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The Sustainability of Hill Farming

A Rural Economy and Land Use Programme research project to examine the impacts of agricultural policy reform on hill farm economics, biodiversity and upland landscapes.

Policy and Practice Notes

Note No. 13
December 2009

The Rural Economy and Land Use Programme is a UK-wide research programme carrying out interdisciplinary research on the multiple challenges facing rural areas. It is funded by the Economic and Social Research Council, the Biotechnology and Biological Sciences Research Council and the Natural Environment Research Council, with additional funding from the Scottish Government and the Department for Environment, Food and Rural Affairs.

Upland ecosystems support traditional rural industries like hill farming, are home to species and habitats of conservation concern, and provide a wealth of ecosystem goods and services. The landscapes that we see today have been shaped over many years by the management practices of farmers and others, partly influenced by government policies on agricultural support. However, these policies are in a state of flux. Policy-makers need information regarding how ongoing policy changes are likely to affect farming communities and upland ecosystems and whether these policies will deliver what the public wants from the hills.

What happened to the hills?

Upland ecosystems have been shaped by centuries of human exploitation. Indeed, many emblematic upland habitats, such as heather moorlands, depend on ongoing land management through grazing and burning. For many people, upland landscapes provide an important "sense of place". However, the uplands are very dynamic environments and are undergoing significant upheavals.

This project examined hill farming in the Peak District National Park as a case study. An examination of historical records for the Peak District reveals that since 1900:

- Sheep numbers maintained by farms in the hill parishes increased five-fold.
- Medium-sized farms decreased in numbers as large farm businesses and hobby farmers emerged.
- Farming simplified as traditional mixed enterprises disappeared, resulting in increased specialisation in livestocking.
- Upland ecosystems demonstrate considerable turnover among habitat types.

What do people want from the hills and who is going to pay for it?

Currently, agricultural subsidies provide the primary means by which the public "contract" with farmers to supply the types of benefits from the hills that people want to see. However, the long-term future of subsidy payments is uncertain and depends on public support. The project therefore assessed what people wanted from upland landscapes and whether they would be willing to pay to achieve that vision and found that:

- Visitors to the Peak District National Park would be willing to pay an additional parking fee to support greater conservation of key habitats, especially for moorland, where people would be willing to pay an average of £4 per visit.
- Residents of towns surrounding the National Park are willing to pay to maintain current levels of conservation.
- Estimates of people's willingness to pay can be affected when respondents are given time to reflect on their choices, taken to visit exemplar sites, or provided with expert witness testimony regarding the National Park.

View of the Peak District landscape from Stanage Edge Copyright M Dallimer

What has been the effect of agricultural supports?

Delivering rural policy in the hills today depends on agricultural subsidies, and socioeconomic surveys of hill farm businesses showed that farms rely on this support to be viable. However, subsidies for hill farms have been undergoing major changes. Previously farmers were given a subsidy payment for each animal they produced (a "headage payment"), but now they are paid a Single Farm Payment on an area basis, decoupled from production – ie the payment is not related to how many livestock they keep. This policy encourages:

- a reduction in stocking densities with a shift away from beef cattle.
- a reduction in the application of chemical fertilisers to inbye land.
- a reduction in the amount of labour employed on the farm.
- further specialisation by farms in what they produce.
- little abandonment of land, with farming likely to continue in a way that keeps the land in "good agricultural condition".

But the strength and direction of these incentives varies for farms in different regions and producing different combinations of produce (ie only sheep, sheep and beef, or sheep and dairy). The switch to the Single Farm Payment results in minor changes to average farm incomes with some farms seeing slight increases and others losses.

What part do agri-environment schemes play?

Agri-environment schemes, such as existing Environmentally Sensitive Area contracts, provide additional support, upon which many farmers have come to depend. These payments are designed to encourage farmers to provide "public goods", such as improved habitat for particular species or public access for recreation. However, agri-environment policies are also undergoing major changes.

Currently, they play a role in moderating the likely effects of the change to the Single Farm Payment by:

- reducing the impact on farm incomes of decoupling.
- encouraging further reductions in upland beef cattle, although they have a variable impact on sheep numbers.

The evidence from ecological surveys that agri-environment schemes improve the state of upland birds as an indicator of biodiversity is mixed:

- The types of land management actions specified in agri-environment agreements explain little of the variation in patterns of bird species richness.
- Farms inside agri-environment agreements, if anything, have fewer not more species.

However, the influence of agri-environment schemes becomes clearer when looking at individual species of conservation concern. Greater densities of key species were found on fields where more of the farm and the surrounding area is included in agri-environment agreements.

How could we design agri-environment policies better?

Further work is being undertaken in the project to examine how agricultural subsidy schemes can be designed more effectively to provide benefits for biodiversity.

- There might be benefits in allowing payment rates to vary across space or to vary with the amount of biodiversity benefit provided.
- The cost effectiveness of agri-environment schemes could be enhanced by recognising the different costs which farmers face in "producing" environmental benefits.
- Ecological effectiveness could be improved by designing incentives which encourage spatial coordination across several farms.

Further information

The research has been carried out at the University of Sheffield, University of Stirling and University of Nottingham, in collaboration with the Moors for the Future Partnership.

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Useful resources:

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Project Website: www.biome.group.shef.ac.uk/RELU/People.htm