farming'.



*Haymeadows and pastures in the county of Nord-Trøndelag, Norway (Photo courtesy of Lise Hatten)*





*Changes in traditional hay meadow management have led to a decline in their number and species richness, but farmers' detailed understanding of their managements may hold important clues for the most appropriate future management (Photo courtesy of Lise Hatten)*

### **Farmers' cooperation in conservation**

One of the challenges of AESs is that agreements, in the UK as in most other countries, are focussed on the farm-scale level and are agreements between government and landholder. This creates problems of connectivity – both in terms of riparian environments, with the management of one farmer upstream impacting what might be possible downstream (Aspinall and Pearson, 2000) and also in terms of terrestrial habitats, where it is widely acknowledged that a taking landscape scale focus is important in terms of both pathways and connectivity for particular species (Dolman et al., 2001). As Prager *et al* (2012, p.245) suggest, AESs neither “require nor encourage landscape level coordination but favour a farm scale approach leading to individual, disconnected actions”. The Netherlands offered a useful context to consider the approach of Environmental Cooperatives (ECs) – something which Bettina Bock and colleagues, who I visited during the trip to Wagenningen, have referred to as a ‘new mode of rural governance’ (Wiskerke et al., 2003). The first ECs were established in the early 1990s and although their primary function at that point was to ensure that land-managers had a voice within the development of environmental policy and AESs specifically, they also hold great potential for nature management (Franks, 2010). The Dutch Environmental Cooperatives allow conservation agencies to instate agreements with groups of land

managers – the VEL (Vereniging Eastermar's Lânsdouwe) and VANLA (Vereniging Agrarisch Natuur en Landschapsbeheer Achtkarspelen) ECs were visited (which are now part of the Northern Frisian woodland) (see Stuiver et al., 2003 for a detailed history). Such examples offer several potential lessons for more collaborative measures in the future of AESs. In terms of the overarching challenges those problems of landownership and agreement ownership have been noted (Uthes and Matzdorf, 2013) – meaning that often quite intricate legal requirements need to be written into these agreements. An historical lack of communication between farmers (Emery and Franks, 2012) and the simple logistics of trying to organise people working together (Hage et al., 2010) are barriers that have been observed and made reference to by farmers spoken to in Friesland. In looking at the Dutch system, Franks (2010) noted that one of the key challenges was finding someone to lead the group – both in terms, often, of a paucity of people willing to take on the leadership role and then a willing participant who would be a popular choice to all members.



*The Netherlands has a strong tradition of farmers' co-operatives and a number of trials of joint conservation agreements are under way*



In terms of the potential benefits of these schemes it has been argued that these agreements might have greater potential for funds to be targeted to special projects which might have high potential for conservation gain, and that the sharing of equipment for undertaking conservation work is a potential benefit. Alongside this there is the obvious potential for social learning amongst farmers and the potential to share valuable knowledge on the management of particular species or tracts of land (Franks and Mc Gloin, 2007). From a governmental perspective administrative costs might be reduced as farmers put together a joint agreement (de Rooij, 2010), whilst researchers at Wageningen have found that collaborative agreements have the potential to bring forward applications of better quality as farmers may seek collaborative advice (Wiskerke et al., 2003). It has been suggested that stronger bonds of trust may be developed as people have entered into agreements (Eshuis and Van Woerkum, 2003) – something that was echoed by the farmers spoken to during the trip to the Netherlands. Related to this it has been observed that because there are more people involved it may lead to a greater sense of commitment from individual farmers as there is a feeling of not wishing to let down other members of the cooperative (Emery and Franks, 2012). Studies on the financial benefits of ECs have suggested that gains might be made from participation and that there may be other forms of employment generated by the associated administrative work of the schemes (Stuiver et al., 2003). It is interesting to consider how far such schemes might be extended into the other areas visited. In Poland it was observed that the complex nature of landownership (in the regions visited with Dr Marcin Wojcik of Lodski University and Dr Konrad Czapiewski of the Polish Academy of Sciences) and the predominance of strip field systems in many areas meant that effective collaboration would be a key challenge. Although there is no mechanism, currently, in the UK for such collaboration, a pilot study by Emery and Franks (2012) suggests that there would be a willingness of the current Environmental Stewardship respondents that they spoke to, to participate in more collaborative agreements.



