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A Way Forward for Environmentally Sensitive Farming that Meets the Needs of Public and Farmer

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ABSTRACT

Direct support payments to farmers are increasingly likely to be in the form of agri-environmental payments. This paper reviews the results of two studies undertaken in the Southern Uplands of Scotland, a contingent valuation survey of public preferences in relation to landscape changes potentially arising from reductions in grazing pressure, and a survey of farmers' attitudes to Environmentally Sensitive Area policy. It argues that payments for the preservation of wildlife habitats and flora are a laudable means of subsidising farming in the uplands. However, policy must also recognize that many farmers will continue to regard the environment as being peripheral to their role as producers of food. The full public benefits of agri-environmental policy will not be realized unless they have 'meaning' to farmers.

THE CURRENT STATE OF AGRI-ENVIRONMENTAL POLICY

Agri-environmental schemes, such as Environmentally Sensitive Areas (ESAs) and Stewardship, have become an increasing feature of support to agriculture. While these measures are currently supplementary to supported market prices, there are strong indications that the reform of the Common Agricultural Policy (CAP) that is expected to follow the next round of World Trade Organisation negotiations, will emphasize 'neutral' support policies that do not have an impact on output. Environmental payments are the most likely medium for this type of support. They can be argued to provide public benefits and, increasingly, have the support of the farming lobby.

However, those farming in Less Favoured Areas (LFA's) express concern at their dependency on existing structural payments such as Hill Livestock Compensatory Allowances (HLCA's). If environmental payments are to form a larger proportion of support to agriculture in the future, this feeling of dependency could be aggravated because many farmers would appear to regard environmental management as being peripheral to their perceived role as producers of food (McHenry, 1994). Farmers often give financial factors as their main reason for being unwilling to sign up to ESA prescriptions, but may actually be concerned at agreeing to long term management plans that involve restrictions on their perceived freedom as farmers. Other farmers, who are attracted by the financial payments, may be reluctant to commit much time to conservation in practice. In the long run this could undermine the durability of conservation management (Potter, 1996). While the national agricultural ministries and departments have been keen to flag the success of ESAs on the basis of numbers joining, these figures can conceal the true quality of environmental management and the fact that many farmers
restrict conservation to unproductive parts of their farms.

Acceptance of environmental policies by farmers largely depends on how these policies are presented. McEachern (1992) found that farmers in the Yorkshire Dales often farmed according to what could be described as good environmental practice and believed themselves to be enhancing the environment where possible within the limits exerted by nature. However, many farmers with land in those marginal, i.e. upland environments, where ‘nature’ is most imposing, often get classified as ‘laggards’ precisely because their economic insecurity and small farm size does not permit them the luxury of being able to consider formal environmental agreements. In other cases, farmers’ definitions of good environmental practice square uncomfortably with those of the policy makers. For example, prescriptions aimed at grazing extensification (reductions in grazing pressure) may have an untidy outcome whereas farmers often characterise their own environmental management as overcoming a ‘robust’ nature (Green, 1992) by ‘taking in the wild’ or creating ‘neatness’ (McEachern, 1992; McHenry, 1994).

In yet other cases, farmers emphasize their role as custodians of the environment (Cox et al., 1985) as an excuse for carrying on as normal (McHenry, 1996). Farmer organizations have been keen to promote the concept of stewardship of the landscape as a natural extension of farmers’ traditional role (Green, 1992). Indeed, this is a reasonable proposition that farming has been responsible for the heterogeneity and attractiveness of many of Britain’s valued landscapes (Selman, 1996). On this basis much of the intensification, removal of hedgerows and drainage that has occurred in the last thirty years is sometimes argued to be a blip in the longer term contribution of farming to the landscape (McHenry, 1996).

Policy makers have embraced ‘stewardship’ as a means of pursuing conservation objectives through farming (SNH, 1994). Their enthusiasm represents an acceptance that ‘the environment’ needs appropriate packaging if it is to appeal to farmers who have their own definition of conservation and are suspicious of that held by other groups in society. There is, though, a risk that Stewardship could formalise, with specific payments, activities that were previously freely provided as an inherent outcome of efficient farming (Colman, 1994). Commoditizing the environment in this way could make conservation ‘symbolic’ (Cary, 1993) and undermine the gradual change in attitudes that has been sought by proponents of agri-environmental policy.

