

Pathways to sustainable agriculture, 1980-2020: forty years of policy learning in Britain and Europe.

Janet Dwyer, Professor of Rural Policy, CCRI, University of Gloucestershire

Opening Remarks

In choosing a topic for an inaugural lecture, I wanted to find something that would reflect a longstanding area of my research interest. I first moved into agricultural economics as a postgraduate because I was concerned about the environmental impacts of farming, and keen to investigate the role of government policy in affecting this. In every decade since then, I have been analysing, evaluating and/or developing policies which seek to promote enhanced environmental and, latterly in particular, socio-cultural performance in farming, particularly in England but also across the expanding EU. At the same time, my work has brought me into direct contact with a whole range of experts in this field – from wise practitioners to experienced analytical scientists - and through their insights, my own understanding of, and reflection on, the evolution of this policy area has been enriched. Today, I work with many colleagues in CCRI who have a common interest in this topic and whose work I admire, in that context. So, it seemed like a good idea to develop my text around this theme. I hope that my ‘take’ on the history of policies for sustainable agriculture will give you some interesting stories, as well as some thoughts about what we have done well and less well, and where we could do much better, in future.

So, how has the policy community in UK and Europe interpreted ‘sustainable agriculture’ in recent decades, in its actions? I would suggest that the biggest single focus of activity and attention has been upon paying farmers to deliver environmental benefits – that is, what have become known as agri-environment schemes. Environmental regulation of agriculture (including cross compliance, which is a quasi-regulatory mechanism) is another important approach, which has become more significant over the period. Finally, there are the supporting mechanisms including advice and information. I therefore intend to spend a little time looking at the history of these policy approaches, before analysing what we have learned from them, and how effective they have been in promoting greater sustainability in farming.

My talk is divided into three main sections. The first gives the potted history, the second analyses lessons learned and effectiveness, and the third considers where policy could go next, in the light of current and future challenges.

1. A brief history of environmental approaches in farm policy, 1980-2006

Phase 1 Early innovation and legitimization of the approach

In the UK, policy interest in the pursuit of more sustainable agriculture grew out of concerns which arose from the post-war modernisation and technical transformation of the sector. During the forty years which saw British farming initially commandeered by the state in order to feed the people during wartime, and then progressively offered funding, income underpinning, research and advice, the UK sector changed dramatically: the labour force declined by about 50% between 1930 and 1970, landscapes underwent radical simplification (Westmacott & Worthington, 1971 and 1984; Baldock, 1984), and a significant proportion of semi-natural habitats were destroyed or degraded by farming change (NCC, 1984). Farms enlarged, specialised and adopted more capital-intensive methods, and the volume and value of output almost trebled (constant prices, 1938-1980: MAFF, 2000). And as the labour force in agriculture contracted and supply chains became longer and more industrial, so the

social and cultural ties between farms and their adjacent rural communities were weakened. These changes prompted a series of highly critical reviews and reports during the late 1970s and early 1980s (Bowers and Cheshire, 1983; Shoard, 1980; Body, 1986; Newby, 1982), documenting the environmental and social disintegration of countryside assets as a result of farming change. Similar trends were also apparent in some of the countries which then made up the European Economic Community: notably the Netherlands and West Germany.

The first experiments in policies to promote 'environmentally sensitive' farming were seen in England and Holland at the start of the 1980s. In England, the Broads Grazing Marshes Scheme (BGMS) was borne of an attempt to find a cheaper alternative to preserving important habitats than the legally cumbersome and contentious provisions of the 1981 Wildlife and Countryside Act. The latter defined the right of landowners to seek compensation for potential profits foregone, if their farm land were designated as an SSSI and they were thereby prohibited from intensifying its management. After a few celebrated cases where this led to the Nature Conservancy Council paying out millions of pounds in settlements, sometimes after lengthy legal wrangles, someone suggested that farmers might be open to a simpler and less adversarial approach, in which they were offered money to retain their existing management practices, using agreements which would provide them with a regular income stream over a number of years. In the Norfolk Broads, this approach was tested through the Broads Grazing Marshes Conservation Scheme (BGMCS). Money was offered by the Ministry of Agriculture through a special initiative drawn up by the Countryside Commission – the government's agency for landscape protection and public enjoyment, the Ministry of Agriculture's Agricultural Development and Advisory Service (ADAS) and the Broads Authority, and this proved highly successful in persuading a majority of farmers in critical areas to sign up to the scheme.

In the Dutch case, similar processes were apparent. Concern among environmental agencies for the loss of semi-natural habitat and farmland species as a consequence of agricultural drainage and intensification of peatland led to experiments with multi-annual agreements designed to halt the increase of drainage or to retain biodiverse field margins in some areas, from 1977 onwards (Heinen and Melman, 1988; Baldock, 1984), with modest success. In Germany also, experiments with management agreements for conservation were begun in the early 1980s.

The BGMCS scheme in Norfolk played to the fact that, in order for farmers to take advantage of the best returns from the market, they would have to make a significant conversion of the farming system, from pastoral livestock to arable farming. Such a step would have involved a radical structural and also cultural change, for these communities. So, if government agencies could offer farmers a less radical alternative which nonetheless increased their incomes, many were willing to respond.

The success of such early experiments, coupled with continuing concern about threats to the natural environment arising from agricultural intensification, led governments to seek to legitimise this approach within the broader framework of the Common Agricultural Policy in Europe. In 1985, the EC recognised the legitimacy of these schemes as state aids to the sector, and then in 1986, the European Council approved the addition of provisions under Article 19 of the Farm Structures policy, to offer Community co-financing to countries to offer multi-annual agreements to farmers designed to promote environmentally sensitive management of land. Concurrent with this, England swiftly launched its first two 'tranches' of Environmentally Sensitive Areas (1987 and 1988), and 'agri-environment schemes' proper, were born.

The first UK ESAs were developed from a fairly rapid but intensive piece of research led by the Countryside Commission and ADAS, with the Nature Conservancy Council of Great Britain (NCC) – the government’s agency for biological and geological conservation. They targeted those areas of Britain where publicly-valued landscapes and habitats had been relatively well-preserved by so-called ‘traditional agricultural practices, but where these practices were deemed to be under threat of intensification. So, the main aim of the early ESAs was to ‘stop the rot’ – i.e. an attempt to arrest otherwise environmentally-damaging developmental trends in farming, in the places where this was felt to be most of concern to society. For that reason, the agreements were relatively conservative in scope – basically telling farmers that they must not change their existing management practices, and offering money in return for this commitment (ADAS, 1995). They were drawn up on the basis of a combination of ecological and landscape appraisal of each area and some practical understanding of the existing management regimes that were to be protected. ESAs were sold to their farming populations by having a dedicated ADAS advisory team for each area, also scientific back-up for the survey and research work designed to ensure that land was appropriately allocated into the various management options, and payments calculated by reference to local economic conditions, designed to provide sufficient incentive to attract farmers to join by covering management costs and the notional ‘income forgone’ by not intensifying. In Northern Ireland, the same model was developed and applied to the most iconic of the region’s landscapes.

But almost as soon as the early ESAs were recruiting farmers into agreements, the Countryside Commission (CoCo) in England decided that this approach alone was insufficient to tackle the latent demand for better environmental management of the farmed countryside. This led the agency to develop and pilot the England-wide Countryside Stewardship Scheme (CSS), from 1991-96, with funding from the Department of the Environment (DoE). Unlike ESAs, where management prescriptions and payments were tailored to the specific local situation, CSS adopted a more generalised, menu-based approach to agreements and also to the definition of the land that they wished to encourage into the scheme – targeting important ‘landscape types’ including uplands, watersides, hay meadows, old orchards, chalk downland, lowland heaths and historic landscapes (designed parks and archaeologically-rich areas). These types of land were offered a menu of annual management payments and capital works designed to maintain and enhance their environmental value, with a dedicated team of around 30 advisors, nationwide, to promote and help tailor agreements to the particular conditions and opportunities on each farm. I was lucky enough to join the agency in 1991 and be directly involved in the oversight of CSS policy for the next five years.

In short, CoCo aims with CSS were:

- to show that the agri-environment approach could appeal to farmers all over the country;
- to experiment with a much broader range of prescriptions and environmental targets than had yet been possible within ESAs;
- to test a more ‘market’-based design of scheme, in which the location of uptake was less central to the goals being sought and payments were based upon prior market research to establish how much cash would buy how much management;
- to provide a basic vehicle from which to develop new institutional arrangements for promoting environmentally-friendly farming - the pilot explicitly intended to devolve scheme design and delivery to local authorities

and national parks, but this was vetoed by MAFF once its takeover bid became apparent (see below).

