Agri-environment schemes are based more on ‘common sense’

New research has indicated that the design of a high proportion of agri-environmental policy measures in seven EU countries was based on common sense judgments about their possible impact. Only a sixth of the measures studied were based on well-tested quantitative models of their relationship to the environment.

Agri-environment schemes (AES) were introduced in the 1980s to encourage environmentally-friendly farming in EU Member States. By 2002 about 25 per cent of all agricultural land in the EU was under AES agreements. Impact models are assumptions of the relationship between policy objectives and what they are expected to achieve. Such impact models may be based on scientific evidence to greater or lesser extents.

The study, conducted under the EU AE-Footprint project, analysed the actual and potential use of impact models. It carried out a literature review and a survey of impact models underlying 60 AES in seven Member States: Denmark, Finland, Germany, Greece, Hungary, Ireland and the UK.

As AES can be quite broad and complex, the researchers simplified the research with a further categorisation of AES called ‘the management package’ (MP). This is a scheme or part of a scheme with well-defined objectives that are linked to certain obligations for farmers. An example could be a MP aiming to protect the aquatic environment through incentives which reduce nitrate leaching from agriculture. Overall, the 60 schemes studied included 93 MPs.

The study described the MPs by the different issues they addressed: natural resources, biodiversity, and rural landscape, and each MP could address more than one type of issue. Protecting natural resources (such as water and soil) and biodiversity were the most common environmental issues and both were objectives in almost two-thirds of the MPs. Enhancing landscape issues, which deal with a combination of visual appearance, cultural heritage and recreational facilities, were part of the objectives in about a third of MPs.

The study found that around half (51 per cent) of the total number of MPs was based on ‘common sense’ impact models, i.e. based on general beliefs rather than objective evidence about how agricultural practices are linked to environmental changes and protection of resources and biodiversity. Around one third (34 per cent) of MPs were based on qualitative models that use theoretically sound evidence but do not provide any statistical predicted effects. One sixth (15 per cent) were based on quantitative models that provide a statistical prediction of how changes in agricultural practices will have specific environmental impacts.

Further analysis revealed that quantitative impact models more often underpinned MPs for natural resources, linking changes in agricultural practices with easier-to-measure issues, such as nitrate leaching and pollution by pesticides. MPs that addressed biodiversity or landscape are harder to quantify and more than half of biodiversity MPs were based on common sense. Results also indicated that MPs which targeted parts of farms or specific areas were based on more quantitative impact models than whole farm schemes.

The results indicate that the design of a high number of AES is based on a relatively poor evidence base, which makes it difficult to assess their environmental effects and to choose between alternative policy options. They also imply that many schemes based on weak impact models do not enable good evaluation, which means it may be difficult to identify the reasons for failure and to implement improvements in the design of the schemes. Systematic use of evidence-based impact models within AES would support both their effectiveness and their evaluation.

1. AE-Footprint is an EU Specific Targeted Research Project designed to develop a common generic methodology for evaluating the effectiveness of European Agri-environmental Schemes. See: www.footprint.rdg.ac.uk


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