Coastal farming practices influence biodiversity conservation, Island of Islay – Scotland, UK

1. Policy Objective & Theme

- SUSTAINABLE USE OF RESOURCES: Preserving coastal environment (its functioning and integrity) to share space
- SUSTAINABLE ECONOMIC GROWTH: Balancing economic, social, cultural development whilst enhancing environment

2. Key Approaches

- Integration
- Knowledge-based
- Ecosystems based approach
- Socio-economic

3. Experiences that can be exchanged

This case is relevant to those areas of Europe where farmland practices are in disadvantageous areas or even being abandoned and where the introduction or maintenance of extensive farming would provide a viable, sustainable alternative for rural communities and benefit the biodiversity.

4. Overview of the case

Extensive livestock farming is a pre-condition for high diversity systems as shown by the Island of Islay where nature values are influenced by land use and land use intensity. Various incentive schemes have been put into place to encourage farmers not to move towards intensification as a means of conserving flora and fauna.

5. Context and Objectives

a) Context

Europe's coastal landscapes have been defined by many, different human activities of which agriculture is an important one. Many semi-natural habitats, created through grazing by large herbivores, are still present in large areas of the continent. However, since the introduction of the Common Agricultural Policy (1957) agriculture has been intensified. It has generally resulted in larger farms, increased specialisation with modernisation in favourable locations and abandonment in unfavourable locations. Nonetheless, extensive farming is still widespread. It has been known for some time that there is a positive link between extensive livestock farming and high nature values. Although conservation measures are now taken for specific sites e.g. Natura 2000 sites, National Parks, conservation measures need to extend into the wider countryside to sustain regional biodiversity and provide a buffer for the protected areas.

The Island of Islay is the southernmost island in the Inner Hebrides, off the west coast of Scotland. It has 3500 inhabitants spread over 600 km2. Although some traditional crofting still occurs on marginal coastal areas, farming is now largely livestock. Over the last ten years, farming intensification has increased and with it concerns that the biodiversity of the island may be negatively impacted. Islay is famous for its birds, especially the large numbers (40,000) of over-wintering barnacle goose (Branta leucopsis) and Greenland white-fronted geese (Anser albifrons flavirostris) of which over half the Scottish population of 13000 is found on the island. Rare species such as the chough (Pyrrhocorax pyrrhocorax) and golden eagle (Aquila chrysaetos) hold important populations. Otters and grey seals can be regularly seen. There is also a range of vegetation types.

Large areas of Islay are SPAs and SACs under the Birds and Habitats Directives and several wetlands are RAMSAR sites. Major shifts in farming practices, even in remote and under-populated areas like the Island of Islay will have severe impacts on much of the migrating and resident wildlife.

b) Objectives

To implement policies that will encourage farmers to continue with their extensive farming practices in order to maintain biodiversity.

6. Implementation of the ICZM Approach (i.e. management, tools, resources)

a) Management

Scottish Natural Heritage, a government body responsible to the Scottish Government, along with the Government's Rural Payments and Inspections Directorate, have been responsible for the development and implementation of a number of agricultural incentives and conservation management schemes. The farmers are all independent but some may be affiliated to the National Farmers Union.

b) ICZM tools

Information on farming practices and its impacts on the Island of Islay has been obtained through a comprehensive questionnaire about farming practices by Alterra in the Netherlands. They sought information on farming topics covering general aspects, cattle, sheep, permanent grassland, rotational arable cropping, rough grazing, extra input on the farm, environment and personnel. Fourteen farmers were interviewed out of the estimated 120 on the island with two samples each of seven farms from two different areas on the island. The report shows that over the last ten years, farmers have been moving away from their traditional way of grazing the land to a more intense, specialist livestock farming, mainly sheep and beef cattle.

Since the benefits of extensive livestock farming for biodiversity will decrease with higher cattle density and high fertiliser application on grasslands (to make winter feed) and by fragmentation caused by increased fencing, the Scottish government set up the Rural Stewardship Scheme, now closed to new entrants. This was a whole farm scheme which will covered all of Scotland's agricultural land. By supporting the adoption of environmentally-friendly farming practices the scheme was designed to deliver a wide range of environmental benefits as well as contributing to the development of tourism, the wider rural economy (e.g. through demand for up-stream inputs and services) and the maintenance of farming activities through increases in household incomes. It's provisions have now been subsumed into Rural Priorities, one of a number of delivery mechanisms for the Scotland Rural Development Programme (2007-2013), the primary means of promoting sustainable agriculture and the preservation and enhancement of the natural environment in Scotland's rural areas.