The Nature Conservancy Council, meanwhile, favoured the more bespoke ESA approach and assisted MAFF to designate two further 'tranches' of these during the early 1990s. These later ESAs were selected partly from the long lists originally drawn up by CoCo, NCC and ADAS in the 1980s, and partly by NCC alone, based upon areas of the country with particular concentrations of unimproved semi-natural habitat. Eventually, 43 ESAs were established in the UK, 22 in England, 6 in Wales, 10 in Scotland, and 5 in Northern Ireland. Reflecting their mixed origins, the tranche 3 and 4 ESAs included some 'part-farm' schemes more tightly defined around specific habitats (e.g. Upper Thames Tributaries, Essex Grazing Marshes) as well as others targeting whole farms and entire landscapes, mainly in the National Parks, National Scenic Areas and Areas of Outstanding Natural Beauty (e.g. Lake District, Exmoor, Mourne mountains). The combined area of all the ESAs was 3,356,000ha, or around 15% of agricultural land (Swash, 1997, quoted in Boatman et al, 2008).

In a more bizarre move, another suite of agri-environment schemes was generated by UK agriculture ministries, following the formalisation of agri-environmental aid within the new 'accompanying measures' package attached to the 1992 CAP reforms. This offered all EU Member States a list of options for different kinds of scheme that they could develop and fund under the CAP, and EC officials specifically encouraged countries to come forward with approaches in line with these specific roles. In response, MAFF decided that in England it would launch one each of the main approaches relevant to the UK situation, in 1993-4. This was despite the fact that CoCo argued at the time that CSS was flexible enough to encompass all these different goals within a unified approach, based upon the 'menu' of options already offered under the pilot scheme. The new schemes comprised a 'Habitat scheme' for 20-year set-aside of buffer zones and similar areas; a 'Moorland scheme' to pay farmers for de-stocking of overgrazed areas in the uplands; and a 'Countryside Access Scheme' to open up set-aside land for public access (building on a regional pilot tested by CoCo in the early 1990s¹). In Wales, Scotland and Northern Ireland, a reduced number of similar schemes – moorland destocking and 20-year set-aside in particular - also ran for a few years during the same period (c.1993-99). These initiatives, whilst not serving as enduring models for future scheme development, represented a first attempt by Ministries of Agriculture to become directly involved in agri-environment scheme design and delivery, beyond the established ESAs. It undoubtedly gave a rich variety of evidence from which to learn more about what was and was not possible with agri-environment schemes, and how well they were working. Thus, the five year period from 1993 to 1998 was a very active and interactive time for policy development and review, in this context.

In England, by 1995, evident competition between the DoE agencies and MAFF to outdo each other in agri-environment scheme design and development led MAFF to launch a successful takeover bid for CSS², which moved under its wing in 1996 and ceased to be a 'pilot' scheme. Shortly after this in 1998, MAFF also took steps to persuade DoE to close down the local environmental management schemes being

¹The Countryside Premium Scheme, offering payments on land set-aside voluntarily by farmers in 3 arable counties of Eastern England, to manage the land sensitively for wildlife and to enable public access to the land.

² The then-Minister of Agriculture and Secretary of State for the Environment apparently agreed the transfer in a private conversation, before telling their respective civil servants the news.

developed at that time by some of the UK's National Parks, on the grounds that, as notifiable state aids under the 1992 EU framework, their existence as separate initiatives created unnecessary administrative burdens for government, when the schemes' goals could just as well be delivered by CSS and the ESAs. Thereafter, the central, sectoral Ministry held a near-monopoly³ on agri-environment scheme ownership in England.

In Wales, Scotland and Northern Ireland, following the devolution of responsibility for environmental and some agricultural policy areas with the break-up of NCC in the early 1990s, ESAs had more varied 'ownership'. Some were created and delivered by the newly-devolved government agencies, rather than central departments. In Wales, a more ambitious and holistic approach was piloted by the Countryside Council for Wales in three districts, in the Tir Cymen scheme (1992-1998). In Scotland and Northern Ireland, similar 'all-countryside' approaches were launched: the Countryside Premium Scheme (1997) and Countryside Management Scheme (2000), respectively. In 1999, Tir Cymen was re-vamped and re-launched as Tir Gofal, a whole-farm scheme potentially available to all Welsh farms, and in 2000, a new Rural Stewardship Scheme was launched in Scotland, along similar lines.

By the end of the decade, evaluations of all these schemes (e.g. Ecoscope, 1997; ADAS, 1996 and 1998; CCRU/ADAS, 1999 and 2000) were amassing evidence that they could work well in relatively marginal farming contexts, in respect of attracting a good level of uptake and promoting landscape enhancements, improved amenity and a degree of habitat retention and recovery. Their potential for protecting and enhancing soil and water was also being discussed at national level (Dwyer, 1999).

However, they were not attracting many arable farms and they were not securing uptake among the dairy sector, which meant that fairly large areas of farmed land, particularly in England, were still untouched. Also, there were conflicting views about the extent to which they had been appropriately tailored to achieve biodiversity benefits on grazed land (Manchester and Glaves, 2009), and growing calls for them to do more in respect of promoting resource protection. Comparison of the UK approaches with patterns adopted in other Member States had led to some new thinking here, about the most cost-effective design of the schemes, going forwards.

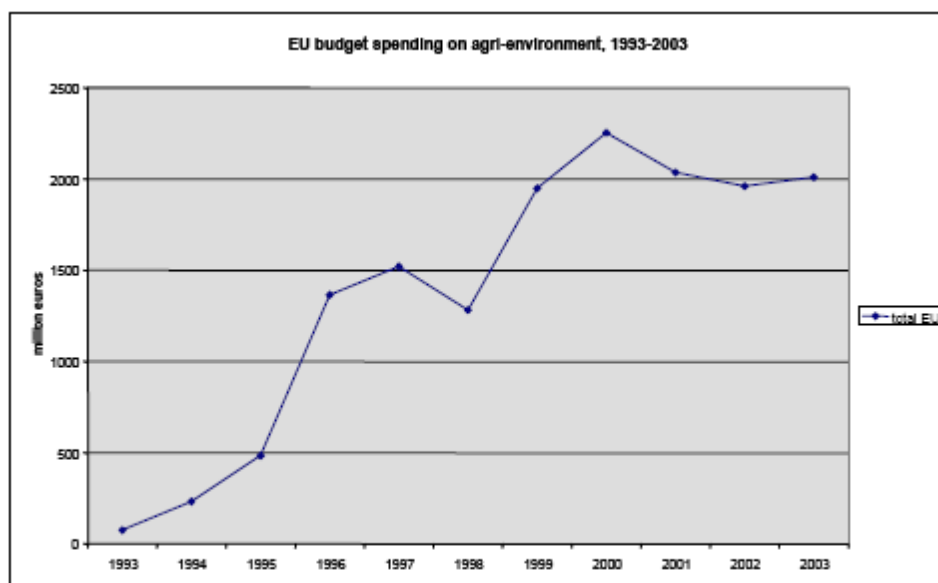
Elsewhere in the Europe of 12 and then 15 Member States, agri-environment schemes had also grown significantly in scale, diversity and influence. In particular, with the accession of Finland, Sweden and Austria to the EEC in the mid-1990s, the agri-environment mechanism was used as a kind of cushioning tool to help farmers to cope with reduced support under the main market mechanisms of the CAP⁴. This led to both countries offering nationwide schemes with broadly-defined management options which secured almost comprehensive farmer uptake, in a very short space of time. In other Member States and regions also, so-called 'broad and shallow' approaches to agri-environment, boasting very low administrative overhead costs,

³ English Nature retained its own SSSI-limited Wildlife Enhancement Scheme (WES) and even ran a destocking scheme called the Sheep Wildlife Enhancement Scheme (SWES) for a few years in the 1990s, targeting more extensive management of these priority habitats for which it retained particular responsibility. In addition, some local authorities maintained very local schemes – Devon's Environmental Land Management scheme was probably the most significant.

⁴ These countries had previously operated agricultural policies with higher levels of farm support than was offered under the CAP, at that time. Thus the Austrian and Finnish Agri-environment schemes achieved almost 100% uptake within 2 years of launching. (Baldock et al, 2002)

were strongly promoted (IEEP, 1998). Most notable was the MEKA scheme in Baden-Wurrtemberg, Germany, which used a points-based system to enable farmers to pre-determine their eligibility for the scheme and generate standardised agreements based upon application details alone. This approach enabled administrative scheme costs to be below 15% of scheme expenditure – at the time, this seemed like a very low figure, compared to the 30-40% associated with most of the UK schemes.

Figure 1 EU spending on Agri-environment schemes, 1993-2003
(CEC, 2005)



Source: EAGGF Guarantee section, budget execution.