In practice, a twin approach may be necessary in the future. On the one hand, positive and adaptive management is necessary if the continuing fragmentation of habitats (Selman, 1996) is to be replaced by policies that enhance the environment. However, on the other hand, there needs to be a recognition that not all farmers will be receptive to the conservation policies that appear to promote wildlife habitat at the expense of farming. Fry and Herlin (1995) note that most European landscapes are cultural rather than natural and argue that the case for their preservation, and that of the associated communities, needs to be made more comprehensive to the general public. The livelihoods of these farmers might be better served by a rural policy that acknowledges the contribution that both farmers and prosperous communities have upon landscape. Current policy would appear to only recognize the value of wildlife habitats. The problems therefore are,
firstly, to determine exactly what it is that the public actually values and, secondly, how to protect this without turning farmers into museum fixtures.

To illustrate some of the issues, we introduce the results from two surveys undertaken in the Southern Uplands of Scotland. The first is a contingent valuation survey undertaken in 1994/95 (Bullock and Kay, 1997) which set out to quantify the public’s preference for different landscape scenarios that could arise from grazing extensification. This survey was supplemented by focus group discussions with local residents and interest groups, including farmers. The second is a qualitative survey of farmers attitudes to conservation schemes undertaken in 1993/94 (McHenry, 1994). Together, the studies indicate the factors that need to be considered by those responsible for devising agri-environmental policy. Firstly, we describe the case study area.

THE SOUTHERN UPLANDS

The Western and Central Southern Uplands ESAs were designated in 1993 and cover a large area (596,000 ha.) of moorland and rough grazing over 150 metres. Sheep farming is the principal land use with specialised sheep breeding being locally important. Many farmers are tenants, but the area also contains some very large estates on which sport shooting or forestry are important. The ESA has particularly focused on the protection of heather moorland and the few remaining areas of semi-natural woodland by providing payments to reduce grazing pressure through stock removal or stock management. Payments are also available for the muirburn (the encouragement of heather re-growth by periodic burning) and for the maintenance of traditional stone walls and farm buildings.

Productivity has increased due to supplementary feeding and the conversion of rough grassland and moorland to improved grassland. Traditionally, heather was valued by shepherds as a good source of winter fodder and shelter for hill sheep. Areas of native trees and scrub were also valued as shelter and for fuel. However, both have been lost as landowners have cut back on labour which had been used to shepherd stock around the hill. Sheep now tend to concentrate on the better grassland or around supplementary feed blocks. Localised over-grazing has followed, preventing tree regeneration and causing a reduction in the diversity of grassland vegetation. Elsewhere, the heather has gone ungrazed and unmanaged, the loss of its economic value having been exacerbated by the cost and inconvenience of muirburn.

The Western and Central Southern Uplands ESAs contain very similar prescriptions despite rather different conditions. In the west, large scale afforestation is controversial and is viewed by locals as a cause of depopulation. The west also receives higher rainfall which makes muirburn difficult without which the moorland can become economically useless. Neglect and poor burning often lead to an increase in the area of unpalatable Molinia grass. The east is drier and has experienced a greater contrast between areas of agricultural improvement and neglect where reduced grazing has led to the dominance of poor Nardus grasses. In both areas, as elsewhere in Britain, there are few remnants of the semi-natural systems that Webster and Felton (1993) believe should form the core areas of conservation interest that need to be preserved. The reality is that these areas are simply farmed less intensively than lowland areas while natural features have lost their
THE CONTINGENT VALUATION SURVEY

A contingent valuation (CV) survey was undertaken to estimate the public's willingness to pay (WTP) for grazing policies in the Central Southern Uplands. The survey consisted of a main postal survey of 1,500 members of the public living in southern Scotland and an in-person survey of 150 visitors conducted at the Grey Mare's Tail, a waterfall and popular beauty spot owned by the National Trust for Scotland. These were supplemented by smaller surveys of local birdwatchers and ramblers as well as by focus group discussions. The latter were held with local residents and interest groups in order to explore those issues that were important in relation to the ESA.

