relu
Rural Economy and
Land Use Programme

Rural Economy and Land Use Programme
Centre for Rural Economy
School of Agriculture, Food and Rural Development
Newcastle University
Newcastle upon Tyne NE1 7RU

Telephone: 0191 222 6903
Fax: 0191 222 5411
Email: relu@ncl.ac.uk

www.relu.ac.uk

Sustainable uplands: re-shaping land use policy for our hills

A Rural Economy and Land Use Programme research project investigating land use policies that will shape our upland landscapes in the future.

Policy and Practice Notes

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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.

UK uplands provide a multitude of functions and services that are essential to our daily life. Now that they are subject to an unprecedented range of forces, including climate change, it is vital to understand how the hills will respond and adapt to future pressures. How can policymakers address an uncertain future for upland areas?

What do the uplands provide for us?

Uplands support land-based industries that are essential for the social fabric and economies of rural communities, such as:

- Farming
- Forestry
- Leisure pursuits, including tourism and field sports

However, uplands also have considerable wider economic value, for example:

- Water – around 70% of Britain's drinking water comes from upland catchments
- Carbon storage – peat lands store around 3 billion tonnes of carbon across the UK, mainly in upland areas. If this carbon were to be released, it would further exacerbate climate change
- Flood management – land use in the uplands can have implications for flooding downstream

Other "ecosystem services" provided by the hills, although important, may be more difficult to value. These include:

- Habitats for wildlife
- Cultural heritage
- The appearance of the landscape

Why do the uplands need to be managed?

The ability of uplands to continue providing the ecosystem services that we all need may be under threat:

- New pressures, including climate change, may affect the capacity of the hills to respond and adapt
- A growing population will need to feed itself under very different climatic conditions and on a shrinking land base, which might require more intensive use of all available land, including the hills, to produce food

The uplands need to be actively managed to sustain the services they provide. If they were left without human management, this could bring further problems:

- Scrub and forest would encroach on many moorlands, changing their character completely
- Peat soils and their store of carbon could become vulnerable to erosion and wildfire

On the other hand, a **partial** regrowth of upland forests, for example in valleys and along streams, might have some significant benefits. It could enhance biodiversity, and the denser vegetative cover could help to lower the risk of flooding.

What is wrong with current land use policy?

Currently, there is no coherent land use policy for the uplands, but a complex mixture of financial supports and protective measures:

- Current farming support compensates for physical disadvantage, among other things, rather than rewarding land managers for provision of public goods
- There is wide variation in how we currently pay for the provision of different ecosystem services
- The provision of these services may conflict with land managers' other objectives, either by compromising economic viability or because the objectives demand a different approach
- Protective designations such as Sites of Special Scientific Interest and Special Areas for Conservation tend to focus on one ecosystem service at a time

Rather than piecemeal approaches to the assessment of policy instrument effectiveness, an integrated overview of policy effectiveness is needed to guide new policy instrument design.

What are the alternatives?

An alternative way forward would be to move towards subsidies that are increasingly based on payments for ecosystem services.

The advantages would be that:

- Land owners and managers would have more incentive to provide public goods for which they are not currently paid
- It might provide better value for money if we could target funding towards the land managers and locations that can deliver the services we need

How could this be achieved?

Current designations only loosely identify specific ecosystem services and just focusing on one of these at a time can be counterproductive.

- Taking a more holistic and systematic approach to considering what we want our hills to provide could be a more effective way of sustaining these services into the future.
- Policies would need to recognise that any given piece of land is likely to deliver multiple ecosystem services, and incentives could then be designed that assess and take into account trade-offs and where possible, exploit synergies between ecosystem services.

Do we need to involve stakeholders?

Stakeholder participation is essential if such a model is to be implemented successfully and this would bring added opportunities for:

- Revising boundaries and possibly locations of areas designated for conservation, which would help to increase the resilience of species and ecosystems to climate change

- Providing incentives for farmers to group together where interventions need to be carried out at larger scales, ensuring that the expertise of farmers, and their knowledge of their own land, is used to best effect

The researchers propose a system that:

- Works in real partnership with relevant stakeholders to negotiate changes in land use and management to deliver the ecosystems services we need
- Identifies the locations which can most efficiently and sustainably provide different ecosystem services, by using computer models and secondary data
- Brings together scientific evidence and local knowledge to deliver local rather than "one size fits all" solutions
- Reconfigures or creates new incentives to deliver the ecosystem services we all need as efficiently as possible

In practice this would mean that:

- Land managers would be able to choose from a number of land management options that could achieve the desired ecosystem services
- Land management options in different locations would attract different levels of payment depending on their potential to provide the desired ecosystem services
- Potential to provide ecosystem services would be based on evidence from models that can be used to identify and avoid the worst trade-offs between ecosystem services associated with different land use and management options
- Spot checks of ecosystem service provision would be a cost-effective first step towards a payment-by-results system that links remuneration to environmental outcomes, whilst allowing farmers to select relevant methods
- The spot checks could be used to calibrate and validate the models, helping to refine the process
- As more cost-effective monitoring technologies are developed to monitor ecosystem service provision more comprehensively and over larger areas, there would be potential for a system that is solely based on payment-by-results

How can we get land owners and managers involved in practice?

Participatory processes have often failed to deliver results on land use in the past.

- Evidence suggests that in order to succeed, systematic dialogue must begin as early as possible and continue over the long-term; goals must be negotiated from the outset and all interests must be fairly represented. The process must enable people to develop mutual respect and trust as they learn from each other to negotiate potential solutions, and all knowledge, whether from scientific or non-scientific sources, must be evaluated and considered. These principles, preferably applied by a professional and disinterested facilitator, are more important than the actual methods used.

- Building on experience from initiatives such as the Environment Agency's Common Ground workshops (that focussed on Water Framework Directive implementation), representatives of farmers and other stakeholders could be brought together with advisors in independently facilitated workshops. By sharing knowledge and building trust in this way, it may be possible to negotiate land use and management plans at a catchment scale. This would then enable land owners and managers to access bonus payments designed to encourage co-operation at catchment scales to provide certain services such as reducing flood risk or improving water quality.

- Over time, with sufficient buy-in from local stakeholders, it may be possible to start channelling increasing amounts of financial support through local groups (who would jointly prioritise and bid for funding with help where necessary from paid facilitators or co-ordinators), as is done in many parts of the world through "land care" groups and programmes.

Further information

The research has been carried out at the universities of Leeds, Aberdeen, Durham, Sheffield and Sussex, with Moors for the Future and the Heather Trust, and with additional contributions from: Bill Slee (Macaulay Institute), Ken Thompson (University of Aberdeen) and Robert Brotherton (Environment Agency).

Key Contacts:
Dr Mark Reed, Aberdeen Centre for Environmental Sustainability and Centre for Planning and Environmental Management, University of Aberdeen.
Email: m.reed@abdn.ac.uk

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