From 1993 to 2000, EU spending on agri-environment schemes rose from 20 million to 2.3 billion Euros per annum (figure 1).

Phase 2 – expanding the influence, and CAP greening

By 2000, the European Commission was working on a new vision for the Common Agricultural Policy which was largely based upon a notion of transformation away from support mainly for markets and agricultural production, and towards support for a broader ‘multifunctional’ model of European farming, in which farmers could also be rewarded for their environmental and socio-economic contributions to wider society. This vision was based on earlier work including the Buckwell report (1996), the Cork Conference declaration (1997) and a 1998 review of agri-environment schemes undertaken by the EC itself (CEC, 1998). The ‘Agenda 2000’ reforms ushered in a new two-pillar model of the CAP, in which agri-environment schemes were retained as a more significant and still compulsory element within the policy mix. Their role was reinforced by the process of ‘environmental integration’ which was seeking to ensure that all EU policies should ensure that they took environmental considerations into account, in line with agreements in Amsterdam (1997), Cardiff (1998) and subsequently, Göteborg (2001), and drawing upon the earlier commitment to sustainable development in the EU’s Maastricht Treaty (1992).

Looking beyond agri-environment schemes, another significant development in thinking about policies for sustainable agriculture occurred as part of the Agenda

2000 reforms. Whilst the principle of environmental cross-compliance – attaching environmental and other conditions to mainstream farm support measures - had been first introduced in the CAP in 1992, at that time it was only voluntary and used by only a handful of countries⁵. During the 1990s, UK and other European research identified potential for cross-compliance to become a more widespread tool by which to support more environmentally-sustainable farming practices, in Europe (e.g. Baldock and Mitchell, 1995, Brouwer and Hellegers, 1999; Dwyer et al, 2000). In 2000, the CAP incorporated compulsory requirements for cross-compliance within its policies, and in the 2003 reforms to the policy, a mandatory and standardised cross-compliance system was formally introduced. From 2005 onwards, all direct payment subsidies to farmers under the CAP had to be accompanied by conditions designed to ensure that they upheld the requirements of EU environmental regulations, and conformed to minimum standards of ‘Good Agricultural and Environmental Condition’ as specified by each Member State, following guidance and approval from the European Commission.

The teeth of cross-compliance, as implied here, rely upon a base layer of EU environmental regulations applying to the agriculture sector. It is also the case that since the 1980s, the scope and scale of such regulations has grown significantly. All the key farm sector environmental regulations: for biodiversity protection, water protection and the prevention of damage from agricultural pollution, as well as significant land use changes in agriculture (through Environmental Impact Assessment), were agreed in Europe between 1985 and 2000⁶. Today, these regulations form a kind of baseline against which the notion of ‘good farming practice’ has been gradually formalised and institutionalised within the policy apparatus.

In the UK, the new phase of EU-led environmental integration in CAP policies heralded a significant expansion in the use and extent of ‘tools for greening’. All through the 1990s, UK spending on agri-environment schemes had been constrained by strategic considerations on EU budgets which led to a policy of containment of all the discretionary elements of CAP spending, of which agri-environment was one. Thus by 1999, only around 16 per cent of UK farmland was enrolled in the schemes (Dwyer and Kambites, 2005) and this contrasted strongly with the situation in several other Member States where most land was in schemes (CEC, 1998), giving an average uptake for the EU-15 of around 25 per cent. From having been a leader in the field in the mid-1980s, the UK was now in danger of being embarrassed by its apparent reticence to promote environmentally-sustainable farming. But the ‘problem’ was that the Treasury’s neoclassical economic view of the situation maintained that CAP spending was already much too large and that it was better to work for an ‘environmental dividend’ anticipated from cutting farm support, than to spend even more money trying to counteract the negative impacts of that support through incentive schemes, however well-designed and intentioned.

When the Agenda 2000 reforms first offered the scope for countries to decide to top-slice their CAP subsidies to farmers in order to use this money to finance rural development measures (what was rather oddly termed ‘voluntary modulation’), only France took up this option (indeed, French demands were probably the main reason why it was built into the regulations). However, by 2001 the NGO and environmental agencies in the UK had recognised the potential of this mechanism to serve their

⁵ in the UK, it was used for two purposes: to help prevent environmental overgrazing of permanent grass and moorland by sheep and cattle; and to ensure sensitive management of uncropped ‘set-aside’ land for environmental benefits.

⁶ 1991 Nitrates Directive, 1992 Habitats Directive, 1985 EIA Directive, 2000 Water Framework Directive, 1996 IPPC; Pesticides regulations 1991 and 1998.

aims, and they built a strong case for adopting the practice in order to enable continued expansion of agri-environment schemes. Once the farming unions had fallen into line with the idea, the UK government took it on. Voluntary modulation basically enabled a reformulation of agri-environment schemes to expand their budgets and offer the prospect of 'entry level' participation to the majority of farms across the country, whilst simultaneously enabling the Treasury to reduce the budget devoted to mainstream CAP support. Thus it had no net effect upon the overall UK budgetary balance with the EU, but because money for agri-environment schemes required national co-financing, for every pound taken from farm subsidies and redirected into environmental schemes, the Treasury matched it with another pound, so farmers had the potential to increase their overall receipt of public money, if they participated in the schemes. The strategy was endorsed in the Curry report on Sustainable Food and Farming (2002) and then accepted by Defra in its subsequent Strategy of the same name (Defra, 2002). Because voluntary modulation had to be a UK policy decision, all the devolved administrations had to agree the approach and its broad rationale, even though they could individually vary the rates to be applied (and did so, quite significantly). Whilst this agreement was being reached and the process set in train, the EC pushed through the broader Mid-Term Review reforms of CAP, which included a provision for compulsory modulation at EU level, of CAP mainstream support to farmers. Thus, while UK voluntary modulation was first applied to farmers' direct aids in 2004, the money was made available for the first 'entry level' schemes in 2005, which was the same year in which the UK fully decoupled its mainstream farm supports and applied compulsory modulation, under the new EU CAP framework. Whilst creating a nightmare for the administrative and control systems for all these policies which struggled and failed adequately to cope with all these changes and complexities of funding (Efra Committee, 2007), the new arrangements enabled policymakers (in England, in particular), to address the low uptake criticism of their environmental schemes, to date.

The earliest entry-level scheme was launched within a new 'Environmental Stewardship' approach replacing ESAs and CSS in England (2005), closely followed by similar provisions in Tir Cynnal (Wales, 2006) and Scotland's Land Management Contracts (2006). In Northern Ireland, a planned scheme, drawn up in 2008, was eventually scrapped due to budget constraints, with officials opting instead to merge pre-existing ESAs into a new, expanded Countryside Management Scheme. The entry level schemes sat alongside higher level more targeted approaches; conforming to the dichotomous 'broad and shallow' versus 'narrow and deep' typology of schemes that had already been identified as emerging at EU level (CEC, 1998; Baldock *et al*, 2002).

Another element, where EU schemes had developed support since 1992 and then the UK followed later, was in providing explicit agri-environment support for organic farming and other systems-based approaches. Initially, these schemes sought just to cover the significant costs of conversion to organic production, and then from 2003, they offered ongoing support in particular recognition of the biodiversity and landscape benefits associated with organic farming practices (Elliot, 2003).

Broader policy changes were also important, in this period. The Common Agricultural Policy underwent perhaps its most radical reform for two decades, in the so-called 'Mid Term Review' of 2003. This offered Member States the chance to replace the complex suite of direct payment subsidies linked to farms' agricultural production, by a 'single farm payment' linked only to land area and past production patterns, which all countries could adopt from 2005. And then in 2004, Europe almost doubled in size with the entry of 10 new Member stems-based States, mainly from the former planned economies of central and eastern Europe. Both these developments were to

change significantly the socio-political and institutional climate surrounding future CAP policy. Not only has mainstream 'decoupled' farm support had to re-think its rationale for the future, but the whole nature of challenges facing EU farming has shifted as a consequence of opening up to the East, even more so since the accession of Bulgaria and Romania in 2007. The altered context is evident now in the discussions and debates about the shape and role of EU agricultural policy for the next budgetary period (2014-2020). Another key influence upon these debates has been the changing global situation, particularly in respect of energy, climate change and food supply.

In a sequence of publications and policy statements made since enlargement, the EU has emphasised its view of the importance of sustainable agriculture. In these documents, one can detect increasing focus upon environmental issues which go beyond the traditional concerns of the established CAP mechanisms for environmentally-sensitive farming. The emergence of climate change and energy security as significant drivers for future land-use, as well as growing concern for soil and water protection, in addition to the longstanding focus of European attention to biodiversity and cultural landscapes, create a much more diverse range of scenarios and challenges for environmentally sustainable farming in Europe (Dwyer, 2010). At the same time, the importance of recognising the needs and concerns of countries where large numbers of people still depend upon farming for their livelihoods has grown, exacerbated by the recent changes on world markets and the resurgence of the food security debate (Foresight, 2011).