Thus, on the island, there is encouragement to maintain the division of arable cropping fields, higher hill ground and common grazing areas associated with croftland. Individual farms have a separation of permanent grassland, arable land and rough grazing so semi-natural areas are still common. Although there is a significant degree of variability, the average farm size is 550 ha. of which 100 ha. is permanent grassland, 50 ha. are for crop rotation, and 400 ha. are rough pasture, generally semi-natural vegetation. This would accommodate 75 cows and 620 sheep. The farms are almost self-sufficient with respect to winter fodder using silage from the arable crops and by-products of the whisky distilleries on the island. This method of farming has created a mosaic of habitats on the island and most bird species need more than one habitat type, often a combination of natural and agricultural habitats. Incentive payments are made according to the type of activity adopted. Some examples are extensive management of grassland that has been cut for wildlife = £175 per hectare, management of open grazed grassland for wildlife = £111 per hectare, extensive management of cut grassland for corncrakes (Crex crex) = between £271 and £691 per hectare, and the creation and management of early and late cover for corncrakes £800 per hectare. These payments involve sowing of cereals in Spring and cutting of silage late in the year (benefiting the corncrake) as well as using lower inputs of fertilisers on the permanent grasslands. Elsewhere in the Programme, assistance for farmers is available through the Less-Favoured Areas Support Scheme in return for agreement on basic environmental protection measures.

There is a separate scheme– the Islay Local goose Management Scheme, introduced in 2000 – to provide a degree of

compensation for the damage done by wintering barnacle and Greenland white-fronted geese. Also, as part of a voluntary chough (Pyrrhocorax pyrrhocorax) conservation programme, many farmers have stopped using certain anti-parasite drugs to kill invertebrates in the intestine since they can be excreted in the faeces and remain active killing the insects on which the choughs feed. Farmers are also willing to lose an occasion sheep or lamb to the eagle population.

7. Cost and resources

One and a half working persons are usual in each farm. Farming accounts for about 50% of the farm's income of which half is from subsidies, including nature conservation schemes. Expenditure in 2004 (latest available) was £28.77m compared with £2.6m in 1995-96 for the various agri-environmental schemes (for the whole of Scotland). This is the largest source of funding for conservation management of the countryside. The average payment per farm was £4278 over the whole of Scotland.

8. Effectiveness (i.e. were the foreseen goals/objectives of the work reached?)

After a relatively slow start, uptake of agri-environment schemes has picked up markedly in Scotland as a whole in the early part of the decade. The number of farmers participating in such schemes was 4,900 in 2004 with 1.6m ha. of land then under agreement. In spite of its competitive nature, it is a reasonable assumption that when farm incomes are under pressure (as is currently the case in Scotland) their successor, the Scotland Rural Development Programme, will prove to be even more attractive to farmers in its provision of a guaranteed income stream for 5 or more years into the future. However, funding levels are still low compared to many other EU countries.

9. Success and Fail factors

Agri-environmental schemes were originally introduced in 1987 so they have a long history of implementation.

One of the main problems in the future could be abandonment. Many farms do not have a successor and abandonment of the land would have serious consequences for the rich coastal birdlife as they become overgrown with fast-growing weeds, bracken and shrub.

10. Unforeseen outcomes

Changes in the CAP are likely to result in reduced subsidy for agricultural production on these types of farms and therefore, more emphasis on rural development measures. It is not clear what will replace the SRDP in 2013.

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13. Sources

- Extensive livestock systems and biodiversity: The case of Islay (2004). B. H. Brak, L. Hilarides, B. S. Elbersen & W. K. R. E. van Wingeren, Alterra, Report 1100, Wageningen (Downloadable as a read-only document or purchase from Alterra)
- Rural Development Plan For Scotland (Amended February 2005) The Scottish Executive.
- www.snh.org.uk (The Scottish Natural Heritage website)
- www.scotland.gov.uk (The Scottish government website)

Extensive livestock systems and biodiversity (2.12 MB)

Rural development plan for Scotland (1.53 MB)