The questionnaire took the form of a pamphlet which contained straightforward information about how grazing extensification could bring change to the upland landscape. A discrete choice with payment card follow-up was selected as the format for the valuation question. Respondents were first asked if, in principle, they were willing to pay for the (grazing extensification) policies that would bring about landscape change. They were then asked if they were willing to pay a particular bid level representing a presumed policy cost. These bids were randomly allocated from one of fifteen cost levels between £5 and £190 per household per year. Finally, depending upon the discrete response (i.e. yes or no) they were asked to select a follow-up bid from a card listing a wide range of possible amounts.

Landscape scenarios

As sheep are the dominant enterprise, extensification has the potential to affect the whole landscape. Three colour scenarios of possible change applied to a single anonymous locality were produced. These were simply entitled A, B and C, but represent:

- Landscape A: 'Policy-off'. A landscape with levels and coverage of grazing at the higher end of current practice in which there is very little heather or scrub.
- Landscape B: 'Policy-on - extensified'. This landscape is similar to that which might be expected to result from extensification following ESA designation. There is little erosion and more diversity than in A.
- Landscape C: 'Policy-on - very extensified'. In this scenario there has been a much greater level of extensification and some removal of stock. As a result there is considerable regeneration of heather, trees and scrub.

All three pictures were combined with a detailed map and basic information on vegetation change, time scale, wildlife effects and possible employment implications. Easy-to-understand symbols demonstrated the relative numbers of sheep and variety of birdlife, mammals, insects and flora typically found in such upland landscapes.

Three questions related to the respondent's perception of the status-quo and changes to it. The first of these asked the respondent which landscape he/she considered to be 'more typical' of the Central Southern Uplands. A later question asked the respondent to rate

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his/her relative *preference* for each landscape using the question, "which of the three landscapes would you most like to see and visit in Southern Scotland?". Together, answers to these questions indicated whether or not the respondent considered change to the illustrated landscapes to represent *preservation* or *enhancement*. The third question followed the valuation question and asked whether the respondent would like the policy to produce "no", "some" or "many" more landscapes like Landscape C.

**Discussion of the CVM Survey results**

A number of models were run drawing upon the sixteen variables provided by responses to individual questions. On the basis of the best-fitting model, the mean ‘willingness to pay’ (WTP), derived from responses to the follow-up question, was £55 per household per annum (confidence interval; = £48,£62) for the postal sample and £49 (£41,£57) for the Visitor Subset. Aggregated to the level of the population of Southern and Central Scotland, these estimates imply that annual public benefits exceed policy cost by £32 million, a sizeable margin.

The analysis of responses indicated a clear desire for policies that would create a more intensified landscape involving an increase in the cover of heather and, especially, trees. For most respondents this represented an enhancement on the current more intensively grazed landscape. Landscape C was considered an enhancement on A by 88% of the sample and this preference was particularly apparent amongst those respondents who perceived the current typical landscape in the Central Southern Uplands to resemble the open landscape (A). This relationship was also evident from the significance of this interaction in the analysis of WTP responses. Respondents who regarded the current landscape to resemble A (43%) had a higher median WTP of £62 per household per annum for a policy that would change the appearance of the landscape than were those respondents who regarded B as typical (37%) for which WTP was £45. The results were mirrored by the Visitor Subset who were willing to pay £77 where they regarded the current landscape to resemble A (48%), but £43 where they regarded B as being more typical (30%).

By contrast, for the Yorkshire Dales, Garrod and Willis (1991) found a preference amongst the majority of respondents for today’s farmed landscape for which the average WTP of both residents and visitors was £24 per household per year. Wild and unmanaged alternative landscapes were less popular, although those who did prefer them were WTP a higher amount. They explained their results as evidence of a *status-quo* bias, a common observation amongst psychologists who, in experiments, have found that wherever the outcome of a change is not known with certainty, subjects prefer to stay with the *status-quo* (Samuelson and Zeckhauser, 1988).