In these ways, therefore, the current scope and preoccupations of existing policies for sustainable agriculture in the UK and the EU have come under review, and the European Commission in particular is considering what more needs to be done on this front, in the coming period.

2. Lessons learned and lessons overlooked

Taking stock, therefore, of what past and current policies have achieved and why, is important. But this isn't just a question for environmental science or geography to answer, because it also relates critically to the process of policy learning – how governments and other policy actors learn from experience, and how this affects the direction and scope of future policy. This section of the paper tries to summarise key points in respect of policy learning.

What was learned

It was quickly recognised in both UK and EU contexts that voluntary payment schemes could be made attractive to farmers and indeed, could secure significant and widespread uptake in certain circumstances. In effect, money talks, schemes can give useful income and, perhaps more importantly, they can provide an element of income stability in an otherwise increasingly uncertain and globalised marketplace. It was also apparent that the payment approach could be politically advantageous, offering a way of 'balancing' the potentially costly implications of increasing environmental regulation, which was also affecting the sector over this period. Thus, policy discussions emphasised the value of a 'carrot and stick' approach to enhancing the environmental impact of agriculture.

It has also been a common experience in different EU countries that over time, prescriptions and payments have become more environmentally ambitious, as everyone grew more familiar with the approach and different environmental interests have sought leverage and influence in the design and development of schemes. In

the UK in particular but also in a number of other countries with long experience, general 'stay as you are' management rules have increasingly been replaced with prescriptions designed for biodiversity, for landscape, for heritage protection, for water, soils and air, with increasing precision and degrees of environmental ambition. Already by 1999, 160 different programmes with around 2,500 measures were being used in the EU-15 (Plankl, 2001, cited in Siebert et al, 2006). By 2010 these numbers will have multiplied considerably.

Schemes may be targeted by territory, as with the ESAs, or by more general typologies or purposes, such as schemes for environmental extensification in arable landscapes or schemes designed to sustain traditional pastoral management systems. In either case, farmers may be offered a range of different packages, tiers or options, upon joining a scheme, which reflect varying goals and degrees of ambition in management and therefore attract different rates and/or types of payment. In all these ways, therefore, the system has become more diverse, reflecting varied aspirations and needs in different places. Today, agri-environment measures are currently expected to absorb around 22% of the EAFRD budget for rural development, across the 27 Member States, amounting to 22 billion Euros, for the total period 2007-13 (CEC, 2011).

CCRI, working in partnership with the Food and Environment Research Agency, was contracted by the GB environment and countryside agencies in 2008 to make an exhaustive analysis of the accumulated evidence for environmental benefits arising from UK agri-environment schemes. This concluded that:

'there is good evidence that the much increased coverage, and the kinds of management option now being used within the UK agri-environment schemes, will deliver significant benefits to *biodiversity*... particularly in respect of the vegetation and birdlife of a range of habitat types... by 2005, a large proportion of priority habitat for grassland and upland heathland was under some form of [higher-tier] agri-environment scheme which was targeting its protection and enhancement... UK agri-environment schemes are contributing positively to the protection and enhancement of *landscape* quality and the wider *historic fabric* of the countryside. In respect of *public enjoyment* of the countryside, it seems that schemes may have secured a significant amount of new or enhanced access. For resource protection, the evidence of environmental benefits from schemes is indirect and indicates that as currently constituted, agri-environment schemes form a useful adjunct to other policy measures for addressing specific *soil and water protection* issues, but need to be seen as part of a suite of approaches, which also include measures based on regulation and advice.' (Boatman et al, 2008).

In the UK we have also learned over 20 years that capital grants complement what annual payments can achieve alone in these schemes, and they fulfil a valuable additional purpose in respect of the local economy and social and cultural benefits (Harrison-Mayfield et al, 1998, Mills et al, 2010). To some extent, a similar recognition now exists at the EU level, although capital payments *within* agri-environment schemes are less common elsewhere than they are in Britain, and EU Regulation offers such payments as a separate 'non-productive investments' measure, which means that to use them requires a slightly more complex administrative system than adopting annual payments alone.

In respect of other aspects of policy development over the period since 1980, it can be seen that the increased regulation of agriculture by environmental Directives has become legitimised and institutionalised. Whilst the precise details of some rules

continue to be disputed – most notably, the 50mg/litre threshold for nitrate contamination in water, which triggers certain required actions under the EU Nitrates Directive -, the principle that all farms must now engage with a wider set of environmental requirements, without compensation, appears to have been established within the ‘norms’ of sectoral policy making. And with the parallel strengthening of cross-compliance within the CAP support system there is a ‘double impact’ of regulation, in that non-compliance can not only lead to prosecution under the legal system, but also the partial or complete removal of farm income support under the CAP.

What was overlooked or underplayed?

Despite the significant policy changes described above, a number of gaps and weaknesses in respect of sustainable agriculture can be identified. Together, they have limited the overall achievement of the policy mix. I believe they have arisen for a number of reasons: some related to the limited theoretical and institutional conceptualisation of such policies; and others much more as a result of the rather messy and often imperfect conditions in which policy operates, in the real world. I identify five main issues which are sufficiently significant in impact to be worth closer examination, as follows.

Firstly, despite the fact that all policy measures and approaches will be accompanied by advice, information and promotion, to some degree, it is clear with hindsight that the value of good communication to support policy design and delivery has been consistently underestimated. As a result, measures and programmes frequently suffer from problems related to misunderstandings and inaccessibility, particularly at the ‘ground level’ among beneficiaries and local delivery authorities. The problem appears to be that advice is too often seen as an expensive ‘administrative overhead’, rather than a part of the schemes’ direct benefit to farmers. This is also linked to the fact that the impacts of advice are frequently hard to identify or demonstrate using ‘objective’ or readily quantifiable indicators. Finally, resources spent upon advice can easily be criticised by beneficiary groups as ‘funding for consultants, rather than for the people who really need it’ (viz. farmers themselves). These opinions fly in the face of over twenty years of research and evaluation work demonstrating the value of advice and showing how policy performance suffers when advisory provision is insufficient in quantity, quality or continuity (Boatman et al, 2008; Röling and Wagemakers, 1998; Dwyer et al, 2007, 2010).

I also believe that schemes in some EU countries have forgotten the importance of keeping farming centre-stage in the policy process. Farmers have to make a living, and the production of goods and services for sale will be central to the farming ethic in many places⁷, even where farm businesses are participating fully in agri-environment schemes. Yet perhaps because the environmental lobby still perceives itself as ‘the underdog’ in many agri-political debates (a perception which could be challenged now in the UK, at least), one can detect a tendency for environmental groups and experts to focus exclusively upon their own interests without recognising those of the beneficiaries with whom they seek to work, when pressing their cause. I have seen this pattern develop in England over the past decade: a style of environmental ‘straight talking’ in political discourse surrounding public support for agriculture, which seeks to assert the primacy of environmental policy goals over the production of food, and/or the personal or private business goals of those who manage land. Whilst I don’t wish to take issue with the undoubted importance of environmental protection and sustainability, good policies need to be developed with

⁷ not all – production for survival is also important in some areas, and farmers have non-commercial goals, too.

a clear understanding of beneficiary's motivations and interests, if they are to be both effective and efficient. Adopting a disinterested approach which merely states exactly what the public wants from schemes, irrespective of beneficiaries' own positions, can too easily lead to suboptimal outcomes, as I discuss in the next section.

Another weakness of policies has been a relative inability to move beyond practical field-level issues (e.g. stocking rates, input use, boundary management), in addressing environmental management goals. Both schemes and regulations need to consider much more than the micro-management of sites, over time, but also the way in which land-based businesses respond to them as a whole. Farms may be developing increasing synergies or, conversely, increasing tensions between their business development strategies and their approach to agri-environment contracts and environmental regulations. Numerous studies have indicated a tendency for zoning to occur, in cases where the policies 'cherry pick' the land with most existing environmental value, upon which productive management is then effectively sidelined or sacrificed, leaving farmers to increase the intensity of their management on the land which is not directly targeted by the policy (Burton et al, 2008; Dwyer et al, 2007; Siebert et al, 2006). In most cases, this behaviour will not lead to more sustainable outcomes.

Thinking more holistically also includes the need to be sensitive to the wider political rhetoric and perception surrounding schemes and other policies, which clearly influences how they are responded to by farmers. In this country, policy makers have not succeeded in fostering a wholly positive climate for their pro-environmental initiatives, among the land-based sector.

