Chapter 2
Ex-Post Analyses of Agri-Environment Schemes:
A Comparative Analysis Using Expert Judgement and Multicriteria Analysis

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ABSTRACT

This chapter illustrates an ex-post evaluation of the performance of agri-environment scheme (AES) implementation in three case study regions in the EU. Due to a lack of available environmental data, we devised a methodology to assess environmental performance of AESs in the case study areas. The methodology is based on the combination of a harmonised framework for characterising environmental objectives, expert judgement, aimed at assessing environmental effectiveness, and multicriteria analysis techniques, aimed at producing an aggregated judgement about single case studies. Our experience shows the potential practical application of this methodology, especially in formalising the evaluation process. In particular, the methodology connecting the evaluation process with design parameters helps to identify specific causes of lower effectiveness. The methodology could also be used to conduct an ex-ante evaluation (based on experts' predictions of environmental performance criteria), and is especially suited to learning how to improve the environmental performance of schemes.

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INTRODUCTION AND OBJECTIVES

Agri-environment schemes (AES) in the European Union (EU) pay farmers for undertaking management practices that protect, restore or enhance the natural environment. Their importance is illustrated by the expenditure involved, about €23 billion was spent on such schemes in EU-15 countries between 1992 and 2003 (European Environment Agency, 2001). The application of AES is a decentralised process, and each local agricultural administration is obliged to implement a specific AES. Decentralised implementation implies local choices of the environmental objectives, the selection of measures, degree of spatial targeting and amount of payments available to farmers. Given both the scale of expenditure and the need to have a track of the performance of each local administration, it is increasingly important that the environmental effectiveness of agri-environment policy is quantified and demonstrated in order to achieve environmental protections, satisfy EU agri-environment legislation, demonstrate value-for-money to taxpayers, and avoid accusations of trade distortion in WTO negotiations.

Ex post evaluation is a formal requirement for agri-environment schemes in the EU, and is intended to measure the effects of policies, and assist judgements about how to improve the effectiveness or efficiency of these policies. Evaluation, therefore, is intended to be an opportunity for learning how to improve AE policies by reinforcing best practices that are identified, and making positive modifications to any practices judged to be inadequate. To date, the environmental evaluation of AES has mainly focused on qualitative or semi-qualitative assessment criteria, and audits of AESs by the European Court of Auditors have strongly criticised the over-reliance on data that measure levels of uptake and expenditure as measures of scheme performance (Court of Auditors, 2000, 2006). In general, there seems to be insufficient evidence with which to measure and assess the environmental performance of AESs, although exceptions certainly occur e.g. (Carey et al., 2002; Carey et al., 2003; Kleijn et al., 2006; Kleijn & Sutherland, 2003; Primdahl et al, 2003; Primdahl et al., 2010).

Consistent assessment of the environmental performance of agri-environment schemes (AESs) is one of the main evaluation concerns related to Rural Development policies. This paper illustrates a methodology for *ex post* evaluation of the environmental performance of AES implementation in three case study regions in the EU. We describe the development of the methodology, and present the main results.

BACKGROUND

Literature on the evaluations of AESs have pointed out that the evaluation exercise is faced with three main problems: (i) the identification of an evaluation framework able to take into account the multiple impacts of AESs; (iii) the identification of evaluation criteria able to decompose effectiveness in quantifiable factors and (iii) to obtain an aggregate/synthesise evaluation judgment.

There is rarely a one-to-one relationship between farm-level management prescriptions (measures) and environmental objectives of schemes. In practice, measures may contribute to more than one environmental objective, and an environmental objective may be achieved by more than one measure. The quantification of AES environmental changes requires an identification of a set of environmental objectives, able to represent the multiple natures of AESs impacts (Mortimer, et al. 2010). Only a few papers have tried to develop a common evaluation framework able to support a broad environmental evaluation exercise, rather than a specific evaluation exercise focussed only an environmental objectives. Recently, Purvis et al., (2009) developed an evaluation framework with three main AE-issues: maintenance, protection, conservation and enhancement of natural resources (water, soil and air), biodiversity and

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