*The complex strip field system in areas of Poland offers a conservation challenge both in terms of the multiple land owners that would need to be engaged in environmental cooperatives*

### **The potential of ‘Payment by Results’**

A recent development within AES research and practice which is gaining momentum is the idea of payment by results, whereby land managers might be financially recompensed for results on the ground – such as presence of particular indicator species for example (Matzdorf and Lorenz, 2010). A number of different terms have been used to encapsulate these ideas, including: “result-oriented” (Oppermann, 2003), “payment-by-results” (Klimek et al., 2008),

“outcome-based/oriented” (Latacz-Lohmann, 2000) “success-oriented” (Bathke, 2008) and “objective-driven” (Burger, 2006). As Burton and Schwarz (2013) have observed, the ‘actor-orientated’ nature of AESs in which farmers are paid for their participation in schemes (and their associated managements) rather than for actual outcomes has been a central pillar of the schemes and remain largely unchanged. They suggest this situation will remain for the foreseeable future as payments for participation are relatively easy to administer, comply with WTO legislation and, they suggest, “to put it simply, we currently lack any feasible Alternative” (Burton and Schwarz, 2013, p.629). However, there is growing evidence of an emerging and “fairly widely held view that the tools to maintain and enhance the environment should be more clearly results oriented” (ENRD and EC, 2010, p. 8 – cited in Burton and Schwarz). In Switzerland there have been examples of formative schemes which have been focussed on the meadows and the provision of payments for particular indicator species, whilst the Netherlands there has been a focus on faunal diversity – with farmers paid for the number of clutches of wading birds - particularly lapwing - that are present on their farms (Musters et al., 2001; Verhulst et al., 2007). In observing these examples there are several lessons that can be taken from them – both in general terms and also specific to the UK agricultural industry (see Burton and Schwarz, 2013 for a detailed review). Research from Wageningen suggests that one advantage is that that farmers may be innovative in their management, moving away from the problems associated with prescriptive managements with AESs, and hence they may be able to apply their own understanding of their local environment and the managements they feel best to increase species numbers (Swagemakers et al., 2009). Although such schemes are not yet widespread, those studies such as Matzdorf and Lorenz (2010) suggest that the relative freedom associated with this type of agreement could prove to be popular amongst farmers – with previous research showing that farmers often resent those schemes which reduce their overall management freedom (Riley, 2011). Hypothetically, it has been argued that such a system might encourage farms to take a more holistic approach to farmland conservation and better marry conservation and production goals. Such an observation is extrapolated from the suggestion that farmers entry existing AESs tend to choose those conservation activities that can sit most easily alongside production – such as the management of hedgerows and field margins (Burton and Schwarz, 2013). From the point of view of cost-effectiveness, several studies have suggested that payment-by-results would offer value for money and the potential to overcome the current situation that is often seen to be payment for no significant ecological or biodiversity gain (Uthes and Matzdorf, 2013). Although there are no detailed ecological data sets to

substantiate the latter idea, the Dutch study by Verhulst *et al* (2007) – which measured the success of breeding birds on farms under a system of payments-per-clutch and the more general AESs prescription of later cutting dates suggested that the former were more successful.

In addition to the potential ecological and economic benefits, researchers in the Netherlands suggest that payment by results might have the potential to bring farmers and conservations – so often seen as representing different sets of ideals (McHenry, 1998) – into closer dialogue and foster greater cooperation as farmers seek the best methods of increasing the desired species on their farms. Similarly it might also have the potential to develop a positive relationship between farmers and the general public, with a higher degree of visibility of the work of the conservation work of farmers. Culturally, it has also been suggested that one barrier to farmers partaking in AESs is that they see themselves as a ‘producers’ – if, Burton and Schwarz (2013) suggest, we seek to reposition conservation goods as a ‘product’ it may sit more easily with the farmers self-concept and be more readily taken forward. Related to this point, the researchers in both the Netherlands and Switzerland argue that farmers might see payment-by-results might be an opportunity to showcase their skills rather than just being seen as more passive land managers (as some perceive AES participation to denote). Research from the Netherlands has suggested that result-orientated schemes might have the potential to spread risk on farms, with the suggestion that vagaries of the weather and commodity prices which are a risk factor on most farms may not be true for environmental goods (Westerink *et al.*, 2008).



*Slope meadows at Ruswil in Switzerland - a study site of Agroscope who have observed that current conservation efforts are heavily reliant on how intensively land has been managed in the past*

Result-orientated schemes are not without potential problems. As researchers at Wageningen have suggested outcomes of farmers' specific managements are linked to a myriad of other factors – climate change being the obvious example – and question whether ““whether it is fair to hold a farmer responsible for the outcome of his measures, while he is greatly depending on natural processes and the surrounding environment, including the behaviour of his neighbours” (Westerink et al., 2008). Research from Agroscope, the Swiss research centre visited during the trip, has also noted that the ability of current farmers to manage their land for conservation purposes is strongly dictated by those who have farmed before them – a challenge in particular for new entrants to farming taking on land that has been intensively managed by their predecessors. Others have suggested that being open to public scrutiny – where results are made publicly available – would dissuade many from participating (Burton and Schwarz, 2013). Whilst there remains strong calls, particularly amongst environmental groups, for change to AESs in order to increase their environmental benefit, the visits highlighted the need for further research – both on the likely environmental benefits of such schemes (the evidence base of which remains relatively small) and also on what farmers' reactions to such a scheme might be if it was to be rolled out more widely.

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