The UK government has long stated its intention to 'scrap the CAP', should the option arise. And as environmental concerns have been taken up within the UK policy agenda, there has been a marked decline in the relative status of the farm sector within public policymaking, particularly within England. One period of change occurred in the early years of the labour administration in the late 1990s, under the change programme in MAFF. A further stage was heralded by the transformation of MAFF into Defra in 2001-2, and the subsequent decamping of the headquarters of the National Farmers Union out of London and into Stoneleigh in Warwickshire. Critics of the 'overly close' relationship between the Ministry of Agriculture and the farm sector as represented by its main unions argued that this had led to some of the damage to the countryside of earlier decades (Lowe and Ward, 2007). The MAFF change programme and the creation of Defra were both attempts to ensure that going forward, government aims and ambitions for food, farming and the countryside could be clearly differentiated from those of the sector's own formal representatives. However, the knock-on effect of these changes was to send a signal to farmers that they no longer had a ready ear in government. The dismantling of the empire of farm-oriented research and development, coupled to public-funded advisory support, that was ADAS, during the 1990s, had also contributed to this perception. Hall and Pretty (2008) demonstrate clearly how the cumulative effect of national-level changes in institutions of rural and sectoral governance was to lead many farmers to think that society didn't want them anymore.

Against that backdrop, therefore, the growth in environmental schemes and regulation were perceived in some circles as symbolising a rejection by government of farmers' 'traditional role as efficient food producers' and its replacement by a view of farmers mainly as 'custodians of countryside' on behalf of society: the classic post-productivist model of modern rural policy which has been discussed in much geography literature (Wilson, 2002; Evans et al, 2002, etc.). As support for production was capped and decoupled, the only growth in public finance for farming

was in environmental management, where what was offered was prescribed in detail by environmental specialists with limited knowledge of farming as a business. A profound feeling of alienation from, and growing mistrust of, the policy rationale and approach towards farming, can thus be detected in farmer attitudinal and behavioural studies, from the late 1990s onwards (Dwyer et al, 2007). This has coloured the performance of new schemes and regulatory changes since 2000.

More widely in Europe, whilst the political developments have differed, similar tensions and misconceptions are apparent. In a recent review of delivery of rural development programmes undertaken by a working group of the European Network for Rural Development (ENRD, in press), the agri-environment measures were highlighted as one particularly challenging aspect of programmes which frequently face difficulties associated with poor communication and a high level of complexity. These points were also identified in the European Court of Auditor's 2010 evaluation of agri-environment measures under the CAP's second pillar (ECA, 2011).

Looking at how schemes are delivered

In some cases, policy makers seem to have forgotten the need to make schemes practicable and readily comprehensible to farmers. For instance, there is research evidence on agri-environment roll-out in some new Member States, where dictatorial behaviour by state institutions has led to schemes which are virtually imposed upon farmers without enabling them to consider the long term implications of what they commit to. Prazan (2010) has written about a scheme in the Czech republic where scheme design was undertaken by ecologists with little understanding of the economic impact of the prescriptions they were formulating, and schemes were then pressed upon farmers struggling to survive financially under marginal farming circumstances, as a short-term source of new income. The problem was that the management conditions of the schemes were then too strict to enable businesses to cope with subsequent market conditions. The farms felt they had effectively 'signed away' their prospects of making a living in future, and thus the schemes have become seen as a negative influence upon the community.

Too many current schemes overlook the established value of creating 'a community of learning' among their participants. Much Dutch research and extension work has stressed the potential benefits of involving farmers more deeply and developmentally in policy design and implementation (Röling and Wagemakers, 1998). The agri-environment co-operatives in the Netherlands which have grown in the last decade (Terwan, 2011) can be seen as an initiative by which farmers seek to regain the initiative in management innovation for the environment, as a reaction against dictatorial scheme design from state institutions. In the UK, the Pontbren initiative (Mills et al, 2008) and organisations like LEAF (Mills et al, 2010b) and the min-till community (Dwyer et al, 2007) illustrate similar features.

In all these cases, farmers identify that participation in these environmental initiatives gives them important social benefits, such as increased standing in the wider farming community or with the general public. This also highlights the importance to farmers of non-economic benefits (Siebert et al, 2006) as well as freedom to innovate and develop 'cultural capital' (Burton et al, 2008) – a pride in achievement, from adopting more sustainable farming practices. One of the significant findings of CCRI research for Defra into encouraging positive environmental behaviour among farmers and landowners (Dwyer et al, 2007) was the overwhelming request for more feedback from agencies about the achievements of farmers who have entered schemes, as agreements reach their conclusion. Again this indicates the significance of social and

cultural factors in farmers' motivations – wanting to 'do the right thing' and to be acknowledged for that, through some endorsement and/or feedback mechanism.

Recent CCRI work on environmental issues and sustainability in the English uplands has underlined the importance of considering the whole policy mix, as viewed from the land manager's perspective: i.e. the balance of regulations, advice and incentives, when trying to achieve particular outcomes. In a case study of Exmoor and Bowland, the RuDI study team (Dwyer et al, 2010) found that farmers' environmental management under AES was compromised by the pressures exerted by reduced farm support under CAP direct payments, as well as by the biosecurity policies designed to control bovine TB, both of which pushed farm management away from more sustainable systems.

The RuDI case study also suggested that in cases like these, business support might be the most cost-effective way to generate environmental goods. This mirrors work which has been done by others in the realm of forestry (Slee, pers comm.), but it is a notion which goes against the grain among agri-environmental policy orthodoxies.

These things have been explored and recognised in the academic literature of the past 20 years, and in research commissioned by government departments and agencies more recently, but they have not held sway among policymakers. Why not? I advance a few ideas here.

The audit trail can be a significant disincentive to ambitious or creative policy design. It encourages a mentality to only include, in your schemes or rules, actions and obligations that can be measured or verified through some clear and objective process or quantity. In a report prepared for government in an entirely different field of policy making, Lee (2001) notes the following:

Some of the current structures and cultures of audit militate against effective delivery: they are too focused on processes and rules rather than outcomes; too focused on micro issues rather than strategy; and strongly skewed against entrepreneurship.'

Even though this point was made a decade ago, it seems particularly relevant to current issues in respect of agri-environmental scheme performance. It is evident that lots of schemes include lots of measures which can be monitored and confirmed by inspection (e.g. closed periods for grazing or spreading manures, maintenance or reinstatement of features, restoration of field boundaries, creation of habitats, etc.). But many studies emphasise the importance of planning, as a means of beginning to understand and build in sustainable management principles to farm operations. Although the documents are easy to check, the related awareness-raising or changes in day-to-day practice that come from sound planning, may be much less so.

Understanding the principles of environmental management is critical to achieving better management, but training and education are actions with few tangible 'results', at least in the short term. Studies have consistently shown how increasing farmers' understanding about the environmental consequences of their management decisions correlates with higher participation in schemes and with higher success in delivery of outcomes (Dwyer et al, 2007), yet relatively few schemes or new regulations incorporate this as a necessity.

The pressure to spend money in ways which produce clear and visible outputs or outcomes can also render policy makers unwilling to spend on soft stuff or 'administrative overhead'. The dumbing-down of ecological knowhow among the advisory teams supporting environmental schemes and regulation is also a significant issue in England, which I believe is primarily driven by a desire from the 'top down', to make savings in respect of schemes' delivery costs. These actions represent the undervaluing of intangibles like understanding, trust, relationships and time, all of which are absolutely central to ensuring that schemes achieve their ultimate goals.

Finally, some such trends also reflect what could be seen as cultural and institutional 'fashions' in policymaking, whereby certain methods of pursuing goals become favoured as a result of particular combinations of emerging business, societal or lifestyle choice norms with the prevailing rhetoric of the government of the day. In this context, I would cite the marked preference in recent years for schemes to adopt 'point-scoring' as a clever means to pursue efficiency with transparency. In theory, encouraging farmers to 'choose' from a menu of options, each of which attracts a certain 'score', and then requiring them to achieve a minimum score per hectare or per holding in order to obtain their agri-environment agreement, provides a low public-cost method of explaining what is important in the scheme and then checking that farmers are delivering enough from their agreements. However, all too often this approach stimulates a negative series of consequences:

- farmers are encouraged to 'play the game' of finding those options which score well but which for them represent the least change from their existing practices, irrespective of which actions would be the most environmentally beneficial on their particular farm;
- scheme designers become preoccupied with the rather abstract task of determining *a priori* and in a generalised way, which actions they regard as most important for particular farm situations, irrespective of the local context in which they are applied or the abilities or skills of the individual farmer;
- there is no room for negotiation or education, within this process, through which both sides might learn how better to achieve more within the available budget, on the particular areas of land under consideration.

