

Landowners

Organisation

THE ENVIRONMENTAL FARM

Introduction

The Agenda 2000 reforms with their rural development plans and agri-environment schemes are now established, to a greater or lesser extent, throughout the European Union. Although a degree of unrest remains on the outcome of the reforms, it is clear that as a matter of policy the need to maintain the environment and preservation of Europe's rural heritage is sacrosanct. The conservation and enhancement of biodiversity and landscape, is the basis upon which Europe's future land-use will be determined.

Intensive agriculture is blamed for many of the environmental ills that have fallen upon the countryside – and often these allegations are unfounded. Nevertheless, this criticism has led the debate on the “greening” of agriculture, and many of the agri-environment schemes are designed towards maintaining high levels of agricultural production but with careful stewardship of the countryside.

A recent ELO Seminar at Cassinazza di Baselica, just south of Milan, concluded that there was a great opportunity to develop a new model, the “environmental farm”. There are arable farms, livestock farms, mixed farms, and now the “environmental farm”. The environmental farm is at the other end of the spectrum to the intensive farm, and of course there are many farm systems that lay between. The principle objectives of the environmental farm are biodiversity gain and landscape enhancement, with agricultural production systems (e.g. grazing animals) more as a means to achieve this end, and not as the primary revenue earner.

This short paper sets out the legal and administrative issues that now make this approach possible, and by way of example comments on some of the technical and economic issues associated with an environmental farm.

Legal basis

It is the agri-environmental measures of the CAP that make the environmental farm possible. Regulation (EEC) No.2078/92 introduced the concept following the 1992 reform. As part of the Agenda 2000 reform measures, Council Regulation (EC) No. 1257/99 provides that the agri-environmental aid scheme should continue to encourage farmers to serve society as a whole by introducing or continuing the use of farming practices compatible with the increasing need to protect and improve the environment, natural resources, soil and genetic diversity and to maintain the landscape and the countryside.

Article 22 of the regulation sets out what is expected of environmental land management activities including:

- Ways of using agricultural land which are compatible with the protection and improvement of the environment, the landscape and its features, natural resources, the soil and genetic diversity;

- an environmentally-favourable extensification of farming and management of low-intensity pasture systems;
- the conservation of high nature-value farmed environments which are under threat; and,
- the upkeep of the landscape and historical features on agricultural land, and the use of environmental planning in farming practice.

The nature of the funding is important. The first point to be made is that as part of the rural development measures it is co-funded with member states. In practise, the member states can contract with landowners and farmers to deliver specific public goods through the medium of the agri-environmental measures and schemes. Thus there is a contractual transfer of public funds for a public benefit and it is not a subsidy for food production. This is important in terms of long term CAP policy, WTO negotiations, and above all it is a policy that the public can understand and are prepared to pay for.

The basis of determining the levels of contractual payments is important and it is crucial to the expansion of the concept of the environmental farm. Article 24 of the Regulation No 1257/99 provides for:

- Support in respect of an agri-environmental commitment granted annually and calculated on the basis of:
 - income foregone,
 - additional costs resulting from the commitment given, and
 - the need to provide an incentive.
- The cost of any non-remunerative capital works necessary for the fulfilment of the commitments can also be taken into account in calculating the level of annual support. This is particularly important for the environmental farms who may need significant capital works in the initial stage.

The need to provide for the income foregone and to provide an incentive are key provisions in convincing the traditional farmer that he can get an increased income from his land by using these measures. The legal provisions of Articles 22 and 24 provide the way and the means of creating the environmental farm.

Technical issues

The example that is being used to support this paper is farmland in Pavia, Lombardy, Italy. It is an area of traditional rice growing, with other intensive arable cropping. A fuller technical specification is presented in Appendix 1, but since this is a new concept some general points are presented below.

In an area currently covering over 400 hectares, numerous recent initiatives have been introduced, aiming to revitalise the natural environment. In particular, the formation of hedgerows and rows of trees, as well as a more extensive land-use of agricultural areas which have been restored to their natural state through the development of areas of woodland and marshland. It has been necessary to carry out some significant capital works to provide the watercourse network and control structures.

The initiative also involves the whole 10 km area of the Naviglio Pavese situated between Binasc and Certosa di Pavia, where paths have been introduced for public use by cyclists and walkers.

All the initiatives to restore intensive agricultural land to a more natural state have been implemented to utilise and promote local labour and to develop economic well-being in the local community. The following principles have been applied.

- The management of the work has been carried out according to strict agricultural and forestry criteria and techniques, with the objective of transferring the associated experiences into the agri-environmental domain;
- the personnel employed come from an agricultural background, having changed to agri-environmental work; the equipment and machinery used typically come from agricultural activity, with the exception of excavators, used periodically;
- existing agricultural infrastructures (dams, bridges, roads, etc) have been used, enabling existing agri-ecosystems to be incorporated into the new ecologies;
- vegetation used in reforestation projects comes from seeds specially collected in the natural woodland of Ticino Park. These seeds are subsequently cultivated in seeding nurseries until they grow to an appropriate size; and,
- vegetation is distributed according to the results of models, derived from studies which have aimed to determine the relationships belonging to specific natural environments, describing within these environments the species which can correctly interact with the surrounding landscapes.

An important point to stress is that with a degree of training traditional agricultural skills can be used in managing the environmental farm. Equally important is that the ecology, agronomy, silvicultural and landscape skills are all readily available to undertake and promote this new concept.

Economics.

A key question is the extent to which the application of agri-environmental measures has on the economics of a farm / estate business.

The data in Table 1 show comparative returns of a conventional farm system as against the application of measures provided for in Regulation No 1257/99 at Cassinazza di Baselica, Pavia, Lombardy.

The following assumptions and facts are relevant:

- The example refers to year 2001 harvests
- The example refers to farms exclusively based in Lombardy, on well-watered plains
- The table summarises the costs and returns of 8 types of cultivation. Examples 1, 2,3,4, and 5 refer to the main types of traditional production, whereas examples 6, 7, and 8 constitute examples of agri-environmental measures.
- The example 6 refers to the withdrawal of arable land from production for 20 years. Example 7 refers to the conversion of arable land to grassland for 5 years.
- The cost entries in all cases take the form of production costs, whereas the return entries are calculated by adding Gross Saleable Production (GSP) and income support distributed by the EC (CAP)
- In examples 6, 7, 8 return entries also include payments distributed for protection of the environment through the Rural Development Plan of the Lombardy Region (PSR)
- Example 8 shows the case of a rice field surrounded by a hedge; in this case it seems appropriate to hypothesize an area of 4 hectares (a more likely situation if there is a perimeter hedge), with the data normalised to Euro/ hectare in order to allow comparison with the other examples

- Data is expressed in Euro/hectare and is intended as an average annual value within the period of commitment envisaged by funding.

With the exception of example 6 – which is essentially a set aside option – the environmental schemes show returns equal or better than the most productive rice crop. Against the rice crop (example 3), at EURO 731/ha, a long-term extensification scheme (example 7) yields EURO 762/ha. And the smaller rice field with a perimeter hedge and headland yields EURO 898/ha.

Although conditions, and schemes, will be different throughout the EU, provided that the funding basis is in accordance with the provisions of Article 24 of Regulation 1257/99 then the environmental farm can be economically sound.