One explanation for the difference between the results for the Central Southern Uplands and the Yorkshire Dales survey is that, the latter sought a WTP to *preserve* the *status-quo*. The Southern Uplands survey let the respondent decide which landscape resembled the *status-quo*, the responses being split between A and B. Most CV applied to landscape have implied that inaction could lead to a deterioration of the *status-quo*, (e.g. Willis et al., 1993; Hanley et al., 1996). As the Dales are a National Park and could be described
as an example of a "prototypical" landscape (Purcell, 1987), i.e. a landscape that has an important cultural heritage and acts as a reference point, it is unlikely that many people would prefer a different landscape. Status-quo bias would have reinforced this outcome.

The Southern Uplands arguably have a less distinct identity. The population is more sparse and the area dominated by single-feature land use types (MLURI, 1988). The survey was principally concerned with the landscape and mentioned, but did not emphasize, farmers and the farming system. Nevertheless, it was surprising how few visitors commented on the role of farming even when prompted. Moreover, many respondents considered change to be an 'enhancement' for which they were WTP.

The focus group discussions

Naturally the Southern Uplands do have a more distinct identity for the people who live there. This was evident from the focus groups that were held before the CV survey in order to reveal issues that were regarded as important in relation to the ESA. Sessions were held with the Upper Tweed and Ettrick & Lauderdale Community Councils, a local branch of the Scottish Ornithology Club and invited farmers.

Predictably, the birdwatcher group placed particular value on natural features, especially the remnants of trees and scrub which exist as islands of biodiversity amongst the "depressing" monocultures of heather and conifer plantation. Indeed, they noted that the "only birds to be found in the hills are in the cleuchs (wooded gullies)". Participants in both the Council and Birdwatcher groups were dismissive of monocultures such as heather. Firm views were expressed, i.e. "we should be trying to see that different areas complement one another rather than producing heather en masse", "heather isn't natural", "hills covered in heather are no more attractive than hills covered in grass", "it also appears black except in August", "you've got the Highlands for heather - we don't want more here" and, from a birdwatcher, "pure heather leads to a thin spread of birds...which then get shot!". They did, though, recognize its relevance to farming, (albeit incorrectly) i.e. "heather is possibly better for the sheep than grasses if well managed and burnt - that's why so much is left".

Amongst members of the Council groups there was an awareness of the land as an productive asset: "nobody here wants all the land turned over to non-productive activities, we need an integration", "farmers are important for future management", "your pictures suggest a loss of employment because this depends on sheep" or "if people like what they see, then we should be seeking to enhance that scenery rather than to change it". The birdwatchers acknowledged the stewardship role of farmers, but cautioned that "there's a lot of creeping intensification going on" or "we need to educate farmers".

As with the public in general, opinions differed amongst the various participants. However, while most members agreed with the respondents to the survey that parts of the Southern Uplands could be "open and bleak" and in need of more broadleaf trees, there was also a recognition of the importance of farmers to the landscape.
UNDERSTANDING THE FARMER’S VIEW

We now discuss the qualitative study in order to examine the way in which farmers in the Southern Uplands give meaning to the changes occurring in agriculture and the growing importance of conservation issues. In-depth interviews with forty farmers were the main source of this data (see McHenry, 1994 for further discussion).

The study found that many farmers felt strongly that land should be used to its full agricultural potential and that any departure from this was wrong. Farmer A thought that conservationists wanted to leave the land ‘in its natural state’:

Farmer A

Well I wouldn’t take stock off the.. to leave it to grow a wilderness. That is wrong I think.

Neatness in the countryside was viewed as a good thing as it is evidence of the land being farmed in a productive manner and is an indication of the ways a farmer ‘cares’ for the land (Nassauer, 1988).

Farmer B

I do think extensive farming makes the countryside look worse but I mean to my eye well grazed, well farmed land looks good and set aside and under grazed grass and hobby farming looks bad.

Here again there is evidence of the conflict of ideas between what conservationists want and farmers like. As long as farmers continue to see farming in terms of managing the landscape, the success of schemes which encourage scrub, undergrowth and uncultivated areas on the farm will be limited. Evidence that the countryside is being farmed and looked after comes from the general appearance of the farm showing that it is functioning and productive. This way of seeing the landscape is likely to affect farmers’ reactions to conservation policies which encourage a less tidy appearance.