Problems and limitations of theory

I also believe that the narrow theoretical framing of the policy in the policy literature has been a constraint upon sound policymaking for sustainable agriculture. In particular, conceptualising the environment through the lens of neoclassical economics can lead to suboptimal design and delivery.

For example, conceptualising sustainability as a policy problem (- a case of market failure) which essentially arises from the character of environmental assets as 'public goods', and defining them as 'externalities' to the main production process by which farmers generate food, fibre and other marketable goods and services, is an act of simplification and abstraction. This may have the benefit of helping to provide a plausible explanation of why environmental needs are so often under-acknowledged in modern market-based economies. However, it also has the effect of reinterpreting sustainability in the guise of 'environmental goods' which are not valued in markets, thus implying that the policy solution is for government to create and participate in a 'market' for these goods, which should be clearly defined, and bought and sold between contracting parties, where government plays the role of purchaser on behalf of wider society.

In reality, the environmental assets and qualities associated with farming activities rarely possess all the characteristics of 'pure public goods' in the sense defined in economic theory. Most have elements which can be incorporated within goods or services that can be bought and sold in markets (for instance, eco-tourism, or added-value products, farm assurance standards and/or quality labels), or which can nonetheless add to the performance of the farm businesses that manage them (e.g. captured in property price, or just contributing to quality of life which attracts committed families and individuals to their stewardship). In many cases, the environmental 'externalities' of pollution – for example, water pollution from nutrient run-off or soil erosion – actually represent economic losses to farming; either in respect of wasted inputs or a slow erosion of the in-situ resource base upon which agricultural activity depends. In all these ways, therefore, a solution which leads government officials to seek to identify environmental goods and put a buyers' price on them, in some standardised way, will under-recognise and potentially disincentivise more synergistic relationships between environmentally-sensitive management and business management drivers and possibilities.

Another theoretical perspective which has been a negative influence upon good policy design in this area, in my view, has been adopting the Tinbergen principle of 'one goal, one tool' as a maxim for efficiency in governance. This principle, which dates back to the nineteenth century, appears to have been an attempt by one theorist to achieve greater clarity in the rationales and instruments of policy making. However, it is also associated with a pre-Einstein, 'Newtonian-cartesian' worldview and ethic in which understanding was gained by classical reductionism involving separate disciplines, taxonomies and hierarchies in an attempt to explain the world around us through uncovering basic pre-defined laws of nature. In the modern world of relativities and systems thinking, designing policy using this principle could actually be a recipe for confusion and disaster, if taken too literally. All policy tools will have impacts upon other policy domains – people and their actions are linked through many different systems and drivers, and motivations and behaviour influenced by multiple factors and values. Similarly, the non-human environment that we seek to manipulate through policy is characterised by many interlinked systems, such that attempting to treat parts of it through isolated actions which ignore these interlinkages can easily lead to unanticipated side-effects. From the perspective of policy 'target groups', too, trying to operate effectively in an environment where several different arms of government are busy designing a myriad of different policy 'tools', each seeking a different kind of 'output' from your actions, can be both confusing and dispiriting.

Finally, neoclassical economic theory also underpins the WTO-negotiated position on the basic principles for payment, for agri-environmental contracts between government and individual farmers. Through this conception, policy uses the notion of definable 'reference levels', over and above which payment is permitted in return for farmers generating environmental 'goods'. Furthermore, in attempts to avoid 'trade distortion', the payments offered must cover only the actual 'additional' costs to the farmer and the 'income forgone' in relation to the specific environmental management activities contracted. The problem with such an approach is that its starting point is the avoidance of 'market distortion' (primarily in respect of international trade in agricultural commodities), which then defines the boundaries of 'acceptable' levels of payment to farmers, assuming that the activities concerned involve a simple trade-off between agricultural production/income and environmental goods, so the farmer has to be compensated for making the environmentally-beneficial choice, but not overcompensated such that the payment effectively gives him a competitive advantage over other farmers outside the scheme.

Today, we have many situations where environmentally-beneficial farming activities continue but within farming areas and systems that are not generating sufficient return through the market for these farms to be economically viable without subsidy of some kind. In these cases, the compensation for income forgone model is clearly inadequate, because it does nothing to increase the viability of the farming itself. In other situations, better environmental management may not necessarily require lower agricultural production but it may not be happening due to other kinds of 'market imperfection' such as lack of awareness or barriers to adoption. In many cases also, environmental problems arise due to choices about income-generating strategies which could be challenged on business grounds as well as environmental grounds (for example, it is not always the case that larger farm units are more efficient than smaller ones, yet this is the accepted orthodoxy in many sectors). In these situations, adopting a standard agri-environment payment approach is unlikely to be the most effective way to achieve greater sustainability.

These concepts reduce the ways in which sustainable agriculture is characterised and thus the kinds of policy response that are considered.

3. The way ahead

The preceding stock-take has highlighted some of the issues that currently bedevil the effective pursuit of sustainable agriculture through policy, in a European but particularly, a UK context. Their combined effect is sufficient to ensure that at present, the policy mix is far from optimal, in respect of encouraging and helping to embed sustainability within farming practice.

This mix of agri-environment payments plus environmental regulations is changing some farm practices for the better, but it is also having some quite negative effects.

It arguably does little to stimulate greater sustainability within the core farming business. This is, firstly, because other market and policy drivers still tend to push farm change in directions which create greater environmental tensions – shedding labour, increasing the intensity of land and resource use and the scale of concentration or specialisation which create increasingly homogeneous land uses and landscapes with fewer niches for biodiversity. As a result, there is a risk that environmental schemes are viewed as a compensating or mitigating factor (rather like carbon offsetting) which somehow legitimates these other trends, rather than as a means to actually challenge the overall direction of travel, which is what true sustainability would require.

It also under-provides in respect of methods and approaches which can stimulate farmers' interest in going beyond scheme or regulatory requirements and seeking to innovate in environmental management techniques or sustainable business models. Experimentation and innovation are generally seen as positive elements of farming practice that many farmers would regard as a measure of their skill and ingenuity. Failing to incorporate them within the main policy approaches for sustainability therefore weakens their potential to develop and become embedded within farm business thinking, as argued by Burton et al (2008).

Finally, by focusing almost exclusively upon the environmental 'leg' of the sustainability 'tripod' (the others being economic and social), these schemes do little to tackle negative trends in respect of the social value of farming, that have persisted for many decades. These include the continuing shrinking of the farm labour force, alongside strong trends of counter-urbanisation in many rural areas of the UK, which has left many farm families feeling alienated and isolated within the rural arena, as

well as reducing their capacity for mutual support and exchange as they adapt to changing market conditions. These issues have been reviewed, researched and commented upon by others over a long period (Hall and Pretty, 2008; Reed and Lobley, 2005; even Newby, 1982), and have also been recognised to some extent within the policy literature (e.g. CRC, 2010). In respect of sustainable agriculture, they present the worrying prospect of a future in which all farmers act as isolated managers of very large enterprises without the peer support of neighbours or workmates, interacting professionally only with those whom they supply, and usually in situations of very unequal bargaining power. The more economically-diverse families within which some would find themselves could provide new social and cultural networking opportunities, but there might be no real social fabric underpinning sustainable agriculture itself, in these circumstances, and the quality of life of farmers would be poorer, as a result.

So, how can these issues be overcome, in the future? To answer this question, I return to many of the studies already cited, in which examples of innovation in sustainable agriculture are variously discussed and analysed, as well as some of my own more recent experiences of new approaches to sustainable land management. It is interesting to note that, in this context, many such examples appear to come not from the public sector, or certainly not from within main environmental policy contexts, but from innovations by private actors or local groupings of public and private interests, working together. They cover a range of institutional modes and models, including collective action by farmers themselves; the innovative approaches of enlightened rural entrepreneurs including individual farmers and also estate managers/landowners; and private-sector driven initiatives involving resource managers (water companies) and food processors and retailers. Examples are discussed in a number of CCRI evaluation studies including Mills et al, (2008) Mills et al, (2011) and Dwyer et al, (2007 and 2010), and include Pontbren, Dolacothau lamb group, Birds Eye pea growers, and LEAF members. Others are discussed briefly by Harvey (2009). Still more provide an opportunity for future research, including a growing number of environmentally- and/or socially-driven rural entrepreneurs, of very diverse types and scales (e.g. environmentally-motivated farmers branding and selling direct; farms offering respite and rehabilitation to disadvantaged and depressed young people; forward-looking rural estates investing in renewable energy and assisting tenants with local processing and marketing ventures; new businesses based upon land management for sustainable living, recreation and environmental education).

