available at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/envsci

Landscape protection as a tool for managing agricultural landscapes in Norway

Wendy Fjellstad [a,*], Klaus Mittenzwei [b], Wenche Dramstad [a], Eva Øvren [b]

[a] Norwegian Forest and Landscape Institute, P.O. Box 115, NO-1431 Ås, Norway
[b] Norwegian Agricultural Economics Research Institute (NILF), P.O. Box 8024 Dep., NO-0030 Oslo, Norway

ARTICLE INFO

Published on line 9 March 2009

Keywords:
Landscape protection
Farmer attitudes
Farm management
Governance processes

ABSTRACT

Norwegian Protected Landscapes aim to preserve landscape character. As most of the agricultural land in Protected Landscapes is privately owned, the attitudes and behaviour of farmers are crucial in achieving this goal. We present results of a nationwide questionnaire to farmers who owned or managed farmland in Protected Landscapes. Thirty-eight percent of the respondents claimed that their farm business had been changed as a consequence of landscape protection. Niche products and alternative income possibilities, commonly forwarded as potential benefits of landscape protection status, had generally not been realised. Although we found that most farmers agreed on the importance of taking care of cultural landscapes, 76% felt that this was best done by using rather than protecting the landscape. The study revealed negative attitudes towards municipal authorities. A quarter of respondents were strongly against the establishment of new Protected Landscapes, even if they were compensated for economic losses. Based on results of the study we suggest that major improvements to the protection system could be made by improving communication between management authorities and farmers, and ensuring real involvement of farmers in making and carrying out management plans.

1. Background

Landscape protection in Norway traditionally focused on protecting areas of wilderness, typically in mountainous regions. Over time, landscapes influenced by people have come to be valued in Norway, as in other countries (Green and Vos, 2001). In Europe, there has been increasing interest in recent decades in protecting agricultural landscapes, due to the recognition that these landscapes are also under threat from increasingly rapid land use change. The European Landscape Convention (Council of Europe, 2000) has increased awareness of the need to protect and manage landscapes. Indeed the Convention states that public institutions have a role not only to identify landscape changes and to protect special landscapes, but – in cooperation with stakeholders – to define quality objectives over all parts of the territory.

Balancing economic sustainability and landscape preservation, however, is fraught with difficulties. Due to technical progress, structural change and agricultural policy reform the agricultural systems that created traditional cultural landscapes may no longer be economically viable. Since the landscape character of cultural landscapes is dependent on patterns of land use, the preservation of farming landscapes is dependent on the attitudes and actions of farmers (Toogood et al., 2004).

It has been pointed out that the functions of a landscape are not simply dependent on its physical composition, but also on people's value systems (Haines-Young and Potschin, 2000; Haines-Young et al., 2006). As people's values and needs

* *Corresponding author*. Tel.: +47 64 94 97 04.
E-mail address: wendy.fjellstad@skogoglandskap.no (W. Fjellstad).
1462-9011/$ – see front matter
doi:10.1016/j.envsci.2009.01.009

Table 1 – Relative distribution of different categories of protected land in Norway, as of 01.01.2006.

	Area (km^2)	% of total land area of Norway	% of protected area
National Parks	21 466	6.6	49.3
Protected Landscapes	15 083	4.6	34.7
Nature Reserves	5 265	1.6	12.1
Other protected areas	1 702	0.5	3.9
Total	43 516	13.4	100

change, past functions may cease to be important whilst functions that were previously unrecognised may become highly valued. In traditional cultural landscapes, the value of food production activities has declined in favour of newer, more efficient systems. At the same time, biodiversity and recreational values that were not previously recognised are now in focus (Onate et al., 2000; Hellerstein et al., 2002; Yli-Viikari et al., 2007). However, the value systems of farmers may not necessarily be in line with the perspectives of conservationists, policy-makers and other stakeholders (Morris and Potter, 1995; Beedell and Rehman, 2000; Burton et al., 2008). It is the actions of farmers that have created these landscapes and their continued actions that are required to maintain landscape character. Thus, any attempt to design successful policies for landscape protection must also take into consideration farmers' attitudes and experiences.