Suggestions of overgrazing aroused a very strong reaction from farmers. It was felt that such an accusation was tantamount to suggesting that farmers were not looking after the land. It was also seen as an attack on ‘farming knowledge’. If voluntary conservation schemes are to attract farmers, it is clear that these schemes must make sense to them. Farmers' perceptions of the benefits of conservation were varied, but it was clear that many of them saw it in a very instrumental way. There had to be some return from the market for their conservation, either from shooting, diversified enterprises or tourism.

For most farmers the attractions of the ESA were more agricultural than environmental. The main enticement to farmers was the chance to rebuild stone walls. The same has been found by Skerret et al. (1992) in Breadalbane ESA. It is ironic that this policy, which signals a move away from conventional farming, should support the rebuilding of stone walls which are a symbol of traditional farming ideals. It is also an example of agri-environmental policy subsidising an agricultural improvement.

The financial situation of the farmer was of course a major factor in the consideration of the ESA. This took account not only of direct costs, but also costs which might result from restrictions. These included non financial issues such as regulation and paper work.
In addition, there were very practical reservations about possible increases in vermin, or restrictions on vermin control. Uncertainty about what would happen in the future was also a major factor:

Farmer C  ..it's total uncertainty that costs real money, bearing in mind you produce an animal until it's a piece of steak... Farmers [are] making policy for three years ahead...

Adding to this uncertainty was a feeling that farmers had become even more dependent on government subsidies and direct support. This, combined with the perceived increases in bureaucracy and regulation facing farmers, had resulted in the feeling for many farmers that they were under the government's control.

Farmer D    That's the only thing about living off the subsidies and grants .. you are dependent on somebody else giving you them and you never know when they are going to be cut off...

Because the ESA scheme is voluntary those who feel strongly about being dependent on the government and subsidies are not likely to join. The feeling of dependence arises as a result of other direct forms of support. Potter and Gasson (1988) in their study of land diversion from productive agriculture, found that far from regarding a land diversion payment as a useful additional source of income, constrained farmers feared the prospect of lower returns, reduced flexibility and increased bureaucracy.

CONCLUSIONS

Many farmers in the Southern Uplands have been prepared to learn more about the ESA scheme, either because they realize that incomes can be supplemented with ESA payments or because of the rising profile of conservation in agricultural support generally. Others have been constrained by their tenancy status or limited resources. However, most farmers considered their principal role to be that of food producer. Environmental management was regarded as being peripheral and farmers were not prepared to be disadvantaged by joining environmental schemes. The emphasis placed by the ESA on heather and grazing management was not shared by most farmers. The agricultural relevance of heather as potential fodder, and of the hill land generally, has diminished. Moreover, farmers did not rate highly the aesthetic value of heather and believed that its expansion would be regressive, akin to letting the land “go wild”.

Large areas of heather were also given little value by the focus groups and by the public in the CV survey. Instead, the survey indicated a firm preference for increased landscape diversity, in particular increased tree cover. As there is currently little tree cover in the Southern Uplands, this indicates that the public were prepared to accept changes to the current landscape that they regarded as ‘enhancement’. In other CV surveys, a stronger attachment to the status-quo has been evident. However, it is difficult to determine the extent to which the cultural element in the landscape has contributed to
this preference as the subject has not been dealt with specifically in any case. This would be an interesting consideration for future research. For instance, Ronningen (1993) notes that some social groups value the same landscape characteristics as farmers, for example ‘neatness’ and ‘organization’.

There are farmers whose active interest in conservation (or self-preservation) will allow them to respond to the ‘enhancement’ measures that are becoming an increasing feature of agri-environmental policy. For other farmers who are preoccupied with the business of producing food, environmental measures should have a purpose that they can relate to, for example watercourse protection, shelter belts and beetle banks, rather than heather moorland. Yet others will restrict their interest to cosmetic environmental measures or those of direct benefit, i.e. stone walls. Although these measures have good uptake, it will eventually be necessary to decide if such ‘soft’ measures provide real public benefits.

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