What these examples share can be summed up as follows:

- an approach which is co-generated between sources of environmental and/or social know-how and those business-oriented individuals who will apply this knowledge in their day-to-day practices, moving away from the traditional concept in which society dictates its environmental/social demands and farmers simply contract to supply these;
- initiatives which enable and sometimes even reward land managers who take the initiative to develop new and better ways to increase the sustainability of their practices, drawing upon their own and others' knowledge;
- in many cases, an ethic of collective responsibility, in which several individuals – either close neighbours in farming, or different actors in a supply chain or a geographic community – share the responsibility for continuous environmental (also maybe economic and social) improvement;
- an evolutionary approach, in which there is the capacity for actors to learn as they go along, refining actions and enhancing performance, as well as

broadening their agendas in respect of the range of sustainability goals that they pursue.

What they tell us, in respect of new approaches for policy, could perhaps be explained through three main concepts, as set out tentatively here.

I believe that sustainable agriculture / land management requires a broader theoretical framing within policy institutions, if we are to achieve multi-goal systems management, partnership and ownership, recognising the value of innovation and the cost-effectiveness of hybrid private/public instruments and approaches. Ostrom (2010) writes about how, as our demands in respect of rural resources increase and become more complex in their interactions, established traditions of 'command and control' policymaking become increasingly incapable of reflecting and adequately responding to these demands, in each local context. Instead, she argues for more 'polycentric' policy approaches, in which policymaking is undertaken at a variety of scales by a range of different stakeholder and government groupings, as appropriate to each task (by which I mean the policy issue or opportunity which is to be tackled/addressed). This claim has some parallels in other policy fields, such as fisheries management, in which 'adaptive co-management' is now a very popular concept, albeit one which has yet to be much adopted in the EU.

At the more practical level, future policies need to support and encourage more of the kinds of institutional model that these early examples demonstrate. Policies need to enable space for innovation and idiosyncrasy, enabling actors to learn from one another and from experimentation, in respect of the most effective and practical methods and strategies for achieving sustainability. Resources in the public sector should be used to build capacity for increased ownership of the environmental agenda, among rural actors and particularly farmers, and to support communities of practice which bring together day-to-day land managers with environmental and other specialists, to learn from each other and develop improved approaches. CCRI has been involved in some recent work on Exmoor and in Gloucestershire, built around the notion of establishing 'communities of learning', of this kind (Dwyer et al, 2011; Short et al, 2011).

Finally, at the international level, more needs to be done to humanise the rhetoric and direction of travel of debate and negotiation, in this topic area. Achieving sustainability is not just about rectifying market failure in a narrow sense, as framed within trade discussions. That particular perspective needs to be reconciled with the currently-separate international processes of planning for sustainable development (through Rio, Cancun and beyond), and the preservation of cultural heritage (via UNESCO, for instance). This point has also been noted by Primdahl and Swaffham (2010).

Although we are far from achieving this kind of policy mix in the UK today, there are a few favourable developments which should be noted. Many policy statements now acknowledge the need to seek more conservation 'at a landscape scale'. For instance, the Natural Environment White Paper, published in early summer of 2011, contains a raft of proposals for new policy initiatives in this area, in England. Most will be competitively funded, meaning that private sector, agency and NGO actors and partnerships will be involved in putting together bids to deliver them, giving more scope for unusual and innovative approaches. The initiatives include Nature Improvement Areas, which will be managed for Defra by Natural England; and Catchment Restoration funding and Water Framework Directive projects overseen by the Environment Agency. In deciding to seek partnership-based and landscape-scale projects, albeit with limited funding and over relatively short timescales (for example, NIA will only be funded for 3 years), Government appears to recognise a

need to stimulate and support new approaches to sustainable rural land use. It is of course much too early to judge whether these moves, especially constrained as they are by the wider climate of budget austerity, will prove decisive in bringing about a renewed drive for more sustainable agriculture through policy.

So, in sum, this paper has attempted to set out a review, an analysis and then some prescriptions for an enhanced policy approach towards sustainable farming. However, my ideas for the future are not so new. In revisiting the literature while putting together this paper, I rediscovered a draft paper written by Dick Cobb and Tim O’Riordan over a decade ago. In it, they discuss interpretations of sustainable agriculture in the UK, noting the need for integrated agricultural management arrangements for whole landscapes. They also say, in passing:

‘ the answer must lie in those actually carrying out the physical land management being accommodated in the decision process, in addition to a range of other stakeholders. This is why we believe that the design of a whole agricultural landscape on sustainability grounds has to transcend science, and be created through more participatory and negotiative mechanisms, within which science has a role of providing information and guidance.’

Cobb and O’Riordan, 1997.

Perhaps these views were voiced too early – indeed, they failed to make it into the final published paper (1999), and as we have seen, did not have a significant influence upon UK policy at that time.

Bearing in mind the analysis in this paper, I would suggest that these are ideas whose time has finally come. Thank you.

References

- ADAS (1995) *ADAS national strategy for ESA monitoring*. ADAS report to MAFF. MAFF Publications, London, UK.
- Baldock, D. (1984) *Wetland drainage in Europe: the effects of agricultural policy in four EEC countries*. London: Institute for European Environmental Policy.
- Baldock, D. and Mitchell, K. (1995), *Cross-compliance within the Common Agricultural Policy. A Review of Options for Landscape and Nature Conservation*. IEEP, London.
- Baldock, D., Dwyer, J. and Sumpsi-Vinas, J (2002) *Environmental Integration and the CAP*. Published by the European Commission, DG Agriculture and Rural Development, Brussels. At:www.ec.europa.eu/agriculture/envir/report/exec_en.pdf
- Boatman, N, Ramwell, C, Parry, H, Jones, N, Bishop, J, Gaskell, P, Short, C, Mills, J and Dwyer, J (2008) *A Review of environmental benefits supplied by agri-environmental schemes*. Report to LUPG. Available to download from www.lupg.org.uk
- Body, R. (1986) *Agriculture: the Triumph and the Shame*. Temple Smith, London.
- Bowers, C. and Cheshire, R (1983) *Agriculture, the Countryside and Land Use: an economic critique*. Methuen, London.

- Brouwer, F. and Hellegers, P.J.G.J. (1999) *Options for Cross-compliance in the Netherlands*. English Summary of the Research Report 'Milieuvvoorwaarden in het Gemeenschappelijk Landbouwbeleid. LEI, The Hague. Report 5.99.01.
- Buckwell, A. (1996) *Towards a Common Agricultural and Rural Policy for Europe*. Commission of the European Communities. At http://ec.europa.eu/agriculture/publi/buck_en/index.htm
- Burton, R. J. F., Kuczera, C. And Schwarz, G. (2008) Exploring farmers' cultural resistance to agri-environment schemes. *Sociologica ruralis*, vol.8 no.1, pp16-37.
- Carey, P.D., Finch, C., Hunt, J., Morris, C., Parkin, A., Priscott, A., Routh, C. & Short, C. (2001b) *Monitoring and evaluation of the Countryside Stewardship Scheme. Overview report*. ADAS, CEH, CCRU, Report to DEFRA.
- Cobb, R., and O'Riordan, T. (1997) Early draft of an article '*Interpretations of Sustainable Agriculture in the UK*', given to the author by Rob Green in 1997. The final version of this paper was co-authored with Paul Dolman and published in *Progress in Human Geography*, June 1999 vol. 23 no. 2, 209-235, but that paper does not contain the quotation used here (!).
- Commission of the European Communities (1998) Working Document, "State of application of regulation (EEC) n° 2078/92 : Evaluation of agri-environment programmes", VI/7655/98, 9.11.1998. Summary available at: http://ec.europa.eu/agriculture/envir/report/en/2078_en/report.htm
- Commission of the European Communities (1997) *The Cork Declaration: A Living Countryside*. CEC, Brussels. At http://ec.europa.eu/agriculture/rur/cork_en.htm
- Commission of the European Communities (2005) *Agri-environment Measures Overview on General Principles, Types of Measures, and Application*. CEC, Brussels
- Commission of the European Communities (2011) Rural Development policy summary
- Commission for Rural Communities (2010) *High Ground, high potential - a future for England's upland communities*. CRC, Cheltenham.
- Curry, Sir Don (2002) *Farming and Food: a sustainable future. Report of the Policy Commission on Food and Farming*. HMSO, London.
- Department of Environment, Food and Rural Affairs (2002) *Strategy for Sustainable Food and Farming*. HMSO, London.
- Dwyer, J. (1999) *CAP Reform and the Protection of Water, Soil and Air* – briefing note from a seminar held in London on 22 February 1999. DETR/IEEP, London, April 1999.
- Dwyer, J, Baldock, D and Einschütz, S (2000) *Cross compliance under the Common Agricultural Policy*. Report to the Department of the Environment, Transport and the Regions. IEEP London, March 2000.
- Dwyer, J, Eaton, R, Farmer, A, Baldock, D, Withers, P and Silcock, P (2002), *Policy Mechanisms for the control of diffuse agricultural pollution, with particular reference to grant aid*. English Nature research report no 455, Peterborough.
- Dwyer, J. and Kambites, C. (2005) *UK National Report: Evaluation of EU Agri-Environment Measures*. Study commissioned by DG Agriculture, European Commission, led by Oreade-Breche consultants, France. Published on European Commission's DG Agri website.