There are three major categories of protected areas in Norway (Table 1). National Parks are generally larger areas of primarily state-owned land where there is relatively little human impact. Norwegian National Parks correspond with IUCN Category II National Parks (IUCN, 1994). Nature Reserves are a much stronger form of protection, usually for smaller areas and specific habitat types. For this type of protection, land is expropriated and landowners receive financial compensation. Norwegian Nature Reserves generally correspond with IUCN Category I Strict Nature Reserves, but also include sites that would be IUCN Category IV Habitat/Species Management Areas. Some Norwegian Nature Reserves could also fall within IUCN Category III Natural Monument or Feature. Protected Landscapes are the form of protection suitable for protecting agricultural landscapes and are the subject of this paper. Norwegian Protected Landscapes (Landskapsvernområder) correspond with the IUCN Category V Protected Landscapes (IUCN, 1994). The objective, as stated in the Nature Conservation Act § 5 (Flock and Lassen, 2004) is "to preserve distinctive or beautiful areas of natural or cultural landscape".[1] This form of protection involves a lower level of restrictions than a Nature Reserve and landowners do not have the same claim to financial compensation.

There is considerable variability in the types of areas that have been designated as Protected Landscapes and the objectives associated with them. Some Protected Landscapes resemble National Parks, the difference in form of protection being primarily due to the higher proportion of privately owned land, which prevents use of the National Park designation (Committee on the New Biodiversity Act, 2004). In other cases Protected Landscapes function as buffer zones around National Parks. The tradition of protecting large, unproductive areas is still reflected in the statistics over areas protected in Norway (Fig. 1) and has been criticised recently in a national audit (Riksrevisjonen, 2006). Increasingly, Protected Landscapes have been used to protect cultural landscapes and this form of protection has become more common. Fifty percent of the Protected Landscape area was protected after the year 2000. In some areas, man-made habitats within the protected area have not been explicitly recognised. Typical examples are the role of pasture in Protected Landscapes that focus on protection of bird life or the importance of summer grazing in the mountains. In other areas, the cultural landscape has been the main object of protection and the role of management has been more explicitly addressed. Although there are some large Protected Landscapes, about half of the area covered by this form of protection (as of 01.01.06) was in areas of under 10 km^2, with 23% under 1 km^2. Detailed land use data are available for only 46% of the total area of Protected Landscapes in Norway, typically lacking in mountainous areas. Only 0.5% of the mapped area is defined as "agricultural land" (cultivated land), compared with 3% for the country as a whole. However, extensive mountain grazing lands are not covered by this definition of "agriculture" such that the area influenced by domestic animals is much higher.

The Nature Conservation Act (Flock and Lassen, 2004) specifies that: "In a Protected Landscape, no measures may be initiated that may substantially alter the nature or character of the landscape". The Act does not define either landscape or landscape character but states that, "In cases of doubt, the County Governor will decide whether a measure may be considered likely to alter the nature or character of the landscape significantly". What makes the protection of cultural landscapes particularly challenging is this aim of "preserving" landscapes that are actively managed. These are landscapes where human actions have – at least in part – created the very landscape values that have been judged worthy of protection. In some cases, it may be the lack of an activity that leads to changes in landscape character. Other studies have documented the link between function and an object being taken care of (Antrop, 2000, 2006; Van Eetvelde and Antrop, 2004). This raises issues of whether legal protection can "preserve" a landscape if characteristic land types or landscape elements no longer have a function and whether it is sufficient to preserve the "image" of a landscape or whether authenticity is important. Not least, if landscape management is dependent on farmers then some form of economic activity will be needed to support farming communities.

In this paper we focus on how farmers experienced landscape protection, taking a behavioural approach (Gillmor,

[1] English translation of the Nature Conservation Act available at: http://www.regjeringen.no/en/doc/Laws/Acts/Nature-Conservation-Act.html?id=173470.