Dwyer, J. Ingram, J. Mills, J. Taylor, J. Blackstock, K., Brown, K., Burton, R., Dilley, R., Matthews, K., Schwarz, G. and Slee, R. W. (2007). *Understanding and influencing positive environmental behaviour among farmers and land managers - a project for Defra by CCRU / MLURI.*

Dwyer, J, Condliffe, I, Short, C and Pereira, S. (2010) *Sustaining marginal areas: the case of the English uplands.* RuDI Case Study WP8 report. CCRI, Cheltenham. At www.rudi-europe.net

Dwyer, J. (2010). UK Land use futures: policy influence and challenges up to 2060. *Land Use Policy.* <http://dx.doi.org/10.1016/j.landusepol.2010.12.002>

Dwyer, J. and Short, C. (2011) *Exmoor Ecosystems Services Delivery Pilot: devising a framework for delivery.* Report to Exmoor National Park Authority and Natural England. CCRI, Cheltenham.

Ecoscope Applied Ecologists (Rebane and Tucker) (1997) *Countryside Stewardship: Monitoring and Evaluation of the Pilot Scheme 1991-96.* EAE, Cambridge.

Elliot, John (2003) *The Mid-Term Evaluation of the England Rural Development Programme (ERDP): Organic Farming Scheme.* ADAS, Wolverhampton. At http://collection.europarchive.org/tna/20040722012352/http://defra.gov.uk/erdp/pdfs/midterm/cs_ofs_2.pdf

Environment, Food and Rural Affairs Committee (2007) *The Rural Payments Agency and the implementation of the Single Payment Scheme. Third report of session 2006-7.* HMSO, London.

European Court of Auditors (2011) *How cost-effective are agri-environmental measures? Special report no. 7.* ECA, Luxembourg.

European Network for Rural Development (in press) *Report of Thematic Working Group 4 on RDP delivery.* ENRD, Brussels.

Evans, N., Morris, C. And Winter, M. (2002) Conceptualizing agriculture: a critique of post-productivism as the new orthodoxy. *Progress in Human Geography*, vol. 26 no. 3, pp.313-332

Foresight. (2011) *The Future of Food and Farming Final Project Report.* The Government Office for Science, London.

Hall, J. and Pretty, J. (2008) Then and now: Norfolk farmers' changing relationships and linkages with government agencies during transformations in land management. *Journal of Farm Management.* Vol. 13, pp. 393-418.

Harrison-Mayfield, L, Dwyer, J and Brookes, G (1998), The socio-economic effects of the Countryside Stewardship scheme *Journal of Agricultural Economics*, vol 49 no 2. pp.157-170.

Harvey, G. (2008). *The Carbon Fields. How our Countryside can save Britain.* Grassroots, UK.

Heinen, J. & D. Melman, 1998. *Agri-environmental schemes in the Netherlands.* Dienst Landelijk gebied, Utrecht.

IEEP (1988) Unpublished report to DG Environment, European Commission, on the

environmental effects of certain agricultural measures (including the 1992 accompanying measures to the CAP and the agricultural component of structural fund programmes).

Lee, A. (2001) *Better Policy Delivery and Design: a discussion paper*. Performance and Innovation Unit, HMSO, London.

Lenihan, M. H. And Brazier, K. J. (2009) Scaling down the European model of agriculture: the case of the Rural Environmental Protection Scheme in Ireland. *Agriculture and human values*, 26: 365-378.

Lowe, P. and Ward, N. (2007) Blairite Modernisation and countryside policy. *The Political Quarterly*, vol.78 no.3, pp.412-421.

Manchester, S and Glaves, D (2009) *The Condition Of Selected Environmentally Sensitive Area (Esa) Semi-Natural Grassland Stands: Avon Valley, Blackdown Hills, Shropshire Hills, Somerset Levels And Moors, South West Peak And Upper Thames Tributaries ESAs*. Revised final report to Defra.

Mills, J, Ingram, J., Reed, M, R, Short C., Gibbon, D , Dwyer, J and Butler, A. (2008) *Evaluation of key factors that lead to successful agri-environmental co-operative schemes*. Report for Welsh Assembly Government.

Mills, J., Courtney, P., Gaskell, P., Reed, M., and Ingram, J. (2010) Estimating the Incidental Socio-economic Benefits of Environmental Stewardship Schemes. Final Report to Department of Environment, Food and Rural Affairs and Natural England, UK. Defra, London.

Mills, J., Lewis, N. and Dwyer, J. (2010b) *Unpacking the Benefits of LEAF Membership: a qualitative study to understand the added value that LEAF brings to its farmer members*. LEAF, Stoneleigh.

Mills, J., Gibbon, D., Ingram, J., Reed, M., Short, C. and Dwyer, J. (2011) 'Organising Collective Action for Effective Environmental Management and Social Learning in Wales', *The Journal of Agricultural Education and Extension*, 17: 1, 69 — 83

Ministry of Agriculture, Fisheries and Food (2000) *Agriculture in the UK. Key Statistics*. HMSO.

Paul Terwan (2011) *Agri-environment co-operatives in the Netherlands*. Paper presented to TWG4 ENRD workshop, July 2011.

Nature Conservancy Council (1984) *Nature Conservation in Great Britain*. NCC, Peterborough.

Newby, H. (1982) Rural Sociology and its relevance to the agricultural economist: a review. *Journal of Agricultural Economics*, vol. 33 no.2 pp 125-165.

Ostrom, E. (2010) Polycentric systems for coping with collective action and global environmental change, *Global Environmental Change*, 20 550-557.

Prazan, J. ,Majerova, J. and Kapler, P. (2010) *Integrating agri-environmental measures in the protected areas Zdarske vrchy and Bile Karpaty*. RuDI case study on agri-environment measures in Czech republic. At www.rudi-europe.net.

Primdahl, J. and Swaffield, S. (2010): Globalisation and the sustainability of

agricultural landscapes. Chapter 1 in: Primdahl, J. & Swaffield, S., (eds.): *Globalisation and Agricultural Landscapes – Change Patterns and Policy Trends in Developed Countries*. Cambridge University Press, Cambridge, 2010, pp. 1-15.

Pretty, J. (2002) *Agri-cultures: reconnecting people, land and nature*. Earthscan, London.

Van der Ploeg, J. D. (1994) *Born from within: practice and perspectives of endogenous rural development: Chapter 2 – Styles of Farming*. Van Gorcum, Assen.

Radley, G. (2003) *Review of agri-environment schemes in England*. Defra policy document, no longer available on the website.

Reed, M., M. Loble, et al. (2002). *Family Farmers on the Edge: Adaptability and Change in Farm Households*. Exeter, Countryside Agency.

Roling, N.G. and Wagemakers, M.A.E. (1998) *Facilitating Sustainable Agriculture: participatory learning and adaptive management in times of environmental uncertainty*. Cambridge University Press, UK.

Short C, Griffiths R and Phelps J (2010) *Inspiring and Enabling Local Communities: an integrated delivery model for Localism and the Environment*. Report to Farming and Wildlife Advisory Group and Natural England. CCRI: Cheltenham.

Siebert, R., Toogood, M. and Knierim, A. (2006) Factors affecting European farmers' participation in biodiversity policies. *Sociologica ruralis*, vol. 46, no.4, pp.318-340.

Shoard, M. (1980) *The Theft of the Countryside*. Maurice Temple Smith, London.

Slee, R.W., Gibbon, D. And Taylor, J. (2006) *Habitus and style of farming in explaining the adoption of environmental sustainability-enhancing behaviour*. Defra research report. At http://randd.defra.gov.uk/Document.aspx?Document=SD14004_3521_FRP.doc

Westmacott, R. and Worthington, T. (1971) *New Agricultural Landscapes*. Countryside Commission, Cheltenham.

Westmacott, R. and Worthington, T. (1984) *Agricultural Landscapes: a second look*. Countryside Commission, Cheltenham.

Wilson, G. A. (2002) From productivism to post-productivism ... and back again? Exploring the (un)changed natural and mental landscapes of European agriculture *Transactions of the Institute of British Geographers* Volume 26, Issue 1, pages 77–